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via email and Federal Express Overnight Delivery

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RE: Draft Environmental Impact Report for First Solar's Topaz Solar Farm/Twisselman Conditional Use Permit (DRC2008-00009) SCH#2008091026

Dear Mr. McMasters and Ms. Fisher,

These comments are submitted on behalf of the Center for Biological Diversity's 255,000 staff, members and on-line activists in California and throughout the United States and Western Watersheds Project's 1,400 members regarding the Draft Environmental Impact Report for First Solar's Topaz Solar Farm/Twisselman Conditional Use Permit (DRC2008-00009) SCH#2008091026.

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 set by AB 32 and Executive Orders S-03-05 and S-21-09. The Center for Biological Diversity and Western Watersheds Project (collectively, the "conservation organizations") strongly support 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. 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.

The proposed project is proposed on the north and south sides of Highway 58, east of Bitterwater Road, approximately one to two miles northwest of the general area of California Valley. As proposed, the project boundaries include would be installed over an approximate

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4,000- to 4,100-acre (six-square-mile) site that located within one of two study areas. Both options include the installation of up to approximately nine million PV solar modules within approximately 437 arrays, and associated electrical equipment; electrical substation and switching station; construction of monitoring and maintenance (M&M) facility (11,250 square feet [sq.ft.]) and solar Energy Learning Center (900 sq. ft.); installation of approximately 8 to 12 miles of above ground medium-voltage (34.5 kV) collector lines; construction of approximately 14 to 22 miles of on-site access roads utilizing existing agricultural roads to the extent feasible;

Currently, the proposed project sites are home to at least thirty-five imperiled species – many of them listed under state or federal endangered species act protection - that were documented to occur on site (DEIR at Table C.6-4 and C.6-5). In addition thirty other rare species have a high to moderate likelihood of occurring onsite (DEIR at Table C.6-4 and C.6-5). The proposed project would impact one of only three core areas for the endangered species addressed in the Recovery Plan for the Upland Species of the San Joaquin Valley[1]. The species included in the Recovery Plan are already critically endangered due to habitat conversion and only persist on the peripheries of their former ranges. Indeed it is hard to imagine a proposed project site with more endangered and imperiled species on site than either of the project options described in the EIR. Despite the determination in the DEIR, either of the proposed project options will result in significant unmitigable impacts to biological resources both on the proposed project sites and cumulatively for the region. For those reasons alone, both proposed project options should be denied by the County.

The DEIR for the proposed project fails to provide adequate identification and analysis of all of the impacts of the proposed project on the San Joaquin kit fox, longhorn and vernal pool fairy shrimp, golden eagles and other rare plants and animals. The DEIR also fails to adequately address the significant cumulative impacts of the project, and lacks consideration of a reasonable range of alternatives.

Of particular concern is the County's failure to include adequate information regarding the impacts to resources and the failure to fully examine the impact of the proposed project options along with other similar proposed projects. As a result, this current piecemeal process may lead to the approval of industrial sites sprawling across and throughout the California Valley and adjacent areas, within habitat and connectivity that will detrimentally affect the recognized conservation investments of the Carrizo Plain National Monument as well as severely compromising the goals of the Recovery Plan for the Upland Species of the San Joaquin Valley. The DEIR fails to consider potential alternatives that would protect the most sensitive lands from future development. Alternative siting such as the Westlands Solar Park[2], which is on abandoned agricultural fields with no habitat or connectivity value, and alternative technologies (including distributed PV on commercial rooftops and near existing substations) should have been fully considered in the DEIR, because these alternatives would eliminate the impacts to species, soils, and water resources in the California Valley, which is part of the larger Carrizo Plain. In scoping comments on the EIR, the Center and others raised concerns about the impacts that development in this portion of the Carrizo Plain would have to species and habitats and

1 http://esrp.csustan.edu/publications/pubhtml.php?doc=sjvrp&file=cover.html
2 http://www.westlandssolarpark.com/

particularly to connectivity. As the conservation organizations have emphasized in comments on the various large-scale industrial solar proposals in California, 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 first avoided, then minimized and lastly mitigated.

In the sections that follow, the conservation organizations provide detailed comments on the ways in which the DEIR fails to adequately identify and analyze many of the impacts that could result from the proposed project options, including but not limited to: impacts to biological resources, direct and indirect impacts from proposed project options, and cumulative impacts.

The DEIS Fails to Comply with CEQA.

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

The DEIR fails to adequately analyze the direct, indirect, and cumulative impacts of the proposed project on the environment. The County must ensure adequate environmental information is gathered and that the environmental impacts of a proposed project are fully identified and analyzed before it is approved. "To conclude otherwise would place the burden of producing relevant environmental data on the public rather than the agency and would allow the agency to avoid an attack on the adequacy of the information contained in the report simply by excluding such information." (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal. App. 3d 692, 724.) Environmental review documentation

> is more than a set of technical hurdles for agencies and developers to overcome. [Its] function is to ensure that government officials who decide to build or approve a project do so with a full understanding of the environmental consequences and, equally important, that the public is assured those consequences have been taken into account." (*Laurel Heights I*, *supra*, 47 Cal.3d at pp. 391-392.) For the [environmental review documentation] to serve these goals it must present information in such a manner that the foreseeable impacts of pursuing the project can actually be understood and weighed, and the public must be given an adequate opportunity to comment on that presentation before the decision to go forward is made.

(*Vineyard Area Citizens for Responsible Growth, Inc. v. City of Rancho Cordova* (2007) 40 Cal.4th 412, 449-450.) The environmental review documents must "contain facts and analysis, not just the agency's bare conclusions or opinions." (*Laurel Heights Improvement Assn. v. Regents* (1989) 47 Cal. 3d 376, 404 [and cases cited therein].) The environmental review documents "must include detail sufficient to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project." (*Id.*)

Because the DEIR is deficient as an informational document the County has failed to comply with CEQA. (*Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d

692, 717-718 [holding that a misleading impact analysis based on erroneous information rendered an EIR insufficient as an informational document]; *Environmental Planning & Information Council v. County of El Dorado* (1982) 131 Cal.App.3d 350, 357-58 [where baseline was inaccurate "comparisons utilized in the EIRs can only mislead the public as to the reality of the impacts and subvert full consideration of the actual environmental impacts which would result."].)

Moreover, the County must look at reasonable mitigation measures to avoid impacts in the DEIR 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, the County is not relieved of its responsibility under CEQA to discuss mitigation of reasonably likely impacts at the outset.

The lack of comprehensive surveys is particularly problematic. Failure to conduct sufficient surveys prior to the environmental analysis 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. Based on the information provided in the biological resources analysis, the DEIR does not comply with CEQA's disclosure requirements and therefore the County cannot show that it has adequately analyzed the significant impacts of the proposed project. Additionally the alternatives analysis is inadequate and impacts are not fully mitigated. For this reason as well, a supplemental or revised DEIR needs to be provided to fully consider the impacts of the proposed project and alternatives that avoid significant impacts as well as mitigation measures and minimization measures to reduce the impacts to biological resources.

The DEIR also acknowledges that some essential species specific surveys have not completed. For instance, for the federally threatened Kern sphinx moth "Protocol surveys for the Kern primrose sphinx moth have not been conducted." (DEIR at C.6-15). Typically a project of this size and in this very sensitive location with potentially so many rare, threatened and endangered species would involve many seasons of surveys to thoroughly document all of the resources that occur on the site. In this instance, the surveys have only been implemented in the last three years. Multiple years of surveys are particularly important in arid regions of California because of the unpredictable and variable precipitation patterns. Therefore, it is impossible to evaluate the potential impact of the proposed project based on the lack of pertinent survey data and an insufficient number of years of surveys.

Lastly, the whole inadequate mitigation strategy seems to be – develop the core habitat for the rare, threatened and endangered species and mitigate through acquisition of compensation lands. The generalized strategy of a mitigation ratio for San Joaquin kit fox is proposed to mitigate a multitude of other species – golden eagles, migratory/special status species birds, bats, badger, kit fox, and rare plants. Furthermore, the document actually fails to require that acquired mitigation lands must be habitat for these impacted species. Because any acquired 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, mitigation ratios must be actually address the impacts to each species and must be high enough to fully mitigate the impacts to those species [3]. A *minimum* 5:1 mitigation should be required for development in a core area for the San Joaquin kit fox[4], especially when the project sites are documented to include kit fox known dens, successful natal dens and documented regular on-site use by kit fox (at pg. C.6-17). The proposed mitigation ratios for kit fox mitigation are inadequate and unjustified for this highly imperiled species. Additionally, any mitigation strategy needs to assure that mitigations actually focus on impacted species. For example, mitigation for impacts to kit fox may not meet the mitigation needs for impacted rare plants, and therefore can not be "nested". This realistic strategy is also essential to prevent future listings under Endangered Species Acts – both state and federal.

Many of the plans that are identified in the DEIR to adequately minimize or mitigate impacts are simply not provided in the DEIR for public review. For example, the Habitat Restoration and Revegetation Plan (MM BR-1.3 at C.6-99), the Weed Control Plan (MM BR-2.1 at C.6-102), the Habitat Mitigation and Monitoring Plan (MM BR-16.3 at C.6-115) are key plans for minimization and mitigation. A Grazing Plan is proposed (BR-2.2) despite the fact that grazing in has been shown to be incompatible with endangered species conservation on the Carrizo Plain[5] While the conservation organizations support the development and implementation of these plans in general, in the absence of even a draft plan being presented in the DEIR, it is impossible to evaluate or determine the efficacy of proposed minimization and mitigation to actually adequately mitigate impacts. While the CEQA lead has the responsibility of assuring that mitigation meets all the LORS and conditions, the conservation organizations have not always found that to be the case. Studies of mitigation compliance have borne this out as well.[6] Making all of the plans available as part of the public process is important to assure the public that their public resources are being protected – without public disclosure of these plans during the process there is no way to evaluate whether the CEQA lead, in this case the County, has put in place adequate plans to prevent degradation of our natural heritage, clean air and water. The County must supply these essential plants as part of the public process that enables public input on the plethora of "mitigation" plans that are being proposed as conditions of this proposed project.

The conservation organizations failed to find a quantitative analysis of impacts other than the number of acres that will be impacted. The DEIR fails to adequately identify the on-the-ground impacts to connectivity, and species essential habitat types (breeding/foraging etc.), leaving the public and decisionmakers clueless as to true nature of the impacts. Because of the failure to identify the true impacts, it is impossible to evaluate if the proposed mitigation would be adequate. In addition, many of the mitigation measures for the species listed in Table C.6-10 involve implementing biological surveys. Surveys do not mitigate for impacts, but instead should be the basis for analyzing the impacts. Therefore, they should not be included in the mitigation scenario.

3 Moilen et al. 2009, Norton 2009
4 USFWS 2010
5 Kimball and Schiffman 2003
6 Moilen et al. 2009, Norton 2009, Ambrose 2000

A. San Joaquin Kit Fox

The DEIR documents extensive evidence of the state and federally listed endangered San Joaquin kit fox on the project including 19 individuals that use Option A in 2009 (DEIR at pg. C.6-17) and 23 dens including 3 natal dens (DEIR at pg. C.6-52). 16 kit foxes were documented to use Option B in 2009 (DEIR at pg.C.6-19) and 2 natal dens and two other dens Were documented to occur in Option B (DEIR at pg. C.6-19). However, no definitive estimations of the population or number and location of home ranges of kit fox are provided.

The San Joaquin kit fox has been under California Endangered Species Act protection for over 39 years and under Federal Endangered Species Act protection for over 43 years. Despite years of conservation efforts, kit fox populations and amount of habitat continue to decline. Modeling suggests that the San Joaquin kit fox is threatened with extinction in the San Joaquin Valley by 2022[7], making the peripheries of its range - areas like California Valley where the project is proposed - even more important for the survival of this imperiled and declining species. Indeed, studies have shown that the most cost-efficient protection for the San Joaquin kit fox is protecting habitat in the Carrizo Plain (including the California Valley) rather than in other remaining areas of the species range[8]. U.S. Fish and Wildlife Service reconfirmed that only three remaining core areas for the San Joaquin kit fox (SJKF) occur in the species range[9]. The large number of kit fox and sign on the project areas are not surprising considering that the Carrizo Plain including the California Valley is only one of three core areas that remain for the declining San Joaquin kit fox on the planet. In the Recovery Plan for the Upland Species of the San Joaquin Valley, the Carrizo Plain including the California Valley is one of only three key recovery areas also[10]. The Carrizo Plain including the California Valley is a refugia and stronghold for the kit fox. Based on this dire situation, the Center has submitted a petition to the U.S. Fish and Wildlife Service identifying critical habitat for the San Joaquin kit fox and includes the Carrizo Plain including the California Valley within that proposal. This valuable species is clearly in significant decline, and the proposed project will only promote further declines by impacting occupied core and recovery habitat and fragmenting linkages and movement corridors. The DEIR completely fails to acknowledge the importance of the proposed project site is to the existence much less the recovery of the San Joaquin kit fox. It also fails to adequately assess how degrading the Carrizo Plain population may affect this core and recovery area, or the connectivity between other populations or it affect on the persistence of smaller, satellite populations as well as the entire population as a whole. Clearly this missing analysis must be included in a supplemental or recirculated EIR.

The DEIR incorrectly states that "The USFWS Recovery Plan for *Upland Species of the San Joaquin Valley* designates the Carrizo Plain National Monument as being occupied by one of three "core" kit fox populations' (DEIR at pg. C.6-23). The Recovery Plan actually identifies the Carrizo Plain Natural Area, which is much larger than the Carrizo Plain National Monument and

7 McDonald-Madden et al. 2008
8 Haight et al. 2004
9 USFWS 2010a
10 USFWS 1998

includes the area of the proposed project[11]. Furthermore the DEIR fails to disclose that the project area lies within one of the 3 cores areas recently identified by U.S. Fish and Wildlife Service[12] Consequently, no analysis of the impact of this proposed project on the core areas of the San Joaquin kit fox is included. Neither are cumulative impacts from other proposed projects within these same core areas.

The DEIR acknowledges that within this important core area for SJKF the "Proposed Project would reduce the width of the least cost path (highly permeable areas)[for the SJKF] to the east by approximately 1.7 miles at the northern project boundary and by approximately 6.2 miles at the southern project boundary. The width of the least cost corridor to the west of the Proposed Project would be reduced by 1.5 miles at the southern project boundary and by 2.4 miles at the northern boundary" and "will reduce the size of the existing movement corridor by approximately 50 percent" (DEIR at pg.C.6-68). In fact, both Option A and B lie within the best part of the existing connectivity corridor between conservation investments south of the projects site (Carrizo Plain National Monument) and the Palo Prieto-Cholame Valley (DEIR, Appendix 9B, Figure 13).

The DEIR states that "The primary mechanism for reducing project impacts to movement is the preservation of open areas between the arrays, the avoidance of the 100 year floodplain, construction of artificial and escape dens, and the placement of SJKF passages through perimeter fencing. In addition, the removal or modification of fencing that inhibits SJKF passage within the project area implemented." (DEIR at pg. C.6-68). Despite this proposed mitigation, the DEIR incorrectly concludes that these impacts to core SJKF habitat is mitigated through implementation of unproven mitigation strategies. No studies that we are aware of indicate the SJKF will pass through or utilize areas where the solar arrays are proposed. While the applicant has wisely chosen to avoid 100 year flood zones to protect infrastructure, the DEIR then recognizes these as potential movement corridors, yet there is no analysis of 1) if kit foxes will actually use these areas for movement or 2) the actual size of these corridors. Additionally, the DEIR recognizes that project structures will potentially conceal kit fox predators (such as coyotes and red foxes) or provide predators roosts (such as barn owls) (DEIR at pg. C.6-69). The mitigation is "escape dens", which may provide some reduction in mortality, but the DEIR fails to quantitatively evaluate the impact from the potential increase in predation and the benefits that the "escape dens" will provide. The DEIR fails to identify the

The proposed mitigation to reduce impacts from the proposed project includes construction of artificial and escape dens, and the placement of SJKF passages through perimeter fencing. While artificial dens have been documented to be used by SJKF[13], we question the need for impacting crucial occupied habitat when less environmentally impacting alternatives are available.

The DEIR identifies that one of the primary mechanisms to reduce project impacts to SJKF is "the preservation of open space between the arrays" (DEIR at pg. C.6-69). However,

11 Hildiger 1995.
12 USFWS. 2010a
13 Warrick et al. 2007

there is no evidence that SJKF will use the fenced areas of the arrays. In fact, studies in agriculturally altered landscapes document that kit foxes ranged into orchards and annual croplands at night, but almost never occupied these areas during the day[14].

While that study suggested installing artificial burrows to aid kit fox populations, we question that type of approach as mitigation for this proposed project, because the proposed project site is currently occupied habitat. The recovery of SJKF as identified in USFWS' Recovery Plan for the Upland Species of the San Joaquin Valley states "a central component of species recovery is to establish a network of conservation areas and reserves that represent all of the pertinent terrestrial and riparian natural communities in the San Joaquin Valley. Habitat protection does not necessarily require land acquisition or easement. The most important aspect of habitat protection is that land uses maintain or enhance species habitat values."[15] A core area for

In addition, while the DEIR recognizes that "The Proposed Project area is located in an area supporting what is likely a core population of SJKF." (DEIR at C.6-68), it fails to quantify exactly how this crucial habitat will be affected directly or indirectly. Indeed all of the proposed project occurs within core habitat as identified by the U.S. Fish and Wildlife Service for the imperiled SJKF[16], and almost completely bisects the key identified linkage/movement corridor for the SJKF in the Carrizo Plain (Appendix 9b, Figure 12).

The failure of the DEIR to provide adequate data on the highly imperiled San Joaquin kit fox and its status on the proposed project site makes any analysis of potential direct or indirect impacts impossible. The DEIR makes little attempt to avoid or minimize any potential impacts to the kit fox. Instead it relies largely on mitigation lands, without an evaluation that adequate mitigation lands are even available. In addition, the proposed 4:1 mitigation is inadequate even if the mitigation lands are truly habitat for the kit fox, due to the proposed project being within a core area. Because the proposed project sits directly within one of the last remaining core and recovery areas and bisects the only linkage for the species between the southern and northern parts of its range, required mitigation should be at a minimum 5:1 and *must* include highly suitable habitat as well as identified linkages and movement corridors. It is unclear if such mitigation lands are even available.

Additionally, the failure to identify the potential mitigation lands and how those lands would be managed further obfuscates the adequacy of the proposed mitigation. Scientific literature indicates that grazing is not compatible with the survival and recovery of many of the endangered species on the Carrizo Plain[17]. The proposed grazing plan on the project site further reduces the likelihood that despite "escape den" installation and SJKF "permeable" fencing, SJKF will utilize the site.

14 Ibid
15 USFWS 1998 at pg. ix
16 USFWS 2010a
17 Kimball and Schiffman 2003

The DEIR proposes a preposterous mitigation as part of the inadequate 4:1 ratio - allowing 1:1 be "lands to be restored" (DEIR at C.6-119). Any disturbed lands that could be restored should first be considered for the proposed project site, because impacts to the suite of imperiled species would be considerably less. It makes no sense to impact fully functioning habitat for these imperiled species when an alternative disturbed site is available. It makes even less sense and is much more expensive to impact fully functioning habitat and mitigate it by "restoring" disturbed areas. Restored habitat has never been documented to support the full functioning ecosystem processes of undisturbed habitat[18].

Based on the DEIR's failure to provide essential data, subsequent analysis of project impacts and adequate mitigation (including an analysis if full mitigation can even be accomplished) for this imperiled and declining species, we strongly urge the County to comprehensively address these issues in a supplemental or revised draft EIR.

1. Giant Kangaroo Rat

While no giant kangaroo rats were documented to occur on site, the DEIR notes that "the grasslands that occur in Option A provide suitable habitat for this species." (DEIR at pg. C.6-17). The CNDDB lists an occurrence 3 miles east of the project site. The amount of the federally and state listed endangered giant kangaroo rat (GKR) habitat currently extant is only 3% of its historic habitat[19]. In USFWS' five year review for the GKR, recommendations for the Carrizo Plain including the California Valley is to conserve 100% of occupied habitat, include all existing habitat[20]. In addition USFWS' Recovery Plan for Upland Species of the San Joaquin Valley[21] states that for GKR, "Where populations of giant kangaroo rats and associated, listed species appear to be robust, land use should not be changed when ownership or conservation status of parcels changes unless there are compelling reasons to do so." None of these recommendations are acknowledged in the DEIR, even as part of an avoidance, minimization or mitigation strategy. Identification of movement corridors and linkages are conspicuously absent for the GKR and must be identified and analyzed for impacts as well as conservation opportunities. Conservation of potentially occupied habitat, maintenance of connectivity and enhancement of effective dispersal between populations are the keys to recovering this imperiled species[22]

The DEIR is unclear about how the GKR mitigation strategy fits in with mitigation strategies for other species. Not all habitat is created equal for different species. It is unclear for example if the mitigation for SJKF encompasses the mitigation for GKR. While these two species are often sympatric, the failure to identify the mitigation lands precludes the ability of the public or decisionmakers to evaluate if the proposed mitigation would truly fully mitigate impacts for all the species by species. Lastly, part of the mitigation strategy calls for "managed"

18 Longcore et al. 1997
19 Loew et al. 2005.
20 USFWS 2010b
21 USFWS 1998.
22 Loew et al. 2005

grazing by domestic stock (DEIR at pg. C.6-115). This strategy is not based on the best available science which shows that GKR do better without grazing[23].

3. Blunt-nosed Leopard Lizard

The DEIR indicates that protocol surveys for blunt-nosed leopard lizard were conducted on only 224 acres of the 4,000+ acre site (Appendix 9, Topaz BNLL Protocol Survey Report 2009). No justification is provided as to the reason all open space areas in both Option A and B were not surveyed. Clearly the survey effort was inadequate because the whole site was not surveyed. Instead, just portions were included in protocol level surveys. One of the important purposes of comprehensive protocol level surveys is to identify where rare resources are located. This is particularly essential for species that are fully protected under State law, as the blunt-nosed leopard lizard is (see below for discussion of fully protected species). By failing to execute protocol level surveys over the whole site, the County loses the opportunity to identify presence of the species on-site and avoid potential impacts to this declining and fully protected species, for which the State cannot issue a "take" permit.

The recent 5-yer review by the USFWS for the blunt-nosed leopard lizard recognizes that the establishment of the Carrizo Plains National monument aids in the recovery of the blunt-nosed leopard lizard[24]. It is a key conservation area for this endangered species that has been under state and federal endangered species act protections for over 40 years. While surveys on the proposed project site to date have not located any blunt-nosed leopard lizards, the site still harbors habitat for the species and therefore is essential to this species recovery from the brink of extinction. While we support additional surveys for the BNLL on the project site, the single year of surveys that the impact analysis is based upon is inadequate. Generally such large and controversial projects located on such sensitive habitat require multiple years of surveys. Adequate surveys should have been conducted prior to impact analysis, because the most important reason for surveys is to minimize the impacts to rare species and habitats. Instead, the County has based its analysis on a single season of surveys, and proposes a mitigation measure of more surveys (which is not a mitigation measure). Then if BNLL are found, the proposed mitigation can not fully mitigate for this species because BNLL is a fully protected species under California law. The County must agree that if BNLL are found on the site that the project must be redesigned to avoid this fully protected species and its occupied habitat.

The DEIR fails to require any mitigation for the BNLL habitat that will be impacted by the project. That fact coupled with the failure to perform surveys on the whole site makes the analysis makes the CEQA analysis and proposed mitigation inadequate

4. Kern Primrose Sphinx Moth

No focused or protocol-level surveys were performed for the federally threatened Kern sphinx moth (DEIR at pg. C.6-15). Only a single day survey effort was undertaken that involved visiting known *Camissonia strigulosa* host plants sites and a superficial assessment of adjacent

23 Kimball and Schiffman 2003
24 USFWS 2010c

soils for suitability for burrowing sphinx moth larvae; this brief assessment does not substitute for protocol level surveys for this rare species. Due to the lack of data on this threatened species, the analysis of impacts from the proposed project is speculative at best, and therefore so are the proposed mitigation strategies.

5. Fairy Shrimp

Both the federally listed endangered longhorn fairy shrimp and the federally threatened vernal pool fairy shrimp occur on the proposed project site (DEIR at pg.C.6-21). Because these are vernal pool obligate species, their presence also identifies a rare and declining plant community – vernal pools.

The U.S. Fish and Wildlife Service's Recovery Plan for Vernal Pool Ecosystems of Northern California and southern Oregon25 identifies a 100% of occurrences of longhorn fairy shrimp need to be conserved in order for delisting to be considered. Likewise for the vernal pool fairy shrimp, which is more widespread, 80% of all occurrences need to be conserved in order for delisting to be considered. While DEIR proposes to avoid all of the vernal pools and provide a 250 foot buffer around the pools' perimeters, the DEIR does not provide the rationale for this buffer size. Based on the arid conditions of the Carrizo plain and the potentially altered hydrology, a larger buffer may be required in order to maintain pool integrity especially in light of global climate change[26].

6. Mountain Plover

First, the DEIR fails to accurately identify the current status of the Mountain Plover (Table C.6-5 at pg. C.6-21). In June of 2010, the U.S. Fish and Wildlife Service proposed this species as Threatened[27] because of significant declines throughout its range (both summer and winter). The inaccurate representation of the status of the mountain plover fails to inform the public and decisionmakers of the potential impact that the proposed project will have. Development of this proposed project would lead to further declines for this species.

Currently the proposed project site is one of the few locations in California where the mountain plover winters. The document fails to evaluate the number of acres of foraging habitat that is proposed to be eliminated by the project. Mitigation is to occur on acquisition lands, however no evaluation of the quality of habitat and therefore the adequacy of mitigation is provided.

7. State fully Protected Species

Two of the rare species that occur on the project site are fully-protected species under California law (Fish and Game Code §5050), meaning that individuals of the species may not be "taken" (as defined in the Fish and Game Code) at any time, and CDFG may not authorize take

25 http://www.fws.gov/sacramento/es/recovery_plans/vp_recovery_plan_links.htm
26 Pyke 2005
27 http://frwebgate.access.gpo.gov/cgi-bin/getdoc.cgi?dbname=2010_register&docid=fr29jn10-24

except for scientific research purposes. Therefore all impacts must be avoided. In addition to the two species listed below please refer to the blunt-nosed leopard lizard comments above, which is also a state-fully protected species.

a. Golden eagles

Golden eagles were documented on the project site (DEIR at pg. C.6-21). Aerial surveys for eagle nests were completed but the actual number of eagles' nests and territories is buried in Appendix 9. Twenty-two golden eagle nests are located within a 10-mile radius of the proposed project. In addition this represents 12 territories. The analysis in the DEIR simply states that "the closest active nest is located approximately eight miles northwest of Option A. An inactive nest was observed approximately five miles east of Option A" (DEIR at pg. C.6-16). The DEIR fails to identify how many eagle territories will be impacted by the proposed project and how mitigation for the over 4,000+ acres of foraging habitat will be mitigated. The fact remains that significant amounts of foraging habitat will decrease carrying capacity of the landscape and could result in a potential loss of habitat needed to support a nesting pair, which would impact reproductive capacity.

Scientific literature on this subject is clear - the presence of humans detected by a raptor in its nesting or hunting habitat can be a significant habitat-altering disturbance even if the human is far from an active nest[28]. Regardless of distance, a straight-line view of disturbance affects raptors, and an effective approach to mitigate impacts of disturbance for golden eagles involves calculation of viewsheds using a three-dimensional GIS tool and development of buffers based on the modeling[29]. Golden eagles have also been documented to avoid industrialized areas that are developed in their territory.[30] While the DEIR does a broad-brush impact analysis for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds, but fails completely to identify or analyze the foraging habitat impacts, which could constitute a "take" of this species and is clearly not allowed under state law.

b. Bald Eagles

Bald eagles were identified on the site (DEIR at pg. C.6-22). However no estimate of the number of bald eagles that could be affected by the proposed project is provided. As with the golden eagle, the broad-brush impact analysis for the golden eagle under the Bald Eagle and Golden Eagle Protection Act, which prohibits, except under certain specified conditions, the take, possession, and commerce of such birds, fails completely to identify or analyze the foraging habitat impacts, which could constitute a "take" of this species and is clearly not allowed under state law.

28 Richardson and Miller 1997
29 Camp et al. 1997; Richardson and Miller 1997
30 Walker et al. 2005

c. White-tailed kite

While the white-tailed kite was identified as only having moderate potential to occur on the proposed project site (DEIS at pg. C.6-21), this species was documented on the proposed Sunpower site less than 5 miles away, so it is very likely that the white-tail kite also could forage on this proposed project site. As with the eagles above, no actual analysis of how the proposed project would affect the foraging ability of this fully protected species, and if the decrease in foraging could result in "take". Furthermore, the number of kites that occur in the area as well as on the proposed project site, should be clearly identified. This deficiency needs to be included in a supplemental EIR.

8. American peregrine falcon and Swainson's hawk

The State-threatened Swainson's hawk is documented to occur on the site while the American peregrine falcon is identified as potentially occurring on the proposed project site (DEIS at pg. C.6-21), but no actual analysis of impacts is provided. The number and location of these birds of prey, both of which are protected under the Migratory Bird Treaty Act, are unclear. The potential impact to them is unanalyzed in the DEIR and therefore is inadequate in disclosing all of the environmental impacts. Few avoidance, minimization and mitigation measures are not provided other than powerline avoidance. We fail to see how the proposed mitigation strategy including mitigation measures actually mitigates the loss of foraging habitat for these species.

9. San Joaquin Antelope Squirrel (ST)

Because the San Joaquin antelope squirrel is typically sympatric with GKR[31], the short-comings of the DEIR for the antelope squirrel are similar to the short-comings with the GKR. which fails to provide the public and decisionmakers the requisite assurances under CESA that indeed impacts to this state listed threatened species is actually capable of being fully mitigated.

10. Species of Concern

Numerous species of concern of both State and federal resource agencies are identified to inhabit the proposed project site and have potential to be significantly impacted. Species specific issues are discussed below:

a. Badger

Badgers were identified to occur on the proposed project (DEIR at C.6-64). Literature on the highly territorial badger indicates that badger home territories range from 340 to 1,230 hectares[32]. Therefore, the proposed project could displace *at least* one badger territory. While surveys prior to construction are clearly essential, even passive relocation of badgers into suitable habitat may result in "take". Surveys need to be conducted for both on- and off-site badger territories if animals are to be passively relocated in order to increase chances of

31 Hawbecker 1944
32 Long 1973, Goodrich and Buskirk 1998

persistence. At a minimum, the revised or supplemental DEIR should identify suitable habitat nearby if the project is relying on passive relocation as a mitigation strategy.

b. San Joaquin Coachwhip

The San Joaquin coachwhip (whipsnake), is present on the proposed project site (DEIR at C.6-21). The DEIR fails to estimate the amount habitat that would be impacted by the proposed project for this species. While the DEIR addresses some avoidance measures, it suggests no mitigation strategy. Eliminating additional on-site habitat pushes this imperiled species closer towards extinction and to Endangered Species Act protection.

c. Western Spadefoot Toad

There are multiple occurrences of western spadefoot toad, *Spea hammondii*, on the project site (DEIR at C.6 - 59). The project will destroy habitat including breeding pools. The DEIR proposes to a mitigation strategy that would require preconstruction surveys and avoidance of known breeding pools. However, breeding pool habitat for this species is heavily rainfall dependent so breeding habitat may be not be easily identified, particularly without conducting multiple year surveys. The mitigation measures should provide for avoidance of all potential breeding habitat not just "known" breeding pools, and should provide an adequate buffer to minimize take of the breeding populations that use all the breeding habitats.

d. Migratory Birds and Sensitive Birds

Numerous migratory birds have been documented on the site. The DEIR fails to note that the proposed project is located in a globally recognized Important Bird Area[33]. The DEIS downplays the fatalities that have been documented to occur from birds running into panels[34] as well as impacts to avian species from reflective surfaces and power lines[35]. Adjacent to the proposed project site are agricultural fields and rangelands, which attract birds. The DEIR does not quantify the number of birds (rare, migratory or otherwise) that use/traverse the project site from the avian point count surveys (which don't seem to have been done), nor does it evaluate the impact to those birds. The revised DEIR needs to analyze likely impacts to birds from the proposed project and PV configuration based on the point counts. The failure to provide the baseline data from which to make any impact assessment violates CEQA. This failure to analyze impacts is not only a CEQA violation, but for migratory birds, may also lead to a violation of the Migratory Bird Treaty Act, 16 U.S.C. §§ 703 -711, because migratory birds may be "taken" if the proposed project is constructed. Many solar projects actually require an Avian (and Bat) Protection Plan which is proposed to provide the information needed to determine if operation of the Project poses a collision risk for birds, and provides adaptive management measures to mitigate those impacts to less than significant levels. We request that at a minimum, the supplemental DEIR include such a plan.

33 http://ca.audubon.org/maps/pdf/Carrizo_Plain.pdf
34 McCrary 1986
35 Klem 1990, Erickson et al. 2005

Additionally Executive Order 13186 states "Each Federal agency taking actions that have, or are likely to have, a measurable negative effect on migratory bird populations is directed to develop and implement, within 2 years, a Memorandum of Understanding (MOU) with the Fish and Wildlife Service (Service) that shall promote the conservation of migratory bird populations." [36] Because the proposed project is tied to federal actions, be it through a section 404 permit or DOE/ARRA funding, it too must abide by this EO. Furthermore the EO states that goals pursuant to the MOU include "3) prevent or abate the pollution or detrimental alteration of the Environment for the benefit of migratory birds, as practicable;" and "(6) ensure that environmental analyses of Federal actions required by the NEPA or other established environmental review processes evaluate the effects of actions and agency plans on migratory birds, with emphasis on species of concern;". Clearly, the supplemental DEIR needs to adequately identify the migratory bird issues on site and evaluate the impact to those species in light of the guidance in Executive Order 13186.

d. *Burrowing owl*

The DEIR notes that burrowing owls occur on the project site and that at least two nests were identified within the proposed array footprint (DEIR at C.6-21). Burrowing owl and their sign were noted throughout the proposed project site, and results of surveys in 2009-2010 document 11 burrowing owl nests. Preliminary results from the 2006-7 statewide burrowing owl census identified that the central western interior area actually harbors few Western burrowing owls.[37] So this density of burrowing owls on the site, suggests that the proposed project site harbors a robust populations of successfully reproducing burrowing owls in an area that generally does not support many burrowing owls.

The stronghold for burrowing owls in California – the Imperial Valley – has had a recently documented decline of 27% in the past 2 years[38], 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 "passive relocation" does minimize immediate direct take of burrowing owls, ultimately the burrowing owls' available habitat is reduced, and "relocated" birds are forced to compete for resources with other resident burrowing owls and may move into less suitable habitat, ultimately resulting in "take". No data is available on the fate of passively relocated birds, therefore it is unclear if the birds survive or not.

Mean burrowing owl foraging territories are 242 hectares in size, although foraging territories for owl in heavily cultivated areas is only 35 hectares[39]. Mitigation is proposed as habitat acquisition. Adequate acquisition of burrowing owl habitat needs to be acquired,

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36 http://ceq.hss.doe.gov/nepa/regs/eos/eo13186.html
37 IBP 2008
38 Manning 2009.
39 Klute et al. 2003

calculated using the mean foraging territory size times the number of owls. Also using the average foraging territory size for mitigation calculations may not accurately predict the carrying capacity of the mitigation lands. It may be that in this arid region of California, the acres necessary to support a burrowing owl is much larger. While CDFG provided mitigation guidance in 2003, that guidance is now out of date in light of identified population declines[40], a more thorough census of burrowing owls throughout the state[41] and additional research on the species habitat[42]. Because the long-term persistence of burrowing owls lie in their ability to utilize natural landscapes, not human-created ones and the carrying capacity is tied to habitat quality, mitigation must include lands that are native habitats on undisturbed lands, not cultivated lands, which are subject to the whims of land use changes.

While the DEIR provides a nice overview of all of the challenges associated with phased passive relocation of burrowing owls and minimizing mortality, it basically still relies on passive relocation and "compensation". Because the Habitat Mitigation and Monitoring Plan is not provided, it is impossible to tell if any of the problems associated with phased passive relocation will be addressed in that document. Additionally mitigation measure BR-22.2 identifies "Compensate for impacts to burrowing owls" (DEIR at pg.C.6-62), yet no description of the compensation is presented. Does it involve artificial burrows or habitat acquisition specifically for burrowing owls or long-term monitoring of passively relocated birds? Absent a clearer vision for the impacts and mitigation for the burrowing owl, the DEIR provides the public and decisionmakers with a frustratingly vague and impacting scenario of burrowing owls on the proposed project site.

11. Rare Plant Species and Communities

While the DEIR states that none of the rare plants found on the project site are listed as threatened or endangered six species are California list 1B plants. List 1B plants are eligible for listing under the California Endangered Species Act, due to rarity and threat. These species include recurved round-leaved filaree (*California macrophylla*)1B.1, Spiny-sepaled button celery (*Eryngium spinosepalum*) 1B.2, Diamond-petaled California poppy (*Eschscholzia rhombipetala*) 1B.1, Santa Lucia dwarf rush (*Juncus luciensis*) 1B.2, Munz's tidytips (*Layia munzii*) 1B.2, and shining navarretia (*Navarretia nigelliformis* ssp. *radians*) 1B.2., Therefore, significant effort needs to be taken to avoid impact to these species. The DEIR proposes no clear avoidance, minimization or mitigation strategy for these unique California species, and therefore fails to meet CEQA standards.

In addition, while the DEIR identified plant communities that occur on the project site (DEIR at pgs C.6- 5 and C.6-6), it fails to identify that some of the on-site plant communities are considered rare by the California Department of Fish and Game[43] . For example, northern claypan vernal pools (2.2 acres), ephemeral wetland depression (0.7 acres), natural non-wetland pool (0.7 acres) are identified in Appendix 9, all of which are or have the potential to be a rare

40 Manning 2009
41 Wilkerson and Siegel 2010
42 Klute et al. 2003
43 http://www.dfg.ca.gov/biogeodata/vegcamp/pdfs/natcomlist.pdf

plant community. While avoidance is proposed for the vernal pools, impacts to the other pool and wetlands are not discussed in the DEIR.

12. Insects

Besides for the Kern sphinx moth, which was not surveyed for, the DEIR fails to provide any information on rare insects on the proposed project site. In fact no surveys or evaluation of rare or common insects are included in the DEIR. The project site may provide habitat for rare insects, which are commonly overlooked in environmental documentation[44]. Because of the ecosystem services that insects provide, the revised or supplemental DEIR needs to include results of surveys and an analysis of impacts to insects, in particular rare ones.

13. Re-introduced Species

The DEIS recognizes that both pronghorn and Tule elk have been reintroduced onto the Carrizo Plain and use the proposed project site (DEIS at C.6-12). Connectivity maps for these species indicate that the general area of the proposed project site impact the connectivity for these important species(Appendix 9B). Significant public and private resources have been invested in order to re-establish these charismatic species back into their historic ranges. While the elk have re-established well and populations are robust, the pronghorn has not fared so well. The DEIR fails to provide a comprehensive analysis of the proposed project in the context of connectivity of habitat for these species. Absent that analysis, no avoidance, minimization or mitigation is proposed.

13. Wetlands

While the proposed project will permanently impact 0.044 acres of wetlands (DEIR at C.6-67), it remains very unclear what type of wetland is being impacted and the location where the impact will take place. Additionally the mitigation strategy is very ambiguous, stated as "mitigation would include restoration, enhancement, and/or compensation, as appropriate" (DEIR at pg. C.6-67).

In addition thirty other rare species have high to moderate potential to occur onsite. With the paucity of survey effort on such a large proposed project site (typically a project site with such a density of rare species has many more years of study than two years), it is certainly conceivable that additional rare species will be discovered in subsequent years. However, no evaluation or modeling was undertaken to identify potential habitat and quantify potential impacts or propose potential mitigation

B.The DEIR Fails to Adequately Identify and Analyze Biological Resources under Climate Change.

In its discussion of the need for renewable energy production, the DEIR fails to address risks associated with global climate change in context the need for climate change adaptation

44 Dunn 2005.

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, and introduction of predators and invasive weed species associated with the proposed project in the proposed location may run contrary to an effective climate change adaptation strategy. As pointed out above, the proposed project virtually bisects the connectivity between the Carrizo Plain National Monument and other conservation investments to the north for numerous species. Use of the proposed project site by species that currently occupy the site is speculative at best. The project impacts short grass prairie and core, occupied habitat and important habitat linkage areas for numerous endangered species, major washes and other fragile biological resources could undermine a meaningful climate change adaptation strategy with a poorly executed climate change mitigation strategy. The way to maintain healthy, vibrant ecosystems is not to fragment them and reduce their biodiversity.

C. The Analysis of Cumulative Impacts in the DEIR Is Inadequate

> Cumulative impacts analysis is a critical part of any CEQA analysis.
> [t]he cumulative impact analysis must be substantively meaningful. "'A cumulative impact analysis which understates information concerning the severity and significance of cumulative impacts impedes meaningful public discussion and skews the decisionmaker's perspective concerning the environmental consequences of the project, the necessity for mitigation measures, and the appropriateness of project approval. [Citation.]' [Citation.] [¶] While technical perfection in a cumulative impact analysis is not required, courts have looked for 'adequacy, completeness, and a good faith effort at full disclosure.' (Cal. Code Regs., tit. 14, § 15151.) "A good faith effort to comply with a statute resulting in the production of information is not the same, however, as an absolute failure to comply resulting in the omission of relevant information." [Citation.]" (*Mountain Lion Coalition v. Fish & Game Comm.* (1989) 214 Cal. App. 3d 1043, 1051-52.)

(*Joy Road Area Forest and Watershed Assoc. v. Cal. Dept. of Forestry* (2006) 142 Cal. App. 4th 656, 676.) Where, as here, the impacts of a project are "cumulatively considerable" the agency must also examine alternatives that would avoid those impacts and mitigation measures for those impacts. (CEQA Guidelines §15130(b)(3).) In some cases the potential cumulative impacts will be best addressed by compliance with existing regulations (such as land use plans, conservation plans, or clean air act standards), in other cases avoidance and mitigation measures will be site specific, and in some cases new regulations or ordinances may be needed to address cumulative concerns.

While the DEIR includes many of the small local projects and the large-scale solar projects in the Carrizo Plain, it fails to analyze the numerous smaller projects that also will affect the suite of rare species that call the Carrizo home in conjunction with the proposed project and the other large solar proposal. Regardless, we agree that the cumulative impact to biological

resources if all of the analyzed proposed projects are implemented is significant and unmitigable. Other alternatives (see below) would eliminate this significant unmitigable impact, while allowing for project objectives to be realized. The County clearly must deny the project because of the significant unmitigable impacts to biological resources both at the project level and in the cumulative scenario.

D. The DEIR's Alternatives Analysis is Inadequate

Under CEQA, a lead agency may not approve a project if there are feasible alternatives that would avoid or lessen its significant environmental effects. (Public Resources Code §§ 21002, 21002.1(b).) To this end, an EIR is required to consider a range of potentially feasible alternatives to a project, or to the location of a project, that would feasibly attain most of the project's basic objectives while avoiding or substantially lessening any of the project's significant environmental impacts. (*Save Round Valley Alliance v. County of Inyo* (2007) 157 Cal.App.4th 1437, 1456.)

The alternatives analysis is inadequate even with the inclusion of the alternative site configurations, reduced acreage alternatives and the off-site alternative. In addition a phased alternative should have been included which would evaluate one portion of the project that have the fewest impacts to move forward while also affording the project proponent time to find and acquire permits for more appropriate sites for one or more additional array fields.

The County should have not dismissed alternative siting such as distributed solar alternatives, and other alternatives that could avoid impacts of the proposed.

While the County considered the Westlands CREZ alternative as off-site alternative, it should have also considered the Westlands Solar Park[45] that has capacity of up to 5 GW, easily accommodating the proposed project. This alternative would significantly reduce the impacts to biological resources including the suite of rare and endangered species and habitats found on site and key movement corridors that will be impacted by the proposed project. The conservation organizations disagree with the conclusion that if the proposed project was moved to the Westlands Solar Park it would not be able to be built by 2012. The Westlands Solar Park faces none of the permitting challenges because it is on abandoned agricultural lands that have little value for rare, threatened and endangered wildlife. Absent these imperiled resources, the permitting will be streamlined and a project could easily be permitted and constructed by 2012. The existence of these and other feasible but unexplored alternatives shows that the County's analysis of alternatives in the DEIS is inadequate.

Because such alternatives are feasible, on this basis and other, the range of alternatives is inadequate. The conservation organizations urge the County to revise the DEIR to adequately address a range of feasible alternatives and other issues detailed above and then to re-circulate a revised or supplemental DEIR for public comment.

45 http://www.westlandssolarpark.com/Westlands_Solar_Park/Project_Overview_and_General_Information.html

Conclusion

Thank you for your consideration of these comments. In light of the many omissions in the environmental review to date, we urge the County to revise and re-circulate the DEIR or prepare a supplemental DEIR before making any decision regarding the proposed project. In the event the County chooses not to revise the DEIR and provide adequate analysis, the County should reject the proposed project. Please feel free to contact us if you have any questions about these comments or the documents provided.

Sincerely,

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