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CENTER *for* BIOLOGICAL DIVERSITY

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Re: Comments on the Draft Supplemental Environmental Impact Statement for the Palen Solar Electric Generating System and Draft California Desert Conservation Area Plan Amendments 78 FR 46363

Dear Project Manager McMenimen:

These comments are submitted on behalf of the Center for Biological Diversity's 625,000 staff, members and on-line activists in California and throughout the western states, regarding the Supplemental Environmental Impact Statement for the Palen Solar Electric Generating System "SDEIS" and proposed California Desert Conservation Area Plan Amendments ("proposed project"), issued by the Bureau of Land Management ("BLM"). The Center submitted scoping comments for original Palen Solar Power Project (PSPP) on December 23, 2009, comments on the Draft Environmental Impact Statement (DEIS) on July 1, 2010, and submitted a formal protest on the Final Environmental Impact Statement on June 13, 2011. We incorporate by reference those comments and the protest here. Despite the significant change in solar technology being proposed by the current project, including two 750 foot towers, and significant additional impacts from those changes, BLM did not issue a new scoping notice for the Palen Solar Electric Generating System but instead proceeded directly to a supplemental EIS.

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions. The Center for Biological Diversity (the "Center") strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitats, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission.

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Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

As proposed, the initial project right of way includes 5,200 acres of public lands and the project footprint as currently proposed would permanently disturb approximately 3,896 acres of public lands (SDEIS at Abstract), a 789 acre (25%) increase in the size of the original 3,107 acre impact proposed in the preferred alternative in the 2011 FEIS (SDEIS at ES-3). These lands, located in the Colorado Desert, provide habitat for many species including the threatened desert tortoise, the imperiled Mojave fringe-toed lizard, desert golden eagle and many others (SDEIS at 3.18-7 to 8 and 3.23-3 to 4). The proposed project also includes a new gas line and new a gen-tie line, drops plans to re-align part of the existing 160 KV powerline in the southwest corner of the project site, and drops plans to locate a portion of the project on private lands adjacent to the public lands right of way. The SDEIS for the proposed plan amendment and right-of-way application: fails to accurately and clearly explain the changes in the proposed project including the exclusion of private lands controlled by the ROW applicant; considers without any proposed changes a poorly designed project footprint that would incomprehensibly isolate nearly 200 acres of federal lands within a Wildlife Habitat Management Area *that are not being utilized for the project* behind a fence between the construction laydown area and the evaporation ponds to the southwest of the 160 KV line that is no longer proposed to be re-aligned; fails to provide adequate identification and analysis of all of the significant impacts of the proposed project on the desert tortoise, the Mojave fringe-toed lizard, golden eagles, migratory birds, rare plants including Colorado desert microphyll woodlands, and other biological resources; fails to adequately address the significant cumulative impacts of the project; and lacks consideration of a reasonable range of alternatives including alternatives that would reduce or eliminate impacts to connectivity corridors for wildlife and reduce or eliminate impacts to rare sand areas and Mojave fringe-toed lizard habitat.

Of particular concern is the BLM's failure to include adequate information regarding the impacts to resources and the failure to fully examine the impact of the proposed plan amendment to the California Desert Conservation Act Plan ("CDCA Plan") along with other similar proposed plan amendments. The SDEIS fails to consider potential alternative plan amendments that would protect the most sensitive lands from future development as required by the Solar PEIS. Alternative siting and alternative technologies (including on site PV technology, or distributed PV) should have been fully considered in the SDEIS, because they could significantly reduce the impacts to many species, habitats and water resources in the Colorado Desert. Although the area of the proposed project is currently within the western portion of the "Riverside East" solar energy zone as established in the BLM's solar PEIS, it overlaps into areas that are identified as "non-development" in the solar PEIS[1] (including the aeolian sand corridors). In scoping comments on the PEIS, the Center raised concerns about the impacts that development in this portion of the proposed SESA would have to species and habitats and particularly to connectivity. As the Center has emphasized in our comments on the various large-scale industrial solar proposals in the California desert, planning should be done *before* site specific projects are approved in order to ensure that resources are adequately protected from sprawl development and project impacts are avoided, minimized and mitigated. In this case,

[1] http://solareis.anl.gov/documents/fpeis/maps/sezs/Riverside_East_map.pdf The northeast corner of the proposed project area appears to overlap the non-developable area for wetlands in the Riverside-East zone.

although the planning in the PEIS has now been completed, and BLM has noted that this project is in one of the zones, BLM has also stated that some of the planning decisions—including the exclusion areas—do not apply to this project. (SDEIS at pg. 1-4). This position undermines the intent of the PEIS and the CDCA Plan as a whole as rational planning principles.

In the sections that follow, the Center provides detailed comments on the ways in which the SDEIS fails to adequately identify and analyze many of the impacts that could result from the proposed project, including but not limited to: impacts to biological resources, impacts to water resources, impacts to soils, direct and indirect impacts from the gen-tie line, and cumulative impacts.

Because the amended proposed project is also before the California Energy Commission, the Center hereby incorporates by reference all of the materials before the California Energy Commission regarding the proposed amendment. BLM is a party to the CEC process, which is being conducted in concert with the BLM approval process, and BLM has access to all of the documents (most of which are also readily accessible on the internet[2]), therefore, BLM should incorporate all of the documents and materials from that process into the administrative record for the BLM decision.

I. The BLM's Analysis of the Proposed Plan Amendment and Proposed Project Fails to Comply with FLPMA.

As part of FLPMA, Congress designated 25 million acres of southern California as the California Desert Conservation Area ("CDCA"). 43 U.S.C. § 1781(c). Congress declared in FLPMA that the CDCA is a rich and unique environment teeming with "historical, scenic, archaeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources." 43 U.S.C. § 1781(a)(2). Congress found that this desert and its resources are "extremely fragile, easily scarred, and slowly healed." *Id.*

The proposed project is now sited *entirely* on federal public lands managed by the BLM within the CDCA, and will directly, indirectly and cumulatively impact lands within the CDCA including lands within two designated Wildlife Habitat Management Areas ("WHMAs"), designated critical habitat, and the gen-tie line also impacts a designated desert wildlife management area ("DWMA"). Under the CDCA plan as amended by the Northern and Eastern Colorado Desert Coordinated Management plan amendment ("NECO"), the project requires a plan amendment before the proposed project can be approved by the land management agency, the BLM.

The CDCA was designated by Congress in 1976 as part of the Federal Land Policy and Management Act ("FLPMA), 43 U.S.C. § 1781(c). Congress recognized in FLPMA that:

> the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed.

[2] https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=09-AFC-07C

43 U.S.C. § 1781(a)(2). In light of the threats to the unique and fragile resources of the CDCA, Congress determined that special management was needed for this area and among the purposes of designating this area was "to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality." 43 U.S.C. § 1781(b).

As part of FLPMA, Congress expressly required the development of a land management plan for the CDCA by a date certain (43 U.S.C. § 1781(d)). The CDCA Plan was first adopted by BLM in 1980. For the CDCA and other public lands, Congress mandated that the BLM "shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C § 1732(b).

While the SDEIS correctly recognizes that plan amendments would be required if the proposed project was to move forward –for the solar facility and for the gen-tie which lies outside of any designated utility corridor – the sum total of the plan amendments to the CDCA plan are two sentences: "The Palen solar energy facility is allowed" (SDEIS at 1-5) and "The Palen solar facility gen-tie is allowed outside of a designated corridor," (SDEIS at 1-6). The plan amendment for the solar facility relies on the analysis in the now-outdated PA-FEIS from May 2011 for the Palen Solar Power Project, which analyzed a very different proposed project and a very limited set of alternatives, notably, none of the alternatives in the PA-FEIS included the currently proposed project technology or footprint. Due to the change in technology from solar trough to the power-tower technology that proposes to construct two 750-foot power towers, we believe that more is required to comply with NEPA; the BLM should have re-initiated the process starting with a Notice of Intent (scoping notice) to which the public could respond. This would be consistent with the BLM's action in initiating a new NEPA scoping process for the Blythe Solar Power Project (CACA 48811), which had previously been permitted as a solar trough project and is currently undergoing review as a photovoltaic project. Indeed, we recently submitted joint scoping comments on the Blythe Solar Power Project on September 26, 2013. No rationale is provided for the disparate treatment of these two projects although the newly proposed power towers at the Palen site will have additional significant impacts on the environment that were not previously evaluated in the NEPA process, including significant impacts to avian species, and because the current proposed layout encroaches further on the sand areas than the proposal previously analyzed at the Palen site. In contrast, the change to PV project at Blythe and the smaller footprint now proposed there will likely have far fewer impacts to the environment than the earlier proposed solar trough, and yet BLM is undertaking a new through environmental review for Blythe.

In addition, as the SDEIS acknowledges, the project will result in air quality impacts, which is inconsistent with the Class M lands designation to protect air quality and visibility (SDEIS at 4.8-4). Additionally, there is no analysis of the gen-tie outside of the designated corridor in the SDEIS. Given the impact of the proposed project on other multiple uses of these public lands at the proposed site as well as other aspects of the bioregional planning, it is clear that BLM may also need to amend other parts of the plan as well and should have looked at additional and/or different amendments as part of the alternatives analysis.

A. BLM Fails to Adequately Analyze the Inconsistencies with the Solar PEIS Designations.

While the proposed project is within the boundaries of the Riverside-East Solar Energy Zone identified in the Final Solar Programmatic Environmental Impact Statement (SPEIS), the Right of Way (ROW) appears to overlap with part of the exclusion areas identified in the SPEIS. The SPEIS also requires that

> "Within the [Riverside-East] SEZ, two north‑south wildlife corridors of sufficient width (a minimum width of 1.3 mi [2 km], but wider if determined to be necessary through future site-specific studies) should be identified by the BLM in coordination with the USFWS and CDFG. These corridors should be identified as non-development areas within the SEZ on the basis of modeling data (Penrod et al. 2012) and subsequent field verification of permeability for wildlife[3].

To our knowledge, these wildlife corridors remain unidentified and are certainly not identified in the DSEIS.

B. The Proposed Project is Inconsistent with Existing WHMA Designations

The proposed Palen project site directly and indirectly impacts two Wildlife Habitat Management Areas (WHMAs") designated in the NECO Plan amendment – "the project site is located within two areas designated in the NECO plan as wildlife habitat management areas (WHMA): Palen-Ford WHMA and Desert Wildlife Management Area (DWMA) Connectivity WHMA. Management emphasis for the Palen-Ford WHMA is on the management of the dunes and playas within the Palen-Ford dune system. Management emphasis for the DWMA Connectivity WHMA is on the geographic connectivity for the desert tortoise for the conservation areas east of Desert Center (i.e., connectivity between the Chuckwalla DWMA and the wilderness area north of I-10). (SDEIS at 3.23-2.)[4] The Palen project revised gen-tie line will also directly impact at least 3.2 acres in the Chuckwalla Desert Wildlife Management Area ("DWMA") designated for the protection of the desert tortoise by BLM in the CDCA Plan as amended in the NECO Plan amendment in 2002. (SDEIS at 4.15-1.)

The DWMAs were adopted as areas for the conservation (that is—both survival and recovery) of the desert tortoise.

> Proposed Desert Wildlife Management Areas (DWMAs) address the recovery of the desert tortoise. These are stand-alone areas which cover much of the designated critical habitat for the desert tortoise. As such they may and do overlap some existing restricted areas. On BLM and CMAGR lands DWMAs are designated areas of critical environmental concern (ACEC). Some additional use restrictions are proposed, but emphasis is placed on minimizing disturbance and

[3] FSPEIS at pg. 9.4-50.

[4] The SDEIS first acknowledges these WHMAs will be impacted but then, wrongly states to the contrary that "There are no special designations on the proposed solar plant site." SDEIS at 4.15-1.

maximizing mitigation, compensation, and restoration from authorized allowable uses.

NECO Plan at 2-2. For the desert tortoise, the NECO Plan states: "The overall goal of the desert tortoise conservation strategy in the planning area is to recover populations of the desert tortoise in the two NECO recovery units identified in the USFWS plan by meeting the criteria for recovery as specified in the plan." NECO Plan at 2-17. The specific objectives for desert tortoise survival and recovery are tied to the designation of the DWMAs:

> The objectives are to
>
> > a. Establish desert wildlife management areas (DWMAs) where viable desert tortoise populations can be maintained.
> > b. Implement management actions within DWMAs to address conflicts with the goal.
> > c. Acquire sufficient habitat within the DWMAs to ensure that management actions are effective in the DWMAs as a unit.
> > d. Reduce tortoise direct mortality resulting from interspecific (e.g., raven predation) and intraspecific (e.g., disease) conflicts that likely result from human-induced changes in ecosystem processes.
> > e. Mitigate effects on tortoise populations and habitat outside DWMAs to provide connectivity between DWMAs.

NECO Plan at 2-17. Rather than analyze the impacts to the DWMA, the SDEIS summarily dismisses them because solely because on aggregate the impacts are less the 1% of the area within the DWMA which is allowed under the plan. (SDEIS at 4.15-1.) Such conclusory statements do not fairly address the impacts that this plan amendment would have or meet NEPAs requirements for identification and analysis of impacts.

The two WHMAs that will also be impacted by the proposed project were adopted in the NECO Plan to preserve wildlife and connectivity or habitat continuity. These two areas, which are contiguous on and adjacent to the Palen site, were adopted as part of a "Multi-species Conservation Zone." NECO Plan at 2-2. The NECO Plan goals and objectives for "Other Special Status Animal and Plant Species, Natural Communities, and Ecological Processes" are very specific and focus on conservation:

> Goals for special status animal and plant species, natural communities, and ecological processes are as follows:
>
> > • Plants and Animals. Maintain the naturally occurring distribution of 28 special status animal species and 30 special status plant species in the planning area. For bats, the term "naturally occurring" includes those populations that might occupy man-made mine shafts and adits.
> > • Natural Communities. Maintain proper functioning condition in all natural communities with special emphasis on communities that a)

are present in small quantity, b) have a high species richness, and c) support many special status species.

- Ecological Processes. Maintain naturally occurring interrelationships among various biotic and abiotic elements of the environment.

The objectives are to

a. protect and enhance habitat
b. protect connectivity between protected communities

NECO Plan at 2-52. Further, the NECO Plan adopted action items to promote the objectives to "Protect and enhance habitat" (NECO Plan at 2-55), and "Protect connectivity between protected communities" (NECO Plan at 2-58). *See also* NECO Plan ROD at D-1, D-3.

For the first objective, to protect and enhance habitat, the first "action" is to

> Designate seventeen multi-species WHMAs (totaling 555,523 acres) such that approximately 80 percent of the distribution of all special status species and all natural community types would be included in the Multi-species Conservation Zone (Map 2-21 Appendix A). See Appendix H for a description of the process used to define the WHMA and the concept of conservation zones.

NECO Plan at 2-55.[5] For the second objective, to protect connectivity, one of the actions states that: "The fragmenting affects of projects should be considered in the placement, design, and permitting of new projects." NECO Plan at 2-58. Other relevant "actions" include:

> Require mitigation of impacts of proposed projects in suitable habitat within the range of a special status species and within natural community types using commonly applied mitigation measures and conduct surveys in the proposed project area for special status species as follows (also see range maps 3-6a-f and 3-7a-f Appendix A):

NECO Plan at 2-55. For sand dune and playa communities that were closed to vehicle use, which includes this area of the Palen-Ford WHMA (NECO Plan at 2-57),

> Action in sand dune and playa communities (Map 3-3 Appendix A) that are closed to vehicle use, <u>compensation for surface disturbance would be required at 3 acres for each acre disturbed</u>. . . .

NECO Plan at 2-57.

[5] Appendix H explains that the WHMAs along with the DWMAs, and other areas comprise a "conservation zone" and that the "Multi-species WHMAs address all the special status species as well as the general diversity of species and habitats." NECO Plan, Appendix H at H-5.

Because the WHMAs affected by the Palen project siting were adopted in the NECO Plan to fulfill the plan objectives of protecting and enhancing habitat and protecting connectivity it is BLM needed to fully consider those impacts and comply with the actions including considering alternative placement and design for any newly proposed project to protect connectivity and if sand dune and playa areas within the Palen-Ford WHMA are impacted, 3:1 mitigation must be required.

Although the DSEIS acknowledges that the proposed project lies within the two identified Wildlife Habitat Management Areas (WHMAs): the Palen-Ford WHMA and Desert Wildlife Management Area (DWMA) Connectivity WHMA, it does not consider alternative placement and design for the proposed project to protect connectivity or other values that the WHMA's were put in place to protect. Rather, the DSEIS appears to downplay the significance of these designations. Clearly the DWMA Connectivity WHMA is an *existing* and extant north-south wildlife corridor put in place to allow for connectivity of desert tortoise that could help fulfill the PEIS requirement for corridors this is ignored by BLM although the proposed project will impede the connectivity thought this WHMA for wildlife and render this WHMA highly compromised for desert tortoise genetic connectivity. Indeed the DSEIS states:

> "The PSEGS could impede wildlife movement in these corridors by obstructing connectivity, and on a population level could impede gene flow for desert tortoises" (at 4.21-6).

Even with this acknowledgement of the impact, no alternative that would avoid this impact is fully analyzed, no site design changes are suggested to reduce impacts to this important connectivity, no minimization measures are suggested. Moreover, no additional mitigation for the impacts to either of the WHMAs is proposed although such impacts include virtually blocking connectivity for desert tortoise from siting the proposed project in the only connectivity corridor expressly identified for desert tortoise in NECO, and the proposed project impacts 1,518.9 acres of playa and sand areas (SDEIS at 4.21-3) for which 3:1 mitigation must be provided. Because impacts to the two WHMAs are not fully analyzed in the DSEIS and avoidance and mitigation measures are not adequately or accurately addressed, BLM has failed to comply with FLPMA.

In addition, BLM should have, but did not, consider a plan amendment that would change the MUC class of the Palen dunes and the linkage areas that are currently class M to either class C (controlled use) or class L (limited use). The Center believes that at least portions of these areas may well be suitable for class C which is generally used for areas that are suitable for wilderness protection and these linkages and dunes would thereby gain additional long term protections. In addition to a change in MUC class, the BLM should have, but did not, consider an amendment that would designate these essential areas as ACEC, to clearly identify and manage these areas for conservation of species going forward.

C. BLM Fails to Adequately Address the Effects on Ongoing Planning for the Desert Renewable Energy Conservation Plan (DRECP)

The SDEIS also fails to adequately address the proposed project in the context of the ongoing DRECP planning process for solar development in the California desert, which BLM is a guiding agency.

Of particular concern is the failure of the SDEIS to analyze the impacts of the proposed project on the goals and objectives for species under the DRECP. The BLM does not analyze how the SDEIS could affect the goals and objectives for species, particularly avian species, desert kit fox, desert tortoise and Mojave fringe-toed lizard, with the approval of this and other projects in the area. Such analysis *after the fact* is not consistent with the planning requirements of FLPMA or, indeed, any rational land use planning principles.

D. BLM Failed to Inventory the Resources of these Public Lands Before Making a Decision to Allow Destruction of those Resources

FLPMA states that "[t]he Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values," and this "[t]his inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values." 43 U.S.C. § 1711(a). FLPMA also requires that this inventory form the basis of the land use planning process. 43 U.S.C. § 1701(a)(2). *See Center for Biological Diversity v. Bureau of Land Management*, 422 F.Supp.2d 1115, 1166-67 (N.D. Cal. 2006) (discussing need for BLM to take into account known resources in making management decisions); *ONDA v. Rasmussen*, 451 F.Supp. 2d 1202, 1212-13 (D. Or. 2006) (finding that BLM did not take a hard look under NEPA by relying on outdated inventories and such reliance was inconsistent with BLM's statutory obligations to engage in a continuing inventory under FLPMA). It is clear that BLM should not approve a management plan amendment based on outdated and inadequate inventories of affected resources on public lands.

As detailed below in the NEPA sections, here BLM has failed to compile an adequate inventory of the resources of the public lands that could be affected by the proposed project *before* preparing the DEIS (including, e.g., rare plants, golden eagle surveys, migratory bird surveys and other biological resources) which is necessary in order to adequately assess the impacts to resources of these public lands in light of the proposed plan amendment. The SDEIS states "Note that late-season rare plant surveys have yet to be completed in these areas" (at 3.18-6).

BLM has also failed to adequately analyze impacts on known resources In addition a number of survey and study results were completed after the SDEIS was released. Those additional data sources include:

- **Air Quality Health Risk Assessment Modeling Files (from the applicant) (TN#**71692 submitted on 7/18/2013) no link is available.

- **Revised Supplement Number Two - Complete Air Quality and Public Health Sections[6] (from applicant)**
- **Palen Solar Holding LLC's Supplemental Response to Data Request 14 - Traffic Study Update[7] (from applicant)**
- **PSH LLC's Fire & Emergency Services Risk Assessment[8] (from applicant)**
- **PSH LLC's Final Sand Transport Study and associated Figures 1-18 (from applicant)[9]**

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[6] http://docketpublic.energy.ca.gov/PublicDocuments/Delta/Delta/TN%2071690%2007-19-13%20Revised%20Supplement%20Number%20Two%20-%20Complete%20Air%20Quality%20and%20Public%20Health%20Sections.pdf

[7] http://docketpublic.energy.ca.gov/PublicDocuments/Delta/Delta/TN%2071688%2007-19-13%20Palen%20Solar%20Holding%20LLC%27s%20Supplemental%20Response%20to%20Data%20Request%2014%20-%20Traffic%20Study%20Update.pdf

[8] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200031_20130723T183945_PSH_LLC%27s_Fire__Emergency_Services_Risk_Assessment.pdf

[9] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200012_20130723T180609_PSH_LLC%27s_Final_Sand_Transport_Study.pdf
http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200013_20130723T180610_Figure_1PSH_LLC%27s_Final_Sand_Transport_Study.pdf
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http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200029_20130723T182456_Figure_17PSH_LLC%27s_Final_Sand_Transport_Study.pdf

- **PSH LLC's Supplemental Spring 2013 Biological Surveys[10] (from applicant)**
- **PSH LLC's Spring 2013 Avian Survey Results[11] (from applicant)**
- **Palen Solar Holding's Bat Habitat Assessment[12] (from applicant)**
- **PSH LLC's Wastewater Discharge Requirements[13] (from applicant)**
- **DRI Geomorphic Assessment of Sand Transport for the Modified Project[14] (from CEC)**
- **Palen Solar Holdings, LLC's Response to Data Requests 78-81[15] (from applicant)**
- **PSH's Supplemental Response to Data Request 40d & 44[16] (from applicant)**
- **PSH's Response to Data Request Set 4 (73-89)[17] (from applicant)**
- **USFWS email to Pete Bloom in re: Palen Helo GOEA Nest Survey Flights[18] (from USFWS)**
- **Palen Solar Holding's Supplemental Response to CEC Staff Data Requests 54 & 55[19] (from applicant)**
- **Supplemental Traffic Data Information Requested by Staff in 7/31/13 Email[20] (from applicant)**
- **Palen Solar Holding's Response to Data Request 56[21] (from applicant)**
- **PSH's RESPONSE TO STAFF'S 8/2/13 EMAIL REQUEST[22] (from CEC)**

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http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200030_20130723T182457_Figure_18PSH_LLC%27s_Final_Sand_Transport_Study.pdf

[10] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200011_20130723T175848_PSH_LLC%27s_Supplemental_Spring_2013_Biological_Surveys.pdf

[11] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200010_20130723T180110_PSH_LLC%27s_Spring_2013_Avian_Survey_Results.pdf

[12] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200009_20130723T150527_Palen_Solar_Holding%27s_Bat_Habitant_Assessment.pdf

[13] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200040_20130725T101858_PSH_LLC%27s_Wastewater_Discharge_Requirements.pdf

[14] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200038_20130725T085843_DRI_Geomorphic_Assessment_of_Sand_Transport_for_the_Modified_Pr.pdf

[15] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200046_20130726T104345_Palen_Solar_Holdings_LLC%27s_Response_to_Data_Requests_7881.pdf

[16] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200100_20130731T155000_PSH%27s_Supplemental_Response_to_Data_Request_40d__44.pdf

[17] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200098_20130731T153524_PSH%27s_Response_to_Data_Request_Set_4_7389.pdf

[18] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200106_20130801T113723_USFWS_email_to_Pete_Bloom_in_re_Palen_Helo_GOEA_Nest_Survey_Fli.pdf

[19] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200118_20130806T161413_PSH%27s_Supplemental_Response_to_CEC_Staff_Data_Requests_54__55.pdf

[20] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200116_20130806T112924_Supplemental_Traffic_Data_Information_Requested_by_Staff_in_731.pdf

[21] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200148_20130809T165458_PSH%27s_Response_to_DR_56.pdf

- **PSH's Revised Supplemental Response to DR 54 & 55[23] (from applicant)**
- **Applicant Response to CEC Data Request 57 in 7 parts[24] (from applicant)**
- **Applicant's Traffic Consultant's Response re Traffic Questions from CEC and CalTrans[25] (from applicant)**
- **Palen Solar Holding's Final Sand Transport Study Supplement No.1[26] (from applicant)**
- **Email from Jaime Rudd re Palen Updated Map[27] (from CDFW)**
- **Kit Fox Den Activity Map - September 2013[28] (from CDFW)**
- **Due Diligence Request for Information to Palen Solar Holdings from US Department of the Interior, Bureau of Land Management[29] (from BLM)**
- **PSEGS 1-10 Desert Tortoise Exclusion Fence Project Description[30] (from applicant)**
- **Ethnographic Report Informing the Final Staff Assessment[31] (from CEC)**

All of these documents contain relevant data that should be incorporated into the project's NEPA analysis and it is unclear that the SFEIS could adequately address these issues and the changes that may be required to avoid, minimize and mitigate impacts and possibly change the proposed project.

Moreover, BLM's own due diligence request for information from the project applicant submitted at the CEC[32] after the SDEIS was published indicates that additional key information is lacking in order for a full analysis of impacts to be done. While the project applicant has failed to respond to that request, this "data gap" shows that BLM itself acknowledges that the SDEIS incomplete in its analysis of impacts. Therefore, at minimum, a revised SDEIS must be prepared to include several categories of new information including new survey data about the

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[22] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200188_20130813T164839_PSH%E2%80%99s_RESPONSE_TO_STAFF%E2%80%99S_8213_EMAIL_REQUEST.pdf
[23] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200186_20130813T120431_PSH%27s_Revised_Supplemental_Response_to_DR_54__55.pdf
[24] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200172_20130813T110611_Applicant_Response_to_CEC_Data_Request_57_Part_3.pdf
[25] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200190_20130814T103717_Applicant%27s_Traffic_Consultant%27s_Response_re_Traffic_Questions.pdf
[26] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200213_20130819T094251_PSH%27s_Final_Sand_Transport_Study_Supplement_No1.pdf
[27] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200467_20130913T104933_Email_from_Jaime_Rudd_re_Palen_Updated_Map.pdf
[28] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200466_20130913T104933_Kit_Fox_Den_Activity_Map__September_2013.pdf
[29] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200531_20130919T112340_Notice_to_Charles_TurlinskiPSH_LLC_re_Due_Diligence_Request_for.pdf
[30] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200848_20131015T090947_PSEGS_110_Desert_Tortoise_Exclusion_Fence_Project_Description.pdf
[31] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200847_20131015T085834_Ethnographic_Report_Informing_the_Final_Staff_Assessment.pdf
[32] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200531_20130919T112340_Notice_to_Charles_TurlinskiPSH_LLC_re_Due_Diligence_Request_for.pdf

resources of the site and potential impacts of the project on resources of our public land and water, and that document must be circulated for public review and comment.

E. The DEIS Fails to Provide Adequate Information to Ensure that the BLM will Prevent Unnecessary and Undue Degradation of Public lands

FLPMA requires BLM to "take any action necessary to prevent unnecessary or undue degradation of the lands" and "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §§ 1732(b), 1732(d)(2)(a). Without adequate information and analysis of the current status of the resources of these public lands, BLM cannot fulfill its duty to prevent unnecessary or undue degradation of the public lands and resources. Thus, the failure to provide an adequate current inventory of resources and environmental review undermines BLM's ability to protect and manage these lands in accordance with the statutory directive.

BLM has failed to properly identify and analyze impacts to the resources including the impacts from all of the project components including the impacts of two 750-foot power towers on avian species and other resources. As detailed below, the BLM's failure in this regard violates the most basic requirements of NEPA and in addition undermines the BLM's ability to ensure that the proposal does not cause unnecessary and undue degradation of public lands. *See Island Mountain Protectors*, 144 IBLA 168, 202 (1998) (holding that "[t]o the extent BLM failed to meet its obligations under NEPA, it also failed to protect public lands from unnecessary or undue degradation."); *National Wildlife Federation*, 140 IBLA 85, 101 (1997) (holding that "BLM violated FLPMA, because it failed to engage in any reasoned or informed decisionmaking process" or show that it had "balanced competing resource values").

II. The DEIS Fails to Comply with NEPA.

NEPA is the "basic charter for protection of the environment." 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of "creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony." *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)). NEPA is intended to "ensure that [federal agencies] … will have detailed information concerning significant environmental impacts" and "guarantee[] that the relevant information will be made available to the larger [public] audience." *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998).

Under NEPA, before a federal agency takes a "'major [f]ederal action[] significantly affecting the quality' of the environment," the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). "An EIS is a thorough analysis of the potential environmental impact that 'provide[s] full and fair discussion of significant environmental impacts and … inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.'" *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA's "chief tool" and is "designed as an 'action-forcing device

to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.'" *Or. Natural Desert Ass'n,* 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

An EIS must identify and analyze the direct, indirect, and cumulative effects of the proposed action. This requires more than "general statements about possible effects and some risk" or simply conclusory statements regarding the impacts of a project. *Klamath Siskiyou Wildlands Center v. BLM,* 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM,* 470 F.3d 818, 822-23 (9th Cir. 2006). Conclusory statements alone "do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary's reasoning." *NRDC v. Hodel,* 865 F.2d 288, 298 (D.C. Cir. 1988).

NEPA also requires BLM to ensure the scientific integrity and accuracy of the information used in its decision-making. 40 CFR § 1502.24. The regulations specify that the agency "must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential." 40 C.F.R. § 1500.1(b). Where there is incomplete information that is relevant to the reasonably foreseeable impacts of a project and essential for a reasoned choice among alternatives, the BLM must obtain that information unless the costs of doing so would be exorbitant or the means of obtaining the information are unknown. 40 C.F.R. § 1502.22. Here the costs are reasonable to obtain information needed to complete the analysis and the BLM must provide additional information in a revised SDEIS. Even in those instances where complete data is unavailable, the SDEIS also must contain an analysis of the worst-case scenario resulting from the proposed project. *Friends of Endangered Species v. Jantzen*, 760 F.3d 976, 988 (9th Cir. 1985) (NEPA requires a worst case analysis when information relevant to impacts is essential and not known and the costs of obtaining the information are exorbitant or the means of obtaining it are not known) *citing Save our Ecosystems v. Clark*, 747 F.2d 1240, 1243 (9th Cir. 1984); 40 C.F.R. § 1502.22.

A. Purpose And Need and Project Description are Too Narrowly Construed and Unlawfully Segment the Analysis

1. Purpose and Need:

Agencies cannot narrow the purpose and need statement to fit only the proposed project and then shape their findings to approve that project without a "hard look" at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply "going-through-the-motions." It is well established that NEPA review cannot be "used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) ("the comprehensive 'hard look' mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.") As Ninth Circuit noted an "agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1155

(9th Cir. 1997); *Muckleshot Indian Tribe v. U.S. Forest Service*, 177 F. 3d 900, 812 (9th Cir. 1999). The statement of purpose and alternatives are closely linked since "the stated goal of a project necessarily dictates the range of 'reasonable' alternatives." *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that "[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives" in violation of NEPA).

The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to "guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because "the very purpose of a draft and the ensuing comment period is to elicit suggestions and criticisms to enhance the proposed project." *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agency cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

The SDEIS states "The statement of BLM's Purpose and Need for action that is provided in Section 1.1.1 of the PSPP PA/FEIS (p. 1-2) remains valid" (at ES-2), and statement is "to respond to a FLPMA right-of-way application submitted by the applicant to construct, operate, maintain, and decommission a solar thermal energy-generating facility and associated infrastructure on public lands administered by the BLM in compliance with FLPMA, BLM right-of-way regulations, and other applicable Federal laws and policies" (FEIS at 1-2).

The SDEIS notes that two amendments to the CDCA Plan are needed in order to approve the project. BLM's purpose and need is very narrowly construed to the proposed project itself and two amendments to the Plan *for the project and transmission line only*. The purpose and need provided in the DEIS and subsequently the SDEIS is impermissibly narrow under NEPA for several reasons, most importantly because it foreclosed meaningful alternatives review in the NEPA documents. Because the purpose and need and the alternatives analysis are at the "heart" of NEPA review and affect nearly all other aspects of the EIS, on this basis and others, BLM must revise and re-circulate the SDEIS.

In its discussion of the need for renewable energy production the SDEIS fails to address risks associated with global climate change in context of including both the need for climate change mitigation strategies (e.g., reducing greenhouse gas emissions) and the need for climate change adaptation strategies (e.g., conserving intact wild lands and the corridors that connect them). All climate change adaptation strategies underline the importance of protecting intact wild lands and associated wildlife corridors as a priority adaptation strategy measure.

The habitat fragmentation, loss of connectivity for terrestrial wildlife, risks to avian species, possible introduction of predators[33], introduction of invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. Siting the newly proposed power tower project in the proposed location impacting avian species proximate to major flyways and stopovers at the Salton Sea and Colorado River, sand dune ecosystems, occupied habitat for rare species and important habitat linkage areas, major washes and other fragile desert resources could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. Moreover, the project itself will emit greenhouse gases and the SDEIS recognizes that the proposed technology "is estimated to emit, directly from primary and secondary emission sources, approximately 107,464 tons (97,490 metric tons) CO2e GHG emissions per year, which is approximately five times the amount estimated to emit for the PSPP". (SDEIS at 4.3-4). Despite this increase in GHG emissions the SDEIS does not analyze ways to avoid, minimize or off set these emissions although such mitigation is clearly feasible and other technologies, a photovoltaic alternative on this site for example, have far less or no GHG emissions during operations and are also likely to have fewer emissions when calculated on a lifecycle basis. The SDEIS also assumes that fossil fuel based energy production will cease, but fails to identify which fossil-fuel based project(s) will be shuttered. Regardless, the way to maintain healthy, vibrant ecosystems is not to fragment them, block connectivity corridors or reduce their biodiversity.

B. The DEIS Does Not Adequately Describe Environmental Baseline

BLM is required to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a practical requirement of the NEPA process. In *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." Similarly, without a clear understanding of the current status of these public lands BLM cannot make a rational decision regarding proposed project. *See Center for Biological Diversity v. U.S. Bureau of Land Management, et al*., 422 F. Supp. 2d 1115, 1166-68 (N.D. Cal. 2006) (holding that it was arbitrary and capricious for BLM to approve a project based on outdated and inaccurate information regarding biological resources found on public lands).

The SDEIS fails to provide adequate baseline information and description of the environmental setting in many areas including in particular the status of rare plants, animals, and natural communities including golden eagles, migratory birds, rare plants, and the sand dune ecosystem.

The baseline descriptions in the SDEIS are inadequate particularly for the areas where surveys are ongoing. As discussed below, because of the deficiencies of the baseline data for the

[33] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200968_20131021T152056_PSH%27s_Rebuttal_Testimony_to_Intervenor_CBD%27s_Opening_Testimony.pdf (at pg. 39 &40)

proposed project area, the SDEIS fails to adequately describe the environmental baseline. Many of the rare and common species and habitats have incomplete and/or vague on-site descriptions that make determining the proposed project's impacts difficult at best. Some of the rare species/habitats baseline conditions are totally absent, therefore no impact assessment is provided either. The SDEIS fails to include many of the species of concern that have been included in the CEC's FSA for this same project. A supplemental document is required to fully identify the baseline conditions of the site, and that baseline needs to be used to evaluate the impacts of the proposed project.

C. Failure to Identify and Analyze Direct and Indirect Impacts to Biological Resources

The SDEIS fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed project on the environment. The Ninth Circuit has made clear that NEPA requires agencies to take a "hard look" at the effects of proposed actions; a cursory review of environmental impacts will not stand. *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150-52, 1154 (9th Cir. 1998). Where the BLM has incomplete or insufficient information, NEPA requires the agency to do the necessary work to obtain it where possible. 40 C.F.R. §1502.22; *see National Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 733 (9th Cir. 2001) ("lack of knowledge does not excuse the preparation of an EIS; rather it requires [the agency] to do the necessary work to obtain it.")

Moreover, BLM must look at reasonable mitigation measures to avoid impacts in the SDEIS but failed to do so here. Even in those cases where the extent of impacts may be somewhat uncertain due to the complexity of the issues, BLM is not relieved of its responsibility under NEPA to discuss mitigation of reasonably likely impacts at the outset. Even if the discussion may of necessity be tentative or contingent, NEPA requires that the BLM provide some information regarding whether significant impacts could be avoided. *South Fork Band Council of Western Shoshone v. DOI*, 588 F.3d 718 , 727 (9th Cir. 2009).

The lack of comprehensive surveys is particularly problematic. Failure to conduct sufficient surveys prior to construction of the project also effectively eliminates the most important function of surveys - using the information from the surveys to minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place. In addition, without understanding the scope of harm before it occurs, it is difficult to quantify an appropriate amount and type of mitigation.

As discussed above, the SDEIS recognizes that the project is within not one but two Wildlife Habitat Management Areas (WHMAs) as established under NECO – the Palen-Ford WHMA and Desert Wildlife Management Area (DWMA) Connectivity WHMA (SDEIS at 3.23-2). Despite these impacts, no mitigation is proposed to mitigate the identified losses of these important WHMAs.

These types of industrial-scale projects when sited in undisturbed ecologically-functioning landscapes are essentially large-scale experiments[34]. If such projects move forward, much can and should be learned from them through monitoring and adaptive management. The SDEIS fails to adequately identify all of the on-site resources, evaluate the impacts to those resources and propose adequate mitigation or assure adequate monitoring for adaptive management to occur. While this project site has been identified for development since at least 2008, adequate surveys remain uncompleted and those that have been done were sporadic= and unsystematic for on-site biological resources.

Even if mitigation had been properly addressed and assessed, which it has not been, the generalized strategy of "nesting" mitigation for a multitude of species – migratory/ special status species birds, bats, badger, kit fox, and rare plants in the mitigation for desert tortoise habitat will only partially work if the mitigation lands actually support the species. Even when "mitigation" habitat is already inhabited by the same species for which mitigation is sought, this mitigation strategy ensures a *net decrease* in habitat for impacted species. To actually provide mitigation that staunches species' habitat losses, the ratio must be much greater than 1:1[35] especially because the proposed project sits wholly within the boundaries of three conservation overlays identified in BLM's Northern and Eastern Colorado Desert Land Management Plan Amendment. While these conservation overlays are noted in the DSEIS – the Palen-Ford Wildlife Habitat Management Area (WHMA) and Desert Wildlife Management Area (DWMA) Connectivity WHMA (SDEIS at 3.23-2), and the Chuckwalla DWMA and desert tortoise critical habitat (4.21-2), the mitigation ratios are identified as being located in Appendix C, Bio-29, Table 2, actually identified to does not reflect the value of this habitat. A *minimum* 3:1 mitigation is required in the sand and playa areas of the Palen-Ford WHMA under the NECO plan and similar mitigation ratios are also needed for other areas in these 2 WHMAs to assure that the project impacts are mitigated appropriately for the WHMAs and that the net losses of habitat for rare species are prevented. However, it is important to note that even at 3:1 or higher, the connectivity WHMA may not able to be truly mitigated by securing protected habitat elsewhere—it is the location of this habitat that is critical to provide connectivity and this has not been adequately addressed. 5:1 mitigation for the Chuckwalla DWMA is of course the recommendation by the federal and state wildlife agencies and this ratio is appropriate to help mitigate for development in the DWMA. Adequate mitigation for impacts is essential to conserve listed species and also to prevent future listings under Endangered Species Acts – both state and federal.

1. Desert Tortoise

The desert tortoise has lived in the western deserts for tens of thousands of years. In the 1970's their populations were noted to decline. Subsequently, the species was listed as threatened by the State of California in 1989 and by the U.S. Fish and Wildlife Service in 1990, which then issued a Recovery Plan for the tortoise in 1994. The U.S. Fish and Wildlife Service is updated the Recovery Plan in 2011. Current data indicate a continued decline across the range of the listed species[36] despite its protected status and recovery actions.

[34] Lovich & Ennen 2011
[35] Moilen et al. 2008, Norton 2008
[36] USFWS 2012

In past surveys of the project site for desert tortoise, little recent desert tortoise sign was found on the proposed project site, and desert tortoise were likely to inhabit the site at very low densities. However, the proposed project is now not in compliance with USFWS' guidance on desert tortoise survey methodology, which states "USFWS considers the results of a pre-project survey to be valid for no more than one year."[37] While surveys were done on the newly proposed linear parts of the projects, no updated surveys were done on the proposed solar site itself. The project site it located in the Colorado Recovery Unit of the desert tortoise – a recovery unit that generally is in steep decline. Since range-wide monitoring was established in 2001, this recovery unit has steadily declined. From the baseline established between 2001-2005, the desert tortoise population had declined by 37% to 58% in the Colorado Desert by 2007[38] with densities estimated at 5.0 tortoises/km2 in the Eastern Colorado Recovery Unit and 4.6 tortoises/km2 in the Northern Colorado Recovery Unit. In 2011, the USFWS combined the Eastern and Northern Colorado Recovery Units into the Colorado Recovery Unit. The draft analysis from the 2012 Rangewide Monitoring calculates only 2.4 tortoises/km2 in Colorado Recovery unit[39] – an approximate 50% decrease in the five years since 2007. These significant declines are occurring almost twenty years *after* the species was placed under Endangered Species Act protection.

Despite these declines, the proposed project is being sited in the only WHMA established by BLM to provide connectivity from the Chuckwalla DWMA in the southern part of the Colorado River Recovery Unit to the northern part of the Unit, including ultimately to the Chemihuevi DWMA through Wildlife Habitat Management Areas and existing wilderness. The SDEIS even states that "The PSEGS could impede wildlife movement in these corridors by obstructing connectivity, and on a population level could impede gene flow for desert tortoises that threatens the desert tortoise at a population-level." (SDEIS at 4.21-6.) Shockingly, no alternative site layouts or other alternatives are even considered in the SDEIS that would avoid these impacts although avoidance is practicable and should have been considered. The failure to consider alternative project designs and/or a smaller footprint and off-site alternatives is particularly egregious in this case, because even with later compensatory mitigation, this key connectivity area will be lost forever. Further, it is unclear from the SDEIS where or even if other connectivity areas between the Chuckwalla DWMA and northern parts of the Colorado Recovery Unit are available as mitigation acquisition. Only by clearly identifying current desert tortoise connectivity areas and requiring acquisition or permanent conservation of these specific areas as part of the mitigation strategy can the impacts from the proposed project on the Desert Tortoise Connectivity WHMA even potentially be mitigated—although the loss of this site-specific connectivity area for tortoise and other wildlife is not truly mitigable.

If desert tortoise are found on the proposed project site, the proposal is to move any desert tortoise through relocation or translocation. The desert tortoise translocations document[40] an unacceptable 44% confirmed mortality of translocated desert tortoise since the translocation occurred 2008 and the last surveys in 2009. Thirty-five additional tortoises (22%) were "missing" – status unknown. Coupled with that, all translocated tortoise had tested negative for deadly diseases prior to being translocated, but post-translocation, 11% tested positive, setting up

[37] USFWS 2009a
[38] USFWS 2009b
[39] USFWS 2012
[40] Gowan and Berry 2010.

a tragic epidemiological situation. While translocation efforts allow for survival of some desert tortoise, in the case of the proposed project, moving the tortoise out of immediate harms way by moving them nearby (and even perhaps within part of their historic "home range"), will likely still result in long-term demise of the animals because of the industrialization of the proposed project site. Therefore, to actually determine the outcome of the translocation over time, a mitigation measure needs to be added as part of the requirement for the Desert Tortoise Translocation Plan:

- Monitoring of all of the translocated tortoises or desert tortoise moved as part of this project will continue annually throughout the life of the Palen Solar Energy Power System.

This request follows the guidance provided by the Independent Science Advisors convened for the Desert Renewable Energy Conservation Plan (DRECP), who produced Recommendations for the DRECP in 2010. In that document they state "Transplantation or translocations should be considered a last recourse for unavoidable impacts, should never be considered full mitigation for the impact, and in all cases must be treated as experiments *subject to long-term monitoring and management*.[Emphasis added] [41].

The translocation site should be conserved in perpetuity, so that moving animals out of harm's way for one project precludes the eventuality of having to move them for a second time when another project is proposed in the area. This is especially important in for this proposed project which is located in the Riverside-East SEZ which will likely have future development in it.. Indeed, the situation of moving desert tortoise repeatedly is occurring as desert tortoise that were moved off-site of the Ivanpah Solar Electric Generating System site, may now need to be moved a second time if the Stateline Solar project is permitted as currently proposed[42]. The more times an animal is moved out of its existing home range, the less likely it is to survive. Because the proposed project is within the BLM's Solar Energy Zone it is very possible that any tortoises (or other animals) moved off of the proposed project site may need to be moved a second time if additional projects move forward in the area. Therefore, the translocation areas, or areas where relocated or translocated plant/animals reside should be put off limits to all future development. An additional mitigation measure should be incorporated as part of the requirement for the Desert Tortoise Translocation Plan:

- Areas where relocated or translocated desert tortoise reside will be conserved in perpetuity to provide a safe refugia for tortoise moved from the project site and preclude the need for the desert tortoises to be moved more than once.

NEPA mandates consideration of the relevant environmental factors and environmental review of "[b]oth *short- and long-term* effects" in order to determine the significance of the project's impacts. 40 C.F.R. § 1508.27(a) (emphasis added). BLM has clearly failed to do so in this instance with respect to the impact to the desert tortoise.

[41] ISA 2010 at vii

[42] Attachment 1. Figure 8 Tortoise Records ISEGS Monitoring Project and Perimeter Recipient Sites.

Despite the cumulative impacts analysis for desert tortoise, without changes to the proposed project and full consideration of alternatives first, and then the development of a mitigation strategy as listed above and a higher mitigation ratio overall, the proposed mitigation does not even approach a guarantee of adequate compensation for the impacts to onsite desert tortoises or the crucial BLM designated desert tortoise connectivity WHMA.

While Bio-10 requires a Desert Tortoise Relocation/Translocation Plan (SDEIS at (Appendix C, 4.21-25), no desert tortoise relocation/translocation plan was included in the SDEIS but instead the SDEIS refers to a draft plan from 2010 which is not available in this DEIS. Many new lessons have been learned from desert tortoise relocations in the intervening three years. A revised relocation/translocation plan should be included for public review as part of revised DEIS in order for the public and decision makers to be able to evaluate the effectiveness of the proposed strategies.

The 1:1 mitigation ratio of desert tortoise habitat outside of critical habitat fails to recognize that the underlying land management zoning is not just one, but two WHMAs as mentioned above. WHMAs in NECO were established to "protect and enhance habitat" so that "80 percent of the distribution of all special status species and all natural community types would be included in the Multi-species Conservation Zone" (NECO at 2-55). In the SDEIS, the mitigation for desert tortoise is proposed to be an umbrella for mitigation for other species, and the SDEIS allows for "nesting" of mitigation. Based on this, the important biological value of the WHMAs is unaddressed in the SDEIS.

Additionally a 1:1 mitigation strategy is still *a net loss of habitat* for all the desert species of the proposed project site, as currently they are using or could use both the mitigation site and the proposed project site. Therefore, in order to aid in decreasing the decline and increasing recovery of all of the special status species, at a minimum a 3:1 mitigation ratio should be required as mitigation for impacts to WHMAs.

2. Desert Bighorn Sheep

The SDEIS confusingly states in the desert bighorn sheep section that "The PSEGS would not directly affect habitat within any NECO connectivity corridors or WHMAs" (at 4.21-9) and is in conflict with pg. 3.23-2 which states "the project site is located within two areas designated in the NECO plan as wildlife habitat management areas (WHMA): Palen-Ford WHMA and Desert Wildlife Management Area (DWMA) Connectivity WHMA", While we agree that the I-10 is currently a barrier to the movement of bighorn (and other species), clearly the SDEIS fails to evaluate the opportunity via the proposed project mitigation to re-establish historic linkage for bighorn sheep across the Chuckwalla Valley between the Palen Mountains (Bighorn Wildlife Habitat Management Area [WHMA]) and the Chuckwalla Mountains (Bighorn WHMA). Instead, the SDEIS proposes to add yet another significant block to bighorn and wildlife movement in the area, without considering ways to ameliorate or improve the existing conditions.

3. Mojave fringe-toed lizard/Sand dunes/Sand Transport System

The proposed project would "directly impact 186.8 acres of stabilized and partly stabilized desert dunes and an additional 1,332.1 acres of non-dune habitat that may support Mojave fringe-toed lizard in the northeastern portion of the Project Disturbance Area. Thus, the Project may impact a total of 1,518.9 acres of active wind-blown sand with relatively shallow sand deposits and areas of deeper and more active vegetated sand dunes (Table 4.21-1)." SDEIS at 4.21-7). The SDEIS elsewhere erroneously states that "The project has been configured to avoid direct impacts on sand transport areas" (SDEIS at ES-6), and wrongly concludes "Therefore, operations activities would not be expected to have a significant adverse effect on sand transport or dune habitat. (SDEIS at ES-6). These diametrically opposed statements obfuscate the actual impacts to the critical eolian sand transport system including dunes and playas and the Mojave fringe-toed lizard.

While the PA/FEIS for PSPP (Appendix B-1) proposed to mitigate Mojave fringe-toed lizard habitat at different mitigation ratios, the SDEIS does not mention mitigation ratios or acknowledge the mitigation ratios required in the NECO for playas and sand areas in the WHMA. For example occupied habitat of stabilized and partially stabilized dunes are proposed to be mitigated at 3:1, while occupied sand fields are to be mitigated at 1:1 (SDEIS Vol. 2 at pg Appendix B-1 at 5-36)). In addition, no alternative site layouts or other alternatives are considered in the SDEIS that would avoid some or all of the impacts to the sand areas and Mojave fringe toed lizard in violation of NEPA.

In contrast, notably other projects were required to mitigate at a higher ratio for occupied Mojave fringe-toed lizard habitat. For example, Desert Sunlight was required to mitigate any unavoidable impacts to the Mojave fringe-toed lizard habitat up to 5:1 for direct impacts to all occupied Mojave fringe-toed lizard habitat and lesser ratios for indirect impacts (Desert Sunlight FEIS at 4.4-40). Also, the Desert Sunlight project (Desert Harvest FEIS at Wil-4) is required to produce a Mojave Fringe-toed Lizard Protection Plan. BLM provide no explanation for failing to require a Mojave Fringe-toed Lizard Protection Plan for this proposed project which clearly is sited in more Mojave Fringe-toed lizard habitat than the Desert Sunlight and will have significantly more impacts to the species if approved.

The SDEIS downplays the impacts to sand habitat downwind by proposing to mitigate them at only 0.5:1. The downwind impacts are incorrectly considered an indirect impact because the project will in fact eventually eliminate the sand habitat for the Mojave fringe-toed lizard downwind of the proposed project site – a direct yet off-site impact. At minimum, these permanent impacts should be mitigated at the 3:1 level as well.

As discussed above, the proposed project is totally within the Palen-Ford WHMA that requires a minimum of 3:1 mitigation for sand and playa areas both for on-site impacts and any off-site impacts (such as the downwind impacts). Clearly the SDEIS needs to evaluate and propose appropriate mitigation for the Mojave fringe-toed lizard and its occupied and suitable habitat but it has failed to do so.

While we recognize that the "sand fences" that were associated with the original Palen Solar Power Project are not going to be constructed as part of the proposed project but other fences will be constructed that will block sand over time. Moreover, to the extent that using different fencing will allow sand habitat for Mojave fringe-toed lizards to remain on the proposed project site within the boundaries of the solar field, this onsite habitat then puts Mojave fringe-toed lizards potentially in harms way of the roads established for proposed project infrastructure and the motorized vehicles used for maintenance and mirror washing. No analysis of the on-going impacts to Mojave fringe-toed lizards from road related mortality or use of other motorized equipment on site as part of the operations is provided. Other roads associated with development projects located in Mojave fringe-toed lizard habitat have documented significant mortality despite enacted avoidance and minimization measures[43]. Recommendations made based on those studies should have been, but were not, addressed in the SDEIS. Because of the failure to identify and analyze these impacts, the SDEIS must be revised.

The SDEIS also fails to evaluate other impacts of the proposed project on Mojave fringe-toed lizard outside of the project site. As Barrows et al. (2006)[44] found, edge effects are significant for fringe-toed lizards and, in addition, the increase in predators and predation opportunities associated with developed edges may also have a significant adverse effect on fringe-toed lizards and other species. For example, proposed site fencing will provide perching opportunities for birds that can predate on fringe-toed lizards (and other species).

5. Migratory and Other Avian Species

Overarching Issues Regarding Avian Species

BLM have failed to consider alternatives to avoid the many significant impacts to avian species that may result from this proposal for two 750-foot solar power towers, including but not limited to considering an alternative utilizing PV technology on this site. BLM must also consider, but has not, other mitigation measures such as a monitoring and curtailment regime requiring the project to go off line when eagles or other special status avian species are present. Without a robust alternatives analysis and consideration of mitigation the SDEIS is woefully inadequate.

The Center certainly support minimizing impacts to all types of avian species, however, from the CEC process, which may be incorporated into the revised SDEIS, BIO-16a (1) proposes that "the project owner shall, prior to the commencement of commercial operations at the facility, fund the retrofitting of non-compliant utility poles in the vicinity of the project to APLIC (2006) standards or fund the installation of bird diverters in the vicinity of the Project" (FSA at 4.2-289). While we appreciate that power poles are a threat to avian species, if non-compliant poles are present and especially if they are causing injury or mortality, the utility whose pole it is, needs to retrofit the pole - not the new proposed project. BIO-16a (1) also cites the DRECP, but the DRECP is still under development and has yet to have even a draft document out for public review.

[43] Helix 2013
[44] Barrows et al. 2006

Yuma Clapper Rail

The Yuma clapper rail is a federally endangered species and a fully protected species under State law. The SDEIS recognizes that the Yuma clapper rail (*Rallus longirostrus yumanensis*) mortality has occurred at the nearby Desert Sunlight photovoltaic project (at 4.21-11). The CEC's FSA notes that the Yuma clapper rail was observed on the proposed project site (FSA at 4.2-41). The federal agencies are reviewing the species as part of the Biological Opinion for the proposed project.

The proposed project poses a serious threat to the Yuma clapper rail, which is a secretive critically endangered bird. Recent data on populations near the project site indicate that between 1995 and 2005, survey data have ranged from 217-445 birds along the Lower Colorado River and the Salton Sea data has ranged from 234-523 birds[45], population numbers well below the Recovery Plan[46] objectives for this unique bird. While little is known about their migration or dispersal patterns, the recent Yuma clapper rail mortality at Desert Sunlight indicates that the birds use the Chuckwalla Valley and indeed may be attracted to solar facilities through mistaking the solar facility as water – the "lake effect". In the case of the proposed project, not only will project infrastructure pose a hazard to the rail, but also the solar flux zone.

Willow Flycatcher

The SDEIS overlooks the presence of the willow flycatcher (*Empidonax trallii*) near the project site. The southwestern willow flycatcher is a federally endangered species. While the willow flycatcher has not been reported on the proposed project site, it has recently been recorded very close to the site at Lake Tamarisk. According to eBird hotspot list, which is reviewed by local experts prior to posting, a willow flycatcher was documented using the resources at Lake Tamarisk on October 5, 2013[47]. The sighting includes a photograph. It is unclear if the bird was the federally protected southwestern willow flycatcher. However, southwestern willow flycatchers are known to migrate along the Colorado River[48], and it is possible that the willow flycatcher at Lake Tamarisk was a southwestern. Therefore, the BLM should consult with US Fish and Wildlife Service on impacts associated with the proposed project to the endangered southwestern willow flycatcher.

Golden Eagle

While the SDEIS recognizes that the whole project site is eagle foraging habitat, the SDEIS fails to adequately evaluate the impacts to golden eagle in the project area and from the proposed project especially in the context of other permitted and constructed developments and future development. In general golden eagle populations in the western United States are declining slightly in the southern parts of its range.[49] The net loss of foraging habitat could cause territories to be abandoned and eagles (among other avian species) could also be negatively

[45] USFWS 2006
[46] USFWS 1983
[47] eBird – Lake Tamarisk Hot Spot 10-15-2013
[48] USFWS 2013
[49] Milsap et al. 2013; Kochert & Steenhoff 2002

affected by the solar flux. These impacts must also be considered and are not avoided or mitigated under the current proposal.

While golden eagles are known from the proposed project site, the SDEIS does not use all of the currently available data on eagles in the project area. Joshua Tree National Park, which is nearby the proposed project site, commissioned a Golden Eagle Survey Report in 2011[50] which documented the following results:

> "A total of 22 golden eagle nests were observed comprising 9 territories. Four of the 9 golden eagle territories were active for the 2011 season (Eagle Mountains - West Central, Eagle Mountains – West Northwest, Hexie Mountains - Central, Little San Bernardino - East), the 2 Eagle Mountain territories were the only productive territories and produced a total of at least 3 young." (at pg.1)

This survey indicates that the Eagle Mountain territories were the only successfully reproducing territories within Joshua Tree National Park in 2011. These territories are also adjacent to the Chuckwalla Valley and the proposed project site and rely upon the resources found there for successful reproduction.

The nest survey done for Desert Harvest identified that two golden eagle nests occur within 5 miles of the proposed project, and that one of those nests occurs within a mile of the proposed project south of Interstate 10 (BLM 2012. Desert Harvest DEIS Appendix C.7[51]).

The Notice to Proceed Request for the Red Bluff Substation Project Distribution Line, which was analyzed in the Desert Sunlight Solar Farm Final Environmental Impact Statement, and is the substation that is currently being constructed and to which the proposed project will be interconnected to the grid, states that "Phase I occupancy surveys conducted in April 2010 detected 13 potentially active nests within a 10−mile radius of the Project area" and documented only one active nest in 2010.[52] These data also are not reflected in the SDEIS.

The SDEIS fails to adequately identify and evaluate the impacts to golden eagles based on these additional data that are either not included or downplayed in SDEIS. Yet, these concerns appear to be echoed in the due diligence request to the company from the BLM via the CEC proceedings in which the BLM wants to see the actual data from the surveys[53]. To date the response to the due diligence request has not been docketed or served to the intervenors in that process. Additionally, the USFWS recommended additional data be collected for late season golden eagle surveys[54]. No report is available at this time to determine if the project proponent followed the USFWS' late season recommendations. These data are necessary to evaluate the

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[50] WRI 2011

[51] http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/palmsprings/desert_harvest_solar.Par.75447.File.dat/App_C07-C10.pdf

[52] SCE 2011.

[53] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200531_20130919T112340_Notice_to_Charles_TurlinskiPSH_LLC_re_Due_Diligence_Request_for.pdf

[54] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200106_20130801T113723_USFWS_email_to_Pete_Bloom_in_re_Palen_Helo_GOEA_Nest_Survey_Fli.pdf

activity of the golden eagles in the proposed project area and are needed to inform the impact analyses of the proposed project. Regarding cumulative impacts from this proposed project and other projects to golden eagles, no analysis regarding the existing threats to eagles including but not limited to wind energy[55], lead poisoning, collisions and pesticides is provided.

As the BLM is fully aware, mortality from similar power tower technology is occurring on the Ivanpah Solar Electric Generating System, including causing mortality of a peregrine falcon from being scorched and singed and having melted feathers and foot trauma.[56] While the peregrine falcon is a testament to the effectiveness of the Endangered Species Act at recovering species from imminent danger of extinction, the peregrine falcon remains a state fully protected species. While McCrary et al. documented similar mortality[57], these new data corroborate that the threat from this type of solar technology is very real and very deadly to avian species.

Based on the threat alone of habitat impact, but also including the unanalyzed impacts, the BLM should require, at minimum, that a permit be obtained under the Bald and Golden Eagle Act for impacts to golden eagles from the proposed project before any BLM approvals.

Bald Eagle

The CEC's FSA notes that the bald eagle was observed on the proposed project site (FSA at 4.2-41). An eagle has also recently been recorded very close to the site at Lake Tamarisk. According to eBird hotspot list, which is reviewed by local experts prior to posting, a bald eagle was documented using the resources at Lake Tamarisk on October 5, 2013[58].

Like the peregrine falcon, the bald eagle is a testament to the effectiveness of the Endangered Species Act at recovering species from imminent danger of extinction, and yet in California, it is still "fully protected" under California Endangered Species Act. The SDEIS failed to identify the bald eagle on the proposed project site or analyze impacts to this species. Based on the presence of the bald eagle on the proposed project site, at minimum the BLM should require that a permit be obtained under the Bald and Golden Eagle Act for impacts to bald eagles from the proposed project before any BLM approvals.

Swainson's Hawk

While the SDEIS notes that Swainson's hawk was seen on the project site (at 3.23-3) it fails to note that the CEC's FSA identifies three locations of "Swainson's Hawk (represents multiple individuals)" east, west and north of the proposed project site. In addition, Swainson's hawk has also been documented at Lake Tamarisk[59]. The SDEIS fails to actually analyze the impacts of the proposed project on Swainson's hawks. While it is very unlikely that Swainson's

[55] Pagel et al. 2013,
[56] http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN200642_20130930T090221_Avian_Mortality_Report_912013.xlsx
[57] McCrary et al. 1986
[58] eBird – Lake Tamarisk Hot Spot 10-15-2013
[59] IBID

hawks would utilize the project sites for nesting, impacts to these rare raptors could still occur as they migrate through the Chuckwalla Valley, which they clearly use.

Burrowing Owl

The SDEIS uses dated data for the analysis of burrowing owl impacts on the site: "preliminary 2013 survey findings report 10 owl detections on the site" (at 3.23-6). More recent data from avian point count surveys in 2013 is available from the CEC's FSA which states "Approximately 18 observations of individual owls were made during spring avian surveys of the project site" (CEC's FSA at 4.2-7).

While burrowing owls are declining in California, the remaining stronghold for burrowing owls in California – the Imperial Valley – has documented decline of 27% in the past[60], resulting in an even more dire state for burrowing owls in California. Because burrowing owls are in decline throughout California, and now their "stronghold" is documented to be declining severely, the burrowing owls on this proposed project site (and on other renewable energy projects) become even more important to species conservation efforts. While the acquisition of habitat specifically for burrowing owls as offsets to impacts is important, it is impossible e to evaluate the impact of the proposed project primarily because the actual number of breeding pairs of burrowing owls on the proposed project site is not evident. Also it appears the most recent burrowing owl survey protocols[61] were only followed on the newly proposed linears. Absent accurate data on the actual number of burrowing owls that could be impacted, the SDEIS simply can not effectively analyze the impacts.

Therefore it is also unclear how adequate mitigation can actually be determined. These basic data need to be included in the revised SDEIS.

Because there is no scientific evidence that passively relocating burrowing owls is a successful strategy for long-term survival of burrowing owls, if owls are to be "passively relocated", the only way to evaluate the effectiveness of that action is monitoring, therefore the BLM needs to require monitoring of passively relocated owls to determine their ultimate fate.

The mitigation acquisition of only 78 acres to offset impacts to on-site burrowing owls is woefully inadequate. Mean burrowing owl foraging territories are 242 hectares in size, although foraging territories for owl in heavily cultivated areas is only 35 hectares[62]. Regardless, the acquisition of only 78 acres (31.6 hectares) appears to mitigate for much less than one territory. The SDEIS fails to identify the number of territories that occur on the proposed project site, although 2 different pairs fledged young in 2009 and in 2010 and four "active burrows" were documented (CEC's FSA at 4.2-64). Absent the actual number of territories that overlap with the proposed project site, the evaluation of mitigation acquisition is flawed. However, additional mitigation acreage is likely needs to be required – calculated using the mean foraging territory size times the number of territories, resulting in1,210 hectares (2,990 acres) of habitat that would

[60] Manning 2009.
[61] CDFG 2012
[62] USFWS 2003

need to be acquired, although using the average foraging territory size for mitigation calculations may not accurately predict the carrying capacity and may *overestimate* the carrying capacity of the lands selected for mitigation. While the SDEIS may have relied on guidance from CDFW from 2012, that guidance still does not fully incorporate current population declines[63] and additional research on the species habitat[64]. Lastly, because the carrying capacity is tied to habitat quality, mitigation lands that are acquired for burrowing owl that can not be avoided be native habitat on undisturbed lands, not cultivated lands, which are subject to the whims of land use changes. The long-term persistence of burrowing owls lies in their ability to utilize natural landscapes, not human-created ones.

Casey's June Beetle

Sand dune habitats are notorious for supporting endemic insects, typically narrow habitat specialists[65]. The CEC's FSA notes that the federally endangered Casey's June beetle (*Dinacoma caseyi*) occurs on the proposed project site (at 4.2-43), although there is no discussion in the text of where and when the species was located on the proposed project site. This is surprising because the Casey's June beetle is only known from a very small range near Palm Springs[66]. However, if it is the case that the beetle occurs on the proposed project site, then the SDEIS needs to be revised and a full analysis of the avoidance, minimization and mitigation of impacts to this species needs to be included. While the Casey's June beetle was an unaddressed issue for the previously permitted project, the technology for the currently proposed project has been documented to impact flying insects through flux-related incinerations, as well as collision with infrastructure[67]. While our previous comments on the Palen Solar Power Project identified the lack of analysis of the impacts to insects from that proposed project, the SDEIS also brushes off this important issue by primarily addressing impacts to the sand dune community without actually requiring insect surveys. Absent the surveys clearly no evaluation of impacts to rare insects can be analyzed.

6. Special Status Plants

While late-season botanical surveys are crucial to provide data on on-site resources, these types of surveys should have been done prior to the assessment of impacts from the proposed project. As stated above, failure to conduct sufficient surveys prior to environmental review of the project effectively eliminates the most important function of surveys - using the information from the surveys to avoid and minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place.

7. Badger and Desert Kit Foxes

[63] Manning 2009
[64] USFWS 2003
[65] Dunn 2005
[66] USFWS 2011
[67] Wagner et al. 1983

The desert kit fox and badgers are experiencing unprecedented impacts from development of renewable energy projects in their habitat. For desert kit fox, to date on public lands alone, eighteen solar and transmission project applications covering more over 96,000 acres are currently filed as of January 2013[68]. Fifteen approved solar projects, most of which are currently under construction, cover almost 39,000 acres of desert kit fox habitat[69]. Over 30,000 additional acres of proposed solar projects are actively under going environmental review[70]. As of January 2013, eleven wind projects covering almost 75,000 acres have been approved with many of them in the construction phase[71]. Three additional projects covering 16,611 acres are currently under environmental review[72]. In addition, twenty-eight projects are authorized to do wind testing on almost 270,000 acres[73]. Another forty wind project applications are in development or propose testing, covering an additional 485,000 acres[74]. The potential cumulative development for wind in desert kit fox and badger habitat could cover close to 850,000 acres. In our review of these projects, very few of them evaluate the impacts to desert kit fox populations or require any mitigation other than "passive relocation". We agree with the SDEIS that "In the absence of protective measures the PSEGS has the potential to worsen the CDV outbreak by raising kit fox stress levels and causing increased susceptibility to infection, causing increased movement of diseased animals thereby increasing the spread of disease into new areas, or placing healthy kit foxes into contact with off-site infected animals" (at 4.21-9). However, the SDEIS still fails to adequately discuss the desert kit fox in the context of their great site fidelity, challenges of "passive relocation" with this species that generally go to great effort to return to their on-site territories.

Additionally, the SDEIS relies on outdated data from 2009 and 2010 on desert kit fox occurrence on the proposed project site with 2013 surveys only on habitat within the newly proposed linears. The SDEIS also failed to coordinate with CDFW, which is monitoring kit fox on the project site and therefore failed to incorporate the data provided by CDFW [75] that shows onsite occupancy, successful reproduction as well as use of connectivity under Interstate 10,

The SDEIS fails to estimate the number of desert kit fox or badgers on the project site, or analyze impacts to them from the proposed project. Through WIL-1 in the SDEIS (at 4.21-15)

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[68] BLM 2012. Solar Apps and Auths. http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy/solar.Par.84447.File.dat/BLM%20Solar%20Apps%20and%20Auths.pdf

[69] Ibid

[70] Ibid

[71] BLM Wind Apps & Auths July 2012 http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.5556.File.dat/BLM%20Solar%20Apps%20&%20Auths%20July%202012.pdf and Kern County wind projects http://www.co.kern.ca.us/planning/pdfs/renewable/wind_projects.pdf

[72] Kern County wind projects http://www.co.kern.ca.us/planning/pdfs/renewable/wind_projects.pdf

[73] BLM Wind Apps & Auths July 2012 http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy.Par.5556.File.dat/BLM%20Solar%20Apps%20&%20Auths%20July%202012.pdf

[74] Ibid

[75] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200466_20130913T104933_Kit_Fox_Den_Activity_Map__September_2013.pdf and http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200467_20130913T104933_Email_from_Jaime_Rudd_re_Palen_Updated_Map.pdf

and the requirement of an *American Badger and Desert Kit Fox Mitigation and Monitoring Plan*, additional safeguards are put in place for the kit fox and badger. However, that plan (along with many others) are not available as part of the public review. As part of that plan, a "monitoring and reporting plan to evaluate success of the relocation efforts and any subsequent re-occupation of the project site" is required, and long-term monitoring for the life of the project of the "passively relocated" animals needs to be included.

Among other concerns about passive relocation, we share all of the State veterinarians' concerns about passive relocation as stated in the CEC proceeding[76]:

- "canine distemper virus (CDV) can cause repeated (cyclical) outbreaks. The time when this is most likely to happen is when susceptible young of the year are growing up and dispersing because density is high and animals are moving, therefore there is more opportunity to transmit the virus and more naïve animals present on the landscape to be infected. This time of year also corresponds to the time when projects are permitted to passively relocate foxes whose dens are within the project construction area
- Passive relocation or hazing activities conducted in an area experiencing or adjacent to distemper cases may enhance disease transmission and spread by multiple mechanisms.
    - First, animals stressed by disturbance or relocation may be more susceptible to illness and death because CDV infection decreases immune function (ref).
    - Second, passive relocation activities in an area experiencing clinical CDV cases may result in increased movement of animals shedding virus, thereby increasing the number of new cases or enhancing the spread of disease into new areas.
- Little to nothing is known about the potential impacts of passive relocation on foxes from solar sites nor have alternative techniques been explored to determine best practices. Important unanswered questions include:
    - Do passively relocated animals re-establish territories adjacent to the solar site? Or might this depend on the density or spatial distribution of foxes around a site.
    - Do relocated foxes experience lower survival or different causes of mortality that might need to be addressed through mitigation efforts?
    - Recursion rate – how likely are relocated foxes going to try to get back on site and return to former den areas?
    - Demographic shifts of neighbors
        - Reproductive impact (n=1 relocated pair this year had den failure; most other dens were successful this year in producing pups).
        - Rapid vs. slow relocation etc.
        - Utilization of artificial dens
        - Longer term translocation decisions
        - Current monitoring limited in scope and inadequate to address needs (underfunded).
        - Methods and outcomes for relocation are not evaluated systematically or reported."

[76] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200995_20131022T141658_Exhibit_2005__CDFW_Outline_for_Proposed_Desert_Kit_Fox_Health_M.pdf

These issues should also be incorporated into requirements for the proposed project, especially because this proposed project is the closest project to the Genesis solar project, which was the site of the unprecedented first outbreak of canine distemper ever documented in desert kit fox.[77]

7. Cryptobiotic soil crusts and Desert Pavement

The proposed project is located in the Mojave Desert Air Quality Management District area, which is already in non-attainment for PM-10 particulate matter[78]. The construction of the proposed project further increases emissions of these types of particles because of the disruption and elimination of potentially thousands of acres of cryptobiotic soil crusts. Cryptobiotic soil crusts are an essential ecological component in arid lands. They are the "glue" that holds surface soil particles together precluding erosion, provide "safe sites" for seed germination, trap and slowly release soil moisture, and provide CO_2 uptake through photosynthesis[79].

The SDEIS does not describe or quantify the on-site cryptobiotic soil crusts although it does mention them as biological soil crusts and provides a partial list of the ecological services that they perform in relation to special status plant species (at 4.17-8). The proposed project will disturb an unidentified portion of these soil crusts and cause them to lose their capacity to stabilize soils and trap soil moisture. The SDEIS fails to provide a map of the soil crusts over the project site, and to present any avoidance or minimization measures. It is unclear how many acres of cryptobiotics soils will be affected by the project. The SDEIS must identify the extent of the cryptobiotic soils on site and analyze the potential impacts to these diminutive, but essential desert ecosystem components as a result of this project.

While desert pavements are defined in the SDEIS, they are not mentioned as occurring on the proposed project site, quantitative acreage of pavement is not identified and the impact to air quality and hydrology from disturbance of desert pavements is not analyzed.

8. Insects

As mentioned above, sand dune habitats are notorious for supporting endemic insects, typically narrow habitat specialists[80]. The technology for the currently proposed project has been documented to impact flying insects through flux-related incinerations, as well as collision with infrastructure[81]. The SDEIS provides no information on insects in the area and no surveys of the sand dune community insects were ever required. Consequently the SDEIS provides no analyses of potential impacts to insects from the proposed project. Absent the surveys clearly no evaluation of impacts to rare insects can be analyzed. Based on the rule of thumb that for every plant species on the planet there are eight insect species, and the fact that a new plant species – the Palen Lake Atriplex (*Atriplex* sp. nova) was discovered on the proposed project site (SDEIS at 3.18-8), it could easily be true that eight new species of insects could also be impacted by the proposed project.

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[77] http://articles.latimes.com/2012/apr/18/local/la-me-0418-foxes-distemper-20120418
[78] http://www.mdaqmd.ca.gov/index.aspx?page=214
[79] Belnap 2003, Belnap et al 2003, Belnap 2006, Belnap et al. 2007
[80] Dunn 2005
[81] Wagner et al. 1983

9. Decommissioning and Reclamation Plan

Desert lands are notoriously hard to revegetate or rehabilitate[82] and revegetation never supports the same diversity that originally occurred in the plant community prior to disturbance[83]. The task of revegetating almost eleven square miles will be a Herculean effort that will require significant financial resources. In order to assure that the ambitious goals of the revegetation effort is met post project closure, it will be necessary to bond the project, so that all revegetation obligations will be met and assured. The bond needs to be structured so that it is tied to meeting the specific revegetation criteria.

Despite "mowing" of vegetation, the project will cause permanent impacts to the on-site plant communities and habitat for wildlife despite "revegetation", because the agency's regulations based on the Northern and Eastern Colorado Plan's rehabilitation strategies[84] only requires 40% of the original density of the "dominant" perennials, only 30% of the original cover. Dominant perennials are further defined as "any combination of perennial plants that originally accounted cumulatively for at least 80 percent of relative density".[85] These requirements fail to truly "revegetate" the plant communities to their former diversity and cover even over the long term. While Bio-22 requires the development of a Decommissioning Plan, that plan is not available for public review. BLM's own regulations 43 CFR 3809.550 et seq. require a detailed reclamation plan and a cost estimate, they need to be included in the revised DEIS. A comprehensive decommissioning plan must be developed for the whole project site. This plan must be included in the revised or supplement DEIS in order to evaluate the effectiveness as mitigation.

10. Fire Plan

Fire in desert ecosystems is well documented to cause catastrophic landscape scale changes[86] and impacts to the local species[87]. The SDEIS incorrectly concludes that "PSEGS-related wildland fire ecology hazards and related effects would be substantially the same as identified for the PSPP (SDEIS at 4.20-1). The proposed project differs significantly from the PSPP in the respect that vegetation will be mowed but remain on the proposed project site whereas the PSPP project would not have allowed any vegetation to remain within the project footprint. The SDEIS fails to adequately analyze the impact that an escaped on-site-started fire could have on the natural lands adjacent to the project site if it escaped from the site. The DEIS also fails to address the mitigation of this potential impact. Instead it defers to construction-related fire and safety measures including the Construction Fire Prevention Plan (CFPP) (Appendix C, APM WORKER SAFETY-1), on-site fire protection and response infrastructure

[82] Lovich and Bainbridge 1999
[83] Longcore et al. 1997
[84] http://www.blm.gov/ca/st/en/fo/cdd/neco.html
[85] Ibid
[86] Brown and Minnich 1986, Lovich and Bainbridge 1999, Brooks 2000, Brooks and Draper 2006, Brooks and Minnich 2007
[87] Dutcher 2009

(Appendix C, APM WORKER SAFETY-7) and the Worker Environmental Awareness Program (WEAP) (Appendix C, APM BIO-6) not operation. A fire prevention and protection plan needs to be developed and required to prevent the escape of fire onto the adjacent landscape (avoidance), lay out clear guidelines for protocols if the fire does spread to adjacent wildlands (minimization) and a revegetation plan if fire does occur on adjacent lands originating from the project site (mitigation) or caused by any activities associated with construction or operation of the site even if the fire originates off of the project site.

11. Failure to Identify Appropriate Mitigation

As discussed above, because the DEIS fails to provide adequate identification and analysis of impacts, inevitably, it also fails to identify adequate mitigation measures for the project's environmental impacts. "Implicit in NEPA's demand that an agency prepare a detailed statement on 'any adverse environmental effects which cannot be avoided should the proposal be implemented,' 42 U.S.C. § 4332(C)(ii), is an understanding that an EIS will discuss the extent to which adverse effects can be avoided." *Methow Valley*, 490 U.S. at 351-52. Because the DEIS does not adequately assess the project's direct, indirect, and cumulative impacts, its analysis of mitigation measures for those impacts is necessarily flawed. The DEIS must discuss mitigation in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Methow Valley*, 490 U.S. at 352; *see also Idaho Sporting Congress*, 137 F.3d at 1151 ("[w]ithout analytical detail to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a 'mere listing' of good management practices"). As the Supreme Court clarified in *Robertson*, 490 U.S. at 352, the "requirement that an EIS contain a detailed discussion of possible mitigation measures flows both from the language of [NEPA] and, more expressly, from CEQ's implementing regulations" and the "omission of a reasonably complete discussion of possible mitigation measures would undermine the 'action forcing' function of NEPA."

Although NEPA does not require that the harms identified actually be mitigated, NEPA does require that an EIS discuss mitigation measures, with "sufficient detail to ensure that environmental consequences have been fairly evaluated" and the purpose of the mitigation discussion is to evaluate whether anticipated environmental impacts *can be avoided*. *Methow Valley*, 490 U.S. at 351-52. As the Ninth Circuit recently noted: "[a] mitigation discussion without at least *some* evaluation of effectiveness is useless in making that determination." *South Fork Band Council of Western Shoshone v. DOI* , 588 F.3d 718 , 727 (9th Cir. 2009) (emphasis in original).

Here, the DEIS does not provide a full analysis of possible alternatives and mitigation measures to avoid or lessen the impacts of the proposed project and therefore the BLM cannot properly assess the likelihood that such measures would actually avoid the impacts of the proposed project.

D. Key Plans Not Included

The SDEIS relies upon the old PSPP FEIS and still fails to include key plans for public review. Plans identified in the DEIS and relied upon for adequate mitigation but which are unavailable include:

- Closure and Decommissioning Plan (FEIS at 4.14-3)
- Soil erosion and sedimentation control plan (FEIS at 4.14-10)
- Operations Dust Control Plan (FEIS at 4.14-10)
- Weed Management Plan (FEIS at 4.17-8)
- Biological Resources Mitigation Implementation and Monitoring Plan (FEIS at 4.17-32)
- Raven Management and Monitoring Plan (FEIS at 4.21-26)
- Burrowing Owl Mitigation Plan (FEIS at 4.21-26))
- Avian Protection Plan (FEIS at 4.21-16)
- Desert Tortoise Relocation/Translocation Plan (FEIS at 4.21-6)
- Management Plan for Sand Dune/Fringe-toed Lizard Compensation lands (FEIS at 4.21-26)
- Project Construction Phasing Plan (FEIS at 4.21-26)
- Monitoring and Adaptive Management Plan for Golden Eagles (FEIS at 4.21-27)

Plans required in the SDEIS but not provided:

- American Badger and Desert Kit Fox Mitigation and Monitoring Plan (SDEIS 4.21-15)

Plans that were included in the Draft DEIS but not included in the FEIS and should be included in the SDEIS and provided:

- detailed revegetation plan for temporary disturbance (DEIS at C.2-158)
- Desert Tortoise Management Plan for Compensatory Mitigation Lands (DEIS at C.2-89)
- Burrowing Owl Relocation/Translocation Plan (DEIS at C.2-86)
- Special-status Plant Impact Avoidance and Mitigation Plan (DEIS at C.2-175)
- Ground Water Dependent Vegetation Monitoring Plan (DEIS at C.2-182)
- Desert Tortoise Compensatory Mitigation Plan (DEIS at C.2-89)

Plans that are not currently required but should be required and need to be included for public review:

- Bat Protection Plan
- Management Plan for Sand Dune/Fringe-toed Lizard
- Fire Plan

All of these plans are key components to evaluating the effectiveness of the avoidance, minimization and mitigation to biological resources by the proposed project. Their absence makes it impossible to evaluate the impacts from the proposed project. Each of these plans needs to be included in a revised SDEIS. We are particularly concerned about these plans in

light of the submittal by the project applicant as rebuttal to our testimony[88] in the CEC proceedings. Included in that submittal is "Adoptive Management Measures in Detail" that provides an excellent example of why public review of these plans is so important. Many of the mitigation measures proposed by the applicant could significantly increase the impacts of the project on the environment including, but not limited to: increasing CO2 emissions (from airplanes, helicopters and propane cannons suggested to be used for deterring avian use of the area), increased noise (same and also triggering noise, pyrotechinics, blank shells, propane cannons, wailers broadcasting "dog barking, siren, gunfire, music, human screams or other deterrent sounds"); increased impacts to wildlife (high risk to kit fox from the proposed use of dogs which could further spread distemper in this already impacted population; risks to MFTL and other small wildlife from falcons used for deterrence; risks to these same species from "implementation of avian prey reduction measures within the fence-line", Mylar balloons which pose a hazard to wildlife if they come lose and land in desert areas); increased impacts to water resources (water cannons or mist to deter birds); soils (increased ATV use in avian areas); additional direct and indirect impacts to birds (netting and monofilament lines that may not just deter birds from the site but also trap or kill birds); increased impacts to native vegetation and soils (from proposal to significantly reduce onsite vegetation with more frequent and aggressive mowing). The SDEIS clearly does not evaluate any of these impacts from ant of this type of potential mitigation measures and defers consideration and approval of such plans until after the public review process in violation of NEPA. Given these inadequacies in the sections of the SDEIS provided to date, it is impossible to provide a complete evaluation of whether the project will fully comply with relevant federal (and state) laws.

E. Impacts to Water Resources— Surface and Groundwater Water Impacts

While we recognize that the proposed project has reduced the amount of groundwater that will be pumped annually 300 acre-feet/year to 201 afy, this amount is still well above what an almost identical project - the proposed Hidden Hills project in Inyo County required[89], where only 140 afy was identified as necessary. The amount of water use by the project will be significant in this arid area and the SDIES does not contain sufficient information to show that surface resources on other public lands will not be affected by the drawdown of the water table *over the life of the project.* Moreover, the cumulative impacts to groundwater resources from this project and others in the area could be significant annually and over the life of the project.

The SDEIS incomprehensibly dismisses the impacts to the Colorado River (at 4.19-3) despite multiple submissions from the Colorado River Board of California that identify numerous studies linking the Chuckwalla Valley groundwater basin with the Colorado River[90] Indeed, the letter states that "obtaining a valid water right for the project is essential to

[88] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200968_20131021T152056_PSH%27s_Rebuttal_Testimony_to_Intervenor_CBD%27s_Opening_Testimony.pdf

[89] HHSEGS FSA at pg. 4.14-26 at http://docketpublic.energy.ca.gov/PublicDocuments/Regulatory/11-AFC-2%20Hidden%20Hills/2012/DEC/TN%2068953%2012-21-12%20Final%20Staff%20Assessment.pdf

[90] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200058_20130729T144721_Colorado_River_Board%E2%80%99s_Comment_Letter_on_the_PSA_for_the_Palen.pdf and http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN201053_20131024T180438_Tanya_Trujillo_Comments_Comments_of_the_Colorado_River_Board_of.pdf

maintaining California's compliance with the existing legal requirements that govern the operations of the Colorado River" (at pg.2). The Metropolitan Water Agency also submitted a letter in the CEC process echoing these concerns and noting that the proposed mitigation for impacts to Colorado River water are not sufficient to address the water rights concerns[91].

Reserved Water Rights: As BLM is well aware, the California Desert Protection Act ("CDPA") expressly reserved water rights for wilderness areas that were created under the act including the Palen-McCoy Wilderness and others. 16 U.S.C. §410aaa-76.[92] The CDPA reserved sufficient water to fulfill the purposes of the Act which include to "preserve unrivaled scenic, geologic, and wildlife values associated with these unique natural landscapes," "perpetuate in their natural state significant and diverse ecosystems of the California desert," and "retain and enhance opportunities for scientific research in undisturbed ecosystems." 103 P.L. 433, Sec. 2. The priority date of such reserved water rights is 1994 when the CDPA was enacted. Therefore, at minimum, the BLM must ensure that use of water for the proposed project (and cumulative projects) *over the life of the proposed projects* will not impair those values in the wilderness that depend on water resources (including perennial, seasonal, and ephemeral creeks, springs and seeps as well as any riparian dependent plants and wildlife).

Although no *express* reservation of rights has been made for many of the other public lands in the CDCA, the DEIS should have addressed the federal reserved water rights afforded to the public to protect surface water sources on all public lands affected by the proposed project. Pursuant to Public Water Reserve 107 ("PWR 107"), established by Executive Order in 1926, government agencies cannot authorize activities that will impair the public use of federal reserved water rights.

PWR 107 creates a federal reserved water right in water flows that must be maintained to protect public water uses. *U.S. v. Idaho*, 959 P.2d 449,453 (Idaho, 1998) *cert. denied; Idaho v. U.S.* 526 U.S. 1012 (1999); *Cappaert v. U.S.*, 426 U.S. 128, 145 (1976). PWR 107 applies to reserve water that supports riparian areas, reserve water that provides flow to adjacent creeks and isolated springs that are "nontributary" or which form the headwaters of streams. *U.S. v. City & County of Denver*, 656 P.2d 1, 32 (Colo., 1982). Accordingly, BLM cannot authorize activities that will impair the public use of reserved waters covered by PWR 107.

BLM must examine the federal reserved water rights within the area affected by the proposed project and other proposed projects in this area that will use significant amounts of groundwater. This examination must include a survey of the any water sources potentially affected by the proposed project. The BLM must ensure that any springs, seeps, creeks or other water sources on public land and particularly within the wilderness areas are not degraded by the proposed projects' use of water and continue meet the needs of the existing wildlife and native vegetation that depend on those water resources.

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[91] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN201119_20131105T135932_Metropolian_Water_District_of_Southern_California_Comments_on_t.pdf

[92] The reservation excluded two wilderness areas further south than this project area with regard to Colorado River water. See 103 P.L. 433; 108 Stat. 4471; 1994 Enacted S. 21; 103 Enacted S. 21, SEC. 204. COLORADO RIVER. ("With respect to the Havasu and Imperial wilderness areas designated by subsection 201(a) of this title, no rights to water of the Colorado River are reserved, either expressly, impliedly, or otherwise.")

PWR 107 also protects the public lands on which protected water sources exist. Accordingly, BLM should not only consider the impact of projects on water sources present on public lands, but also the direct and indirect impacts of the proposed project on the surrounding lands as well as impacts to the ecosystem as a whole.

The Center is also concerned that the discussion in the SDEIS is also incomplete because it fails to address any potential water rights that could arguably be created from use of groundwater by the proposed project on these public lands. While the Center recognizes that this issue may involve somewhat complex legal issues, at minimum, the BLM must address this question and to ensure that any water rights that could *arguably* be created will be conveyed back to the BLM owner and run with the land at the end of the proposed project ROW term. The BLM must provide a mechanism to insure that in no case will the use of water for the proposed project on these public lands result in water rights accruing to the project applicant that it could arguably convey to any third party. Therefore, any water rights *arguably* created by groundwater pumping on these public lands for the proposed project must not ultimately accrue to any third party for use *off-site or on-site* in the future for any other project. Moreover, BLM should ensure that the applicant will not use the groundwater associated with the project off-site for any purpose.

The SDEIS must include a more comprehensive analysis of the availability of the water required for the project, of the direct, indirect and cumulative impacts to groundwater and surface water resources, analysis of alternatives to avoid such impacts (for example a PV project on this site), and mitigation measures including the need for acquisition of water rights from a valid water rights holder.

F. The DEIS Fails to Adequately Identify, Analyze and Off-set Impacts to Air Quality and GHG Emissions.

Federal courts have squarely held that NEPA requires federal agencies to analyze climate change impacts. *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508 (9th Cir. 2007). As most relevant here, NEPA requires consideration of greenhouse gas emissions ("GHG emissions") associated with all projects and, in order to fulfill this requirement the agencies should look at all aspects of the project which may create greenhouse gas emissions including operations, construction, and life-cycle emissions from materials. Where a proposed project will have significant GHG emissions, the agency should identify alternatives and/or mitigation measures that will lessen such effects.

As part of the NEPA analysis federal agencies must assess and, wherever possible, quantify or estimate GHG emissions by type and source by analyzing the direct operational impacts of proposed actions. Assessment of direct emissions of GHG from on-site combustion sources is relatively straightforward. For many projects, as with the proposed project, energy consumption will be the major source of GHGs. The indirect effects of a project may be more far-reaching and will require careful analysis. Within this category, for example, the BLM should evaluate, GHG and GHG-precursor emissions associated with construction, electricity use, fossil fuel use, water consumption, waste disposal, transportation, the manufacture of building

materials (lifecycle analysis), and land conversion. Moreover, because many project may undermine or destroy the value of carbon sinks, including desert soils, projects may have additional indirect effects from reduction in carbon sequestration, therefore both the direct and quantifiable GHG emissions as well as the GHG effects of destruction of carbon sinks should be analyzed.

The discussion of greenhouse gas emissions ("GHG") in the DEIS notes that the solar project will produce GHGs primarily from the natural gas-fired boilers, vehicles and emergency generators (at 4.3-3). The GHG emissions from the boilers during project operations is estimated to be 62,992 metric tons CO2, with the metric tons CO2 equivalent annually for total operations emissions (including all sources) of 97,490 metric tons CO2 equivalent annually. SDEIS at 4.3-4 (Table 4.3-2). The SDEIS also fails to adequately explore whether an alternative solar technology (such as PV) would reduce greenhouse gas emissions both during operations and over the life-cycle of the components of the proposed project. There is no discussion of reducing these sources by using alternative fuels or highly efficient vehicles and equipment and no discussion of providing off sets for these GHG emissions.

Another GHG emission source for this proposed project is SF6 from electrical equipment leakage, which is calculated to leak at a combined rate of 1 pound/year. SDEIS at 4.3-4. However, the DEIS does not mention additional sources of SF6 from transmission lines associated with the project. Moreover, leakage of SF6 is of particular concern as it is many times more potent greenhouse gas than CO2—indeed, its potential as a GHG has been estimated at 23,900 times that of CO2 (for a 100 year time horizon) and it can persist in the atmosphere far longer than CO2 as well—up to 3,200 years.[93] The DEIS fails to state the actual amount of SF6 that is estimated to leak from equipment and provides only that 12 MTCO2E is expected in emissions each year. No information is provided on the calculation. Moreover, the DEIS does not analyze any alternatives to avoid or minimize the long-term emissions of this powerful GHG from operations and no mitigation measures are provided.

The GHG emissions from the construction phase of the project are stated to be over 55,447 metric tons CO2 equivalent over a 33 month period (SDEIS 4.3-2 Table 4.3-1). Again, there is no discussion of reducing these emissions by using more efficient equipment or vehicles.

The DEIS also fails to adequately address other air quality issues including PM10 both during construction and operation which is of particular concern in this area which is a nonattainment area for PM10 and ozone. It is clear that on-site activities will result in bare soils and increased PM10 may be introduced into the air by wind and that the use of the area during construction and operations will lead to additional PM10 emissions from the site. Although some mitigation measures are suggested they are not specific and enforceable and because the extent of the impact has not been adequately addressed as an initial matter there is no way to show that the mitigation measures proffered will reduce the impacts to less than significance.

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[93] P. Forster et al., *Changes in Atmospheric Constituents and in Radiative Forcing, in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FOURTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE (Solomon, S., et al. eds., Cambridge University Press 2007) at p. 212, Table 2.14.

BLM fails to consider any alternatives to the project that would minimize such emissions or to require that these near-term emissions be off set in any way.

G. The Analysis of Cumulative Impacts in the DEIS Is Inadequate

A cumulative impact is "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. The Ninth Circuit requires federal agencies to "catalogue" and provide useful analysis of past, present, and future projects. *City of Carmel-By-The-Sea v. U.S. Dept. of Transp.*, 123 F.3d 1142, 1160 (9th Cir. 1997); *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809-810 (9th Cir. 1999).

"In determining whether a proposed action will significantly impact the human environment, the agency must consider '[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment.' 40 C.F.R. § 1508.27(b)(7)." *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-823 (9th Cir. 2006). NEPA requires that cumulative impacts analysis provide "some quantified or detailed information," because "[w]ithout such information, neither courts nor the public . . . can be assured that the Forest Service provided the hard look that it is required to provide." *Neighbors of Cuddy Mountain v. United States Forest Service*, 137 F.3d 1372, 1379 (9th Cir. 1988); *see also id*. ("very general" cumulative impacts information was not hard look required by NEPA). The discussion of future foreseeable actions requires more than a list of the number of acres affected, which is a necessary but not sufficient component of a NEPA analysis; the agency must also consider the actual environmental effects that can be expected from the projects on those acres. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004) (finding that the environmental review documents "do not sufficiently identify or discuss the incremental impact that can be expected from each [project], or how those individual impacts might combine or synergistically interact with each other to affect the [] environment. As a result, they do not satisfy the requirements of the NEPA.") Finally, cumulative analysis must be done as early in the environmental review process as possible, it is not appropriate to "defer consideration of cumulative impacts to a future date. 'NEPA requires consideration of the potential impacts of an action *before* the action takes place.'" *Neighbors*, 137 F.3d at 1380 *quoting City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1313 (9th Cir. 1990) (emphasis in original).

The SDEIS identifies many of the cumulative projects but does not meaningfully analyze the cumulative impacts to resources in the California desert from the many proposed projects (including renewable energy projects and others). Moreover, because the initial identification and analysis of impacts is incomplete, the cumulative impacts analysis cannot be complete. For example, the identification of the special status birds and insects that have been documented elsewhere (see above) to occur on the proposed project site and are not included in the SDEIS analysis, the cumulative impacts are therefore incomplete and are also therefore inadequate.

The SDEIS also fails to consider all reasonably foreseeable impacts in the context of the

cumulative impacts analysis. *See Native Ecosystems Council v. Dombek, et al,* 304 F.3d 886 (9th Cir. 2002) (finding future timber sales and related forest road restriction amendments were "reasonably foreseeable cumulative impacts"). The DEIS also fails to provide the needed analysis of how the impacts might combine or synergistically interact to affect the environment in this valley or region. *See Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 995-96 (9th Cir. 2004).

The NEPA regulations also require that indirect effects including changes to land use patterns and induced growth be analyzed. "Indirect effects," include those that "are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include *growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems*." 40 C.F.R. s.1508.8(b) (emphasis added). *See TOMAC v. Norton*, 240 F. Supp.2d 45, 50-52 (D.D.C. 2003) (finding NEPA review lacking where the agency failed to address secondary growth as it pertained to impacts to groundwater, prime farmland, floodplains and stormwater run-off, wetlands and wildlife and vegetation); *Friends of the Earth v. United States Army Corps of Eng'rs*, 109 F. Supp.2d 30, 43 (D.D.C. 2000) (finding NEPA required analysis of inevitable secondary development that would result from casinos, and the agency failed to adequately consider the cumulative impact of casino construction in the area); *see also Mullin v. Skinner*, 756 F. Supp. 904, 925 (E.D.N.C. 1990) (Agency enjoined from proceeding with bridge project which induced growth in island community until it prepared an adequate EIS identifying and discussing in detail the direct, indirect, and cumulative impacts of and alternatives to the proposed Project); *City of Davis v. Coleman*, 521 F.2d 661 (9th Cir. 1975) (requiring agency to prepare an EIS on effects of proposed freeway interchange on a major interstate highway in an agricultural area and to include a full analysis of both the environmental effects of the exchange itself and of the development potential that it would create).

Among the cumulative impacts to resources that have not been fully analyzed are impacts to desert tortoise, impacts to Mojave fringe-toed lizard and sand dunes ecosystems, impacts to golden eagles and migratory birds, and impacts to water resources. The cumulative impacts to the resources of the California deserts has not been fully identified or analyzed, and mitigation measures have not been fully analyzed as well.

H. The SDEIS' Alternatives Analysis is Inadequate

NEPA requires that an EIS contain a discussion of the "alternatives to the proposed action." 42 U.S.C. §§ 4332(C)(iii),(E). The discussion of alternatives is at "the heart" of the NEPA process, and is intended to provide a "clear basis for choice among options by the decisionmaker and the public." 40 C.F.R. §1502.14; *Idaho Sporting Congress*, 222 F.3d at 567 (compliance with NEPA's procedures "is not an end in itself . . . [but] it is through NEPA's action forcing procedures that the sweeping policy goals announced in § 101 of NEPA are realized.") (internal citations omitted). NEPA's regulations and Ninth Circuit case law require the agency to "rigorously explore" and objectively evaluate "all reasonable alternatives." 40 C.F.R. § 1502.14(a) (emphasis added); *Envtl. Prot. Info. Ctr. v. U.S. Forest Serv.*, 234 Fed. Appx. 440, 442 (9th Cir. 2007). "The purpose of NEPA's alternatives requirement is to ensure

agencies do not undertake projects "without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). An agency will be found in compliance with NEPA only when "all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated." *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency's failure to consider a reasonable alternative is fatal to an agency's NEPA analysis. *See, e.g., Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) ("The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate.").

If BLM rejects an alternative from consideration, it must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately supported by the record. *See Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813-15 (9th Cir. 1999); *Idaho Conserv. League*, 956 F.2d at 1522 (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

Here, BLM too narrowly construed the project purpose and need such that the SDEIS did not consider an adequate range of alternatives to the proposed project.

The alternatives analysis carried forward in the SDEIS is inadequate because the alternatives are limited to Reconfigured Alternative 2 Options 1 and 2 which are both the solar thermal projects considered in PSPP, a no action alternative and the agency preferred alternative. Additional feasible alternatives should be considered including but not limited to an alternative which would: avoid all of the dunes habitat; utilize private lands that the applicant controls to reduce impacts to sand areas or other resources; a photovoltaic alternative (which would avoid impacts to water resources and avian species and could be more flexibly designed to avoid sand areas and reduce impacts to the connectivity WHMA); and a well-designed reduced footprint alternative (including private lands controlled by the applicant) that would reduce impacts. The BLM also failed to consider any off-site alternative that would significantly reduce the impacts to biological resources including dunes ecosystems, desert tortoise habitat and key movement corridors, and others. The SDEI discarded feasible alternatives including alternative tower heights and alternative number of towers, and only determined them "not to warrant further analysis, however, due to their inability to comply with PSIII's identified Project objectives" (SDEIS at 2-28), this is not a reasonable justification for failing to analyzed a range of alternatives that would actually avoid and/or reduce significant impacts of the proposed project as required by NEPA.

The SDEIS failed to consider and important alternatives that are included in the CEC's Final Staff Assessment (FSA): the photovoltaic-technology alternative and the reduced acreage alternative. The photovoltaic alternative in particular would avoid or greatly reduce many of the impacts associated with the proposed project. Indeed the CEC's FSA states:

> Staff concludes that constructing and operating the Solar PV Alternative with Single-Axis Tracking Technology would avoid or substantially reduce several impacts on **Biological Resources**, **Cultural Resources**, **Traffic and Transportation**, and **Visual Resources**.
>
> Without the SPTs, three impacts identified by staff as *potentially significant* or *significant and unavoidable* under the proposed modified project would not occur with construction and operation of the Solar PV Alternative:
> • **Biological Resources** – Potential impacts on avian species from exposure to concentrated solar flux.
> • **Traffic and Transportation** – Solar receiver glare impacts that could be hazardous to motorists and pilots.
> • **Visual Resources** – Glint or glare effects from high-profile solar receiver steam generators.
> For **Cultural Resources**, **Traffic and Transportation**, and **Visual Resources** impacts, the Solar PV Alternative with its much lower vertical profile and reduced potential for operational glint and glare effects would offer the potential to develop mitigation measures that would go furthest toward reducing impacts on these resources.
> If reducing or avoiding several direct and indirect environmental impacts and improving the effectiveness of mitigation measures are the critical factors, then the Solar PV Alternative with Single-Axis Tracking Technology would be environmentally superior to the proposed modified project.

(Emphasis original. CEC' FSA at 6.1-2 to 6.1-3)[94]

In the Center's original scoping comments on the original Palen Solar Power Project (submitted to the BLM on 12-23-09), we requested that a distributed generation alternative be included in the analysis. To date the BLM has failed to include such an analysis in this SDEIS despite all of the environmental benefits that such an analysis would provide. We know for example that Los Angeles could forseeably build 1,200 MW of locally produced solar by 2020 and that it has the capacity to hold an estimated 5,500 megawatts (MW) of solar panels on Los Angeles rooftops. This alternative is in an already-built environment and the energy produced would be used at the source of consumption, so it would not sustain the transmission line losses that the proposed project will, therefore effectively delivering more energy without disturbing numerous imperiled species habitat.[95]

Because there are many feasible alternatives that would avoid or reduce significant impacts of the proposed project that were not considered, but rather were summarily dismissed, and because the range of alternatives is inadequate, the BLM's has failed to comply with NEPA. The Center urges the BLM to revise the SDEIS to adequately address a range of feasible alternatives and other issues detailed above and then to re-circulate a revised SDEIS for public comment.

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[94] http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200442_20130910T145445_Palen_Solar_Electric_Generating_System_FSA__Part_A.pdf

[95] http://www.environmentcaliforniacenter.org/sites/environment/files/reports/Solar%20in%20the%20Southland%20%28web%20version%29.pdf

The existence of several feasible but unexplored alternatives shows that the BLM's analysis of alternatives in the SDEIS is inadequate.

IV. Conclusion

Thank you for your consideration of these comments. In light of the many omissions in the environmental review to date, we urge the BLM to revise and re-circulate the SDEIS before making any decision regarding the proposed plan amendment and right-of-way application. In the event BLM chooses not to revise the SDEIS and provide adequate analysis, the BLM should reject the right-of-way application and the proposed plan amendments. Please feel free to contact us if you have any questions about these comments or the documents provided.

Sincerely,

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ATTACHMENT 1: Figure 8, Desert Tortoise Records, ISEGS monitoring, Perimeter Recipient Sites for Stateline Solar Farm Project. 1 page.

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