



July 1, 2010

Via E-Mail to Jim_Stobaugh@blm.gov

Jim Stobaugh
BLM Project Manager
P.O. Box 12000
Reno, Nevada 89520

Re: Comments on the Calico Solar Project DEIS, 75 Fed. Reg. 16786 (April 2, 2010).

Dear Mr. Stobaugh:

Thank you for the opportunity to comment on the Draft Environmental Impact Statement (“DEIS”) for Teserra Solar’s Calico Solar Project. These comments are submitted on behalf of Defenders of Wildlife, the Natural Resources Defense Council, and The Wilderness Society, hereinafter referred to as “Defenders”. These groups are national environmental membership organizations with more than 3 million members, supporters and online activists in the U.S., over 500,000 of whom reside in California.

Defenders strongly support the emission reduction goals found in the Global Warming Solutions Act of 2006, AB 32, including the development of renewable energy in California. However, we urge that in seeking to meet our renewable energy portfolio standard in California, project proponents design their projects in the most sustainable manner possible. This is essential to ensure that project approval moves forward expeditiously and in a manner that does not sacrifice our fragile desert landscape and wildlife in the rush to meet our renewable energy goals.

The proposed Calico Solar Project is a massive 8,230 acre solar thermal plant that would be located in the Mojave Desert in San Bernardino County, California approximately 37 miles east of Barstow. It would include 34,000 Suncatcher Stirling dish engine units (“Suncatchers”), associated substation, buildings, roads, a water treatment facility, new groundwater pumping, and a new transmission line. It would entail loss of habitat and displacement of many wildlife species, including the state and federally threatened desert tortoise, special-status reptiles, special-status mammals, migratory birds, and numerous rare plant species. The DEIS fails to analyze a reasonable range of alternatives, narrowly defining the project’s objectives in such a way as to preclude assessment of many viable alternatives on private and public degraded land. In addition, the DEIS does not adequately address the significant loss of habitat and cumulatively significant impacts of a project that spans more than 8,000 acres of relatively undisturbed desert land. Many of these impacts have been determined to

be “significant even with the application of mitigation.” DEIS, page C.2-149. Defenders would ultimately like to see this project’s impacts avoided if possible or mitigated to the greatest extent practicable. To that end, we offer the following comments.

I. The Alternatives Analysis is Insufficient Under the National Environmental Policy Act

The DEIS’s analysis of proposed project alternatives is insufficient and violates the National Environmental Policy Act (“NEPA”). Because the alternatives analysis is the “heart” of any environmental review, the failure to provide meaningful alternatives is fatal to this DEIS. Unfortunately, rather than looking for meaningful alternatives that avoid significant impacts to the desert tortoise and other biological resources, the Bureau of Land Management (“BLM”) appears to have simply accepted the proponent’s proposal and choice to build the proposed Project in heavily occupied desert tortoise habitat with a low level of mitigation, consisting of a 3:1 ratio for impacts north of the BNSF railroad tracks, and a 1:1 ratio for impacts south of the BNSF railroad tracks. This lack of a reasonable range of alternatives is particularly troubling for this site, which has several potentially unmitigable impacts on wildlife.

A. BLM’s Purpose and Need Statement is Unlawfully Narrow, Preventing a Reasonable Range of Alternatives From Being Considered

In discussing their EIS obligations under NEPA, federal agencies must “specify the underlying purpose and need to which the agency is responding in proposing the alternatives including the proposed action.” 40 C.F.R. § 1502.13. Agencies may not “contrive a purpose so slender as to define competing ‘reasonable alternatives’ out of consideration (and even out of existence).” *Simmons v. U.S. Army Corps of Eng’rs*, 120 F.3d 664, 665 (7th Cir. 1997). Nor may an agency “define the objectives of its action in terms so unreasonably narrow that only one alternative . . . would accomplish the goals of the agency’s action, and the EIS would become a foreordained formality.” *Citizens Against Burlington v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991) cert. denied 503 U.S. 994 (1991).

BLM’s stated purpose and need is to “respond to the application under Title V of FLPMA for a ROW grant to construct, operate and decommission the Calico Solar Project and associated infrastructure.” DEIS, page B.2-10. Rather than presenting a purpose and need statement that reflects the larger goal of providing for the development of solar energy, and then evaluating different means to achieve that goal, BLM has instead defined the Calico Solar Project and other infrastructure construction itself as the goal. By so radically narrowing the scope of the project’s purpose, BLM has impermissibly constricted the range of alternatives considered. *See Carmel by the Sea v. U.S. DOT*, 123 F.3d 1142, 1155 (9th Cir. 1995).

Indeed, the DEIS considers only four alternatives – the proposed action, two site reconfigurations, and the no action alternative. BLM failed to consider other viable methods to effectively develop renewable energy while minimizing impacts to sensitive wildlife populations and habitat, including alternative technologies, development on degraded private lands, and development on degraded public lands with lower quality habitat. Because the purpose has been defined as requiring the project to be of a certain size, configuration, slope, and location, the BLM has ensured that no alternative courses of action would be considered, regardless of whether such alternatives would also meet renewable energy goals without causing significant environmental impacts.

B. Analysis of Limited Alternatives Fails To Meet Minimum Requirements Under NEPA

In addition to properly defining the purpose and need of an agency action, agencies must consider a range of reasonable alternatives to the agency action in the EIS. Agencies must “[s]tudy, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. § 4332(2)(E). NEPA requires that an EIS discuss alternatives to the proposed action, “to provide a clear basis for choice among options by the decision-maker and the public.” 40 C.F.R. § 1502.14; *see also* 42 U.S.C. § 4332(E); C.F.R. §§ 1507.2(d), 1508.9(b). The purpose of this requirement is “to insist that no major federal project should be undertaken 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.” *Environmental Defense Fund v. Cops of Engineers*, 492 F.2d 1123, 1135 (5th Cir. 1974); *Methow Valley Citizens Council v. Regional Forester*, 833 F.2d 810 (9th Cir. 1987), *rev’d on other grounds*; *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332 (1989) (agency must consider alternative sites for a project).

As a result of arbitrarily limiting the purpose and need statement for the project, the BLM only analyzed four alternatives: the proposed action, two reconfiguration alternatives, and the no action alternative. Such a truncated alternatives analysis violates the agency’s duty under NEPA to fully review “all reasonable alternatives.” The DEIS must analyze project alternatives including (1) project modification; (2) private land development on disturbed lands; (3) alternative technologies; and (4) any other reasonable alternatives outside the jurisdiction of the BLM.

1. Private Lands Alternative

BLM must evaluate a reasonable range of alternatives, and a private land site alternative is very much within the bounds of reasonableness. *See* 50 C.F.R. § 1502.14(a). The discussion of alternatives need not be exhaustive, but it must “be sufficient to demonstrate reasoned decision-making.” *Fritiofson v. Alexander*, 772 F.2d 1225, 1236 (5th Cir. 1985); *see also C.A.R.E Now, Inc. v. F.A.A.*, 844 F.2d 1569, 1574 (11th Cir. 1988) (stating that the court must assess whether the agency has made a “reasoned choice”). BLM dismissed the only private land alternative identified in the DEIS for the following reason:

A Private Land Alternative is not a reasonable alternative to the BLM since analysis of such an alternative, over which BLM has no discretionary approval authority, would not present impacts in a form that would define issues or provide a basis for choice in a manner any different than the no action alternative, which is fully considered in this document. Impact to public land resources would not occur if the project was located on private land just as impact to public land resources would not occur if the no action alternative was approved (and the project was denied). DEIS, page B.2-18.

BLM’s strained reasoning is perplexing. It is well established that BLM must analyze *all* reasonable alternatives, regardless of whether the alternative is located on public or private land. Although a private land site alternative would not be within the jurisdiction of the BLM, section 1502.14 of the NEPA Guidelines requires the DEIS to examine all reasonable alternatives, including those outside the jurisdiction of the BLM. *See* 50 C.F.R. § 1502.14(a). BLM cites the absence of “discretionary authority” as its reason for dismissing the private land alternative, which is essentially the same as an absence of jurisdiction. The comparison to the no action alternative does not hold water either. A private land alternative would facilitate the *broader* project purpose and need of generating renewable energy,

whereas the no action alternative would generate no renewable energy, two completely different outcomes. Neither the “absence of discretionary authority” argument nor the no action alternative comparison will excuse the BLM from abdicating its obligation under NEPA to analyze reasonable alternatives even if they are outside BLM jurisdiction. Additionally, the California Energy Commission (“CEC”) concluded that the private land alternative would be preferred to the proposed Calico Solar Project site for biological resources, cultural resources, visual resources, and potentially transmission system engineering and only less preferred in the areas of land use and noise. DEIS, B.2-50. BLM has not offered a convincing argument for dismissing the private land site alternative analyzed by the CEC. It is reasonable, it is feasible and it provides renewable energy for California without impacting biological resources on public land.

Considering the overriding policy impetus toward siting renewable facilities on private degraded land, the permitting agencies have an obligation to fully consider a reasonable range of private land alternatives. The Renewable Energy Transmission Initiative (“RETI”) recently issued the following statement:

RETI stakeholders agree that utilizing disturbed private lands close to existing infrastructure for renewable energy development should be a priority for the state. County governments and state agencies are in the best position to develop mechanisms to consolidate the ownership of extensively-parcelized lands that have excellent renewable resource potential. For this reason, the RETI Phase 2A Final Report includes a formal recommendation that the California Energy Commission, in conjunction with other state and federal agencies, counties and the renewable energy industry, develop and implement a strategy for consolidating ownership of disturbed or degraded private lands for renewable energy development on an expedited basis (RETI Phase 2A Final Report, page 2-33).

RETI’s prioritization of private lands for renewables siting affirms the need for CEC and BLM to analyze a reasonable number of private lands alternatives. BLM should not preclude a private land alternative or any other alternative from analysis because it is not within the agency’s jurisdiction.

2. Existing Application Alternative Locations

Some of the potential alternative locations on federal land were eliminated from consideration due to other applicants, or in some cases, the same applicant having filed a ROW application with BLM to develop the site. While BLM has yet to review or act on these applications, it has inexplicably determined that such applications confer a property right in federal lands, stating that “an active pending application for [an alternative site] commands priority in consideration for that site location just as an active pending application for the Calico Solar Project site commands priority for its site location.” DEIS, page B.2-21. This policy statement appears to be without any regard to the ultimate viability of any such projects. For example, an applicant could submit a ROW application, pay the required fee, and hold the application without submitting a Plan of Development. Meanwhile a well-intentioned applicant would be precluded from having the location considered as a less impactful site alternative for a different project. Moreover, an applicant might hold several ROW applications concurrently, thereby evading a federal land site alternative analysis on *any* of them due to the aforementioned rule regarding priority. Beyond the panoply of legal issues that this raises, the policy it promotes – encouraging a race to file applications in an effort to claim territory – is antithetical to efforts to responsibly develop solar energy projects while minimizing impacts to wildlife and other resources.

II. New Biological Survey Information has been Released since the DEIS was published

The applicant has completed several biological surveys and released reports on the associated findings since the DEIS was published. NEPA requires that all necessary information be available to complete an analysis of significant impacts. See NEPA Guidelines, section 1502.22. Therefore, the DEIS is insufficient. The following are just a few of the biological reports the applicant has completed since the March 30, 2010 DEIS was released:

1. Results of 2010 desert tortoise surveys
2. Revised burrowing owl survey report
3. Results of first round 2010 spring botany surveys
4. Late spring botany survey report
5. Results from helicopter surveys of golden eagle nests and bighorn sheep

This new information constitutes significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts. Therefore, a supplemental EIS must be prepared so that BLM has the best possible information to make any necessary substantive changes in its decisions regarding the proposal. NEPA Guidelines, section 1502.9(c). As a general matter, Defenders is greatly concerned that BLM and the CEC are publishing environmental assessments for solar projects without appropriate biological resource survey information. This is contrary to the most basic purpose of NEPA and CEQA, which is to facilitate the availability of information for agency actions that may significantly affect the environment. NEPA Guidelines, section 1502.1. Defenders urges BLM to only release a DEIS when the requisite informational needs have been satisfied.

Defenders is also concerned that the project footprint is not yet clearly defined. NEPA requires that a project be properly defined before the DEIS is released. NEPA Guidelines, section 1502.4(a). The applicant has submitted two alternative site layouts since the DEIS was published. Neither the relevant agencies nor the public can effectively assess the environmental impacts of a project without a final and conclusive project description. It is essential that the applicant determine the parameters of its proposed project.

III. The DEIS Must Adequately Analyze and Address Impacts to Species and Habitats

A. Desert Tortoise

The U.S Fish and Wildlife Service (“USFWS”) listed the Mojave population of desert tortoise, including those inhabiting the Calico site, as threatened in 1990, providing them protection under the Endangered Species Act (“ESA”), 16 U.S.C. § 1531, *et seq.* ESA § 7 requires federal agencies, such as BLM to ensure that their actions are “not likely to jeopardize” listed species. This obligation includes ensuring that actions such as issuance of permits or rights of way will not jeopardize the continued existence of any endangered or threatened species or result in adverse modification or destruction of critical habitat of such species. 16 U.S.C. § 1536(a)(2). To determine whether its actions are likely to jeopardize listed species, BLM must consult with USFWS pursuant to Section 7(a)(2). BLM’s substantive obligation under the ESA to conserve listed species is in addition to its duty to adequately analyze and address impacts to species and habitats under NEPA.

As a result of cumulative impacts, desert tortoise populations have been extirpated or almost extirpated from large portions of the western and northern parts of their geographic range in California (e.g., Antelope, Indian Wells and Searles Valleys). Population declines or extirpations attributable to cumulative impacts have occurred in and near the California communities of Mojave, Boron, Kramer Junction, Barstow, Victorville, Apple Valley, Lucerne Valley, and Twentynine Palms. Similar patterns are evident near Las Vegas, Laughlin, and Mesquite, Nevada; and St George, Utah. Future extirpations can be expected in the vicinity of all cities, towns, and settlements (Fish and Wildlife Service. 1994. Desert tortoise (Mojave population) Recovery Plan. U.S. Fish and Wildlife Service, Portland, Oregon. Page 3).

The portion of the proposed project north of the railroad is classified by BLM as Category II desert tortoise habitat (see DEIS, page B.2-52), the most protective category, which carries a goal to maintain stable, viable populations and halt further declines in tortoise habitat values.¹ The importance of this area is evidenced by the number of tortoises that continue to occupy this site. According to survey results submitted to BLM and the CEC on May 18, 2010, the project proponent's consultants observed 104 desert tortoises on this site. Using the USFWS formula to estimate tortoise population based on 10 m transect survey data, approximately 176 desert tortoises (95 percent confidence range of 92 to 337 individuals) may occupy the 8,230-acre Calico Project site. This desert tortoise population is very significant due to its sheer number. According to the 1994 Desert Tortoise Recovery Plan, the population density for the adjacent Ord-Rodman Desert Wildlife Management Area ("DWMA") is 5 to 150 desert tortoises per square mile. Declines appear to be due to human-related activities, upper respiratory tract disease ("URTD"), and raven predation.² Due to the numerous tortoises occupying the site, this area may be very important for recovery of the species. Defenders staff has visited the site twice and we concur with the assessment in the DEIS that "the Calico Solar Project supports medium and high quality desert tortoise habitat according to the USGS [habitat] model." DEIS, page C.2-130.

NEPA requires agencies to include a discussion of the means to mitigate adverse environmental impacts of projects. 40 C.F.R. § 1502.16(h). Given the importance of this habitat, the high number of tortoises on the site, and the sheer loss of over 8,000 acres of habitat, we strongly recommend that the project proponent attempt to avoid impacts to tortoises first, then minimize those impacts that cannot be avoided, and finally, if all else fails, adequately mitigate for those impacts. To that end, we strongly urge that the project follow the recommendations found in the current USFWS Desert Tortoise Recovery Plan for avoidance and minimization measures. Additionally, BLM has initiated consultation with USFWS and the forthcoming biological opinion will contain avoidance and mitigation measures.

Defenders is particularly concerned with impacts on desert tortoise movement corridors. As the DEIS indicates, the project will result in obstruction to both east-west and north-south movement corridors. DEIS, page C.2-39. It is well documented that tortoises move through the north-south washes on the northern portion of the site. However, less is known about the east-west movement of the species and how this relates to their genetic makeup and viability. BLM should pay close attention to these movement corridors in assessing site alternatives and mitigation. Based on our field examination, we believe movements of desert tortoises through the project site in an east-west orientation occur more frequently in the lower and central area due to soil and habitat characteristics that facilitate movement. North-south movements in the northern portions of the project site likely associated with the numerous braided washes that provide movement pathways. East-west movements

¹ Bureau of Land Management. 1988. Desert tortoise habitat management on the public lands: a rangewide plan. U.S. Bureau of Land Management, Washington, D.C. 23p.

² 1994 Draft Desert Tortoise Recovery Plan, USFWS, page F31.

in the northern portions of the project area are likely rare due to rough terrain features such as rock-covered terrain interspersed with drainage channels and steep banks.

The DEIS is deficient in its analysis of potential movements of desert tortoises under Interstate 40 and Route 66, under bridges and through numerous culverts, and under the railroad through numerous trestles. These features may provide essential habitat connectivity and means of maintaining genetic diversity between populations in the Ord-Rodman, Piute-Eldorado and Superior-Cronese Critical Habitat Units.

The DEIS proposes an overall 3:1 mitigation ratio to compensate for loss of desert tortoise habitat on a portion of the site north of the BNSF railroad. DEIS, page C.2-3. The portions of the site on donated and acquired land would trigger a 6:1 mitigation ratio. DEIS, page C.2-4. The CEC and BLM propose to “nest” the BLM’s 1:1 (or 6:1 for LWCF land) mitigation ratio within the CEC’s 3:1 mitigation ratio to fulfill both agencies’ requirements. According to CEC Condition of Certification BIO-17, the proponent would satisfy the nested mitigation requirement through an in-lieu fee mitigation program – e.g. payment into a fund to support habitat acquisition or enhancement. BLM’s compensatory mitigation plan, serving as one-third of the 3:1 mitigation ratio required to satisfy the California Endangered Species Act (“CESA”), would include acquisition of up to 8,230 acres of high quality desert tortoise habitat, or desert tortoise habitat enhancement or rehabilitation activities that meet BLM, CDFG, USFWS and CEC approval, or some combination of the two.

The proposed project footprint coincides with 775 acres of donated lands or lands acquired with Land and Water Conservation Fund (“LWCF”) funds. As mentioned above, this portion of the site triggers a 6:1 mitigation ratio. Defenders is extremely concerned that LWCF lands are included in the site footprint and wary of the precedent it sets for future projects on BLM lands. The use of donated and acquired lands is not just bad policy, it is contrary to the intent of the land donors and the public, and a violation of BLM guidance:

Lands acquired by BLM under donation agreements, acquired for mitigation/compensation purposes and with LWCF funds, are to be managed as avoidance/exclusion areas for land use authorizations that could result in surface disturbing activities.³

Because the proposed Calico Solar Project necessarily involves surface disturbing activities (construction of roads, buildings, transmission lines, and SunCatcher units), siting the facility on LWCF lands is inconsistent with BLM policy. The project footprint should avoid LWCF lands.

This “in-lieu fee” mitigation plan raises many questions. Because it is a joint or “nested” mitigation structure, and therefore must satisfy both State and Federal mitigation requirements, BLM should be aware of legal requirements at both the State and federal level. In California, the payment of fees must be tied to a functioning mitigation program to be adequate. *Gentry v. City of Murrieta* (1995) 36 Cal.App.4th 1359. In order to serve as an adequate substitute for traditional mitigation measures, an in-lieu fee program must be evaluated under the California Environmental Quality Act (“CEQA”), including the requirements to circulate the plan for public comment. *California Native Plant Society v. County of El Dorado* (2009), 170 Cal. App. 4th 1026. It is in BLM’s interest to ensure that the in-lieu fees manifest into actual on-the-ground improvement to desert tortoise habitat. The DEIS does not currently contain adequate information to satisfy the public’s interest in ensuring that the required fees translate into benefits to the desert tortoise. Additionally, according to BLM Instruction Memorandum

³ May 27, 2009 BLM Interim Policy Memorandum (CA-2009-020)

No. 2008-204, “in-kind” mitigation is generally preferred to “out-of-kind” and BLM offsite mitigation may be performed on federal lands. BLM should strongly consider using its one-third mitigation requirement to acquire suitable desert tortoise habitat. As mentioned above, this population of desert tortoises faces multiple threats, including habitat destruction, predation and disease. Targeted habitat acquisition could help the species to recover.

The BLM must also consider the substantial risks posed by the Calico Solar Project translocation program. The U.S. Army suspended its Desert Tortoise translocation program at Fort Irwin when at least 25% of the translocated tortoises died, mostly due to predation⁴. Other impacts to tortoises must be fully analyzed and addressed, such as new water sources that attract predators, impacts to tortoise water sources from proposed groundwater pumping, impacts from roads, and impacts from vegetation management. For example, if additional water sources will be placed on site, it could increase raven populations within the surrounding area. A raven monitoring plan would need to be included, as ravens can have a very detrimental impact on tortoises. The applicant has not yet submitted a draft tortoise translocation plan. Such a plan includes the protocol for a translocation, including assessing the habitat quality of the receiving site and determining the potential for transplantee mortality. Those issues are central to a desert tortoise impacts assessment.

The Biological Assessment identifies translocation as a mitigation measure.⁵ It is important to note that translocation is not mitigation. Translocation is a minimization measure for the take of desert tortoises on the site. However, the project will result in take of all desert tortoises on the site and cannot be mitigated by translocating individual tortoises. Additionally, the proponent’s consultants observed at least 104 desert tortoises on the site during surveys. Based on those surveys, up to 176 desert tortoises are likely to be found on the site. Therefore, the estimated 36-66 desert tortoises on the site from the Biological Assessment is incorrect.⁶ Up to 176 tortoises will likely need to be translocated.

The BLM is constrained by specific policy guidance in implementing translocation programs. According to BLM Manual 1745, a site-specific activity plan is required prior to the introduction, transplant, and reestablishment of plants or animals on public lands. Additionally, decisions for making introductions, transplants, or reestablishments should be made as part of the land use planning process, and include a land use plan amendment (BLM Manual 1745). BLM has not included an activity plan or land use plan amendment in the DEIS or the Biological Assessment. This documentation will be required before a decision is made on the translocation. Additionally, BLM must ensure that the translocation lands are preserved in perpetuity. BLM must not allow right-of-way applications on areas that effectively become surrogate desert tortoise habitat due to a translocation program.

As stated above, Defenders does not believe that translocation, in and of itself, provides mitigation for desert tortoises. Instead, any translocation must be in conjunction with the preservation of habitat. Defenders is greatly concerned by the statement in the Biological Assessment that the translocation plan will include disease testing only of individuals that will be translocated farther than five kilometers. This presumably signals that the BLM would allow relocations (a method of moving tortoises that does not require disease testing or pre-construction surveys) for less than five kilometers. This is a troubling departure from the previous limit on relocation, which was approximately 300 meters. Defenders strongly opposes the increase in relocation distance to five kilometers. Such a policy will leave tortoises vulnerable to disease, disorientation and predation. Further, the

⁴ Health, Behavior, and Survival of 158 Tortoises Translocated from Ft. Irwin: Year 2, *Timothy Gowan and Kristin H. Bery*.

⁵ Biological Assessment for the Calico Solar Generating Facility, San Bernardino, California, April 1, 2010, page 1-5.

⁶ *Id.*

Translocation Plan should follow the recommendations of the USFWS Desert Tortoise Recovery Plan, including:

- a) No experimental translocations into DWMA's.
- b) Translocations should be made to appropriate habitat. The EIS should justify its selected translocation site. BLM should also explain the adequacy of the non-protocol surveys that were completed.
- c) Areas into which desert tortoises are to be relocated should be surrounded by a desert tortoise-proof fence or similar barrier. The fence will contain the desert tortoises while they are establishing home ranges and a social structure.
- d) The best translocations into empty habitat involve desert tortoises in all age classes, in the proportions in which they occur in a stable population. The EIS should discuss the population structure in the proposed translocation area.
- e) The number of desert tortoises introduced should not exceed the pre-decline density.
- f) All tortoises identified for potential translocation should be medically evaluated in terms of general health and indications of disease, using the latest available technology, before they are moved.
- g) If desert tortoises are to be moved into an area that already supports a population - even one that is well below carrying capacity - the recipient population should be monitored for at least 2 years prior to the introduction. Necessary data includes the density and age structure of the recipient population, home ranges of resident desert tortoises, and general ecological conditions of the habitat. Any translocation sites should be isolated by a desert tortoise barrier fence or similar barrier next to the highway or road. The purpose of fencing the highway is obvious - to keep translocated animals from being crushed by vehicles on the road. The DEIS is unclear about the level and extent of fencing.

B. Nelson's Bighorn Sheep

Defenders also urges BLM to assess impacts to Nelson's bighorn sheep, a BLM sensitive species. Bighorn sheep are well documented in the Cady Mountains where there is a substantial population of at least 300 individuals. DEIS, page C.2-88. There is evidence showing that bighorn sheep use the project area as foraging habitat. The project would entail loss of at least 458.5 acres of foraging habitat. DEIS, page C.2-88. Of perhaps greater concern is the project's impact on wildlife corridors for bighorn sheep. Therefore, we strongly urge that this project analyze and address impacts to bighorn sheep and their ability to move across the project site. On one site visit, Defenders staff observed several locations under I-40 that were large enough for sheep to pass through easily. Sheep may be using those underpasses to migrate to the Ord Mountains (Dr. John Wehausen, pers. comm.). Construction and operation of the Calico Solar Project could reduce both foraging opportunities for bighorn and narrow or completely obstruct movement corridors between the Cady Mountains and the Ord Mountains.

Lastly, the mitigation proposed in the DEIS is limited to construction of an artificial water source. DEIS, page C.2-90. This measure will not mitigate impacts to bighorn sheep foraging habitat and wildlife corridors and may have the negative effect of attracting ravens. Acceptable mitigation requirements are those that avoid, minimize, rectify, reduce or compensate for an impact. 40 C.F.R. §

1508.20. The artificial water source accomplishes none of these benefits in connection with the potential habitat loss. The EIS should clarify the manner in which water sources will effectively mitigate for habitat loss and impacts to movement corridors. Defenders believes that compensatory mitigation for bighorn sheep should consist of habitat acquisition and enhancement.

C. Migratory and Resident Bird Species.

The project fails to address impacts to the burrowing owl. In addition to its status as a State Species of Special Concern, the burrowing owl is also protected under Fish and Game Code Section 3503.5 and the Migratory Bird Treaty Act. 16 U.S.C. § 703. Impacts to burrowing owls must be addressed in the EIS. The species has been well documented on the site. However, the DEIS did not identify compensatory mitigation measures for the burrowing owl. Despite its name, the Burrowing Owl Impact Avoidance, Minimization, and Compensation Measures (BIO-22), contains nothing that suffices as compensation or mitigation. It contains some pre-survey and minimization measures, but mitigation measure to assure the viability of the species is lacking. BLM should require that any mitigation lands acquired for desert tortoises be suitable habitat for burrowing owls as well.

BLM must independently determine whether burrowing owl impacts will be mitigated through BIO-22 or whether other compensatory mitigation is necessary. BLM must also identify mitigation measures for other migratory and resident bird species, such as golden eagles and Leconte's thrasher. Condition of Certification BIO-19, relating to migratory birds, only addresses avoidance and does not include mitigation measures.

BLM must adhere to the following measures in the EIS, as found in CDFG's Burrowing Owl Survey Protocol and Mitigation Guidelines:

- a) Occupied burrows should not be disturbed during the nesting season (February 1 through August 31) unless a qualified biologist approved by the Department of Fish and Game determines that the adult birds have not begun egg-laying and the juveniles from the occupied burrows are foraging independently and capable of independent survival.
- b) As compensation for the direct loss of burrowing owl nesting and foraging habitat, the project proponent should mitigate by permanently protecting known burrowing owl nesting and foraging habitat.
- c) A Burrowing Owl Mitigation and Monitoring Plan should be submitted to the Department of Fish and Game for review and approval prior to relocation of owls describing the proposed relocation and monitoring plans. The plan shall include the number and location of occupied burrow sites and details on adjacent or nearby suitable habitat available to owls for relocation. If no suitable habitat is available nearby for relocation, details regarding the creation of artificial burrows (numbers, location, and type of burrows) will also need to be included in the plan.

E. Native Desert Vegetation and Special Status Plant Species

The DEIS details impacts to some plant species, particularly the white-margined beardtongue and an undescribed species of lupine. However, as previously mentioned, the applicant has released the results of two botanical surveys since the DEIS was published. These surveys show particular impacts to the white-margined beardtongue. The white-margined beardtongue is extremely rare. The

occurrences on the Calico site are among the last in the State of California, posing a potential extinction scenario. Defenders disagrees with Staff's conclusion that a 250-foot buffer around each plant will minimize the project's impact. DEIS, C.2-55. This strategy will simply delay the species' ultimate demise. Defenders strongly suggests that BLM consider reconfigurations or alternative sites which will avoid the white-margined beardtongue altogether. BLM is also required under the West Mojave Amendment to the California Desert Conservation Plan to limit incidental take of this species:

2.2.4.10.23 White-margined Beardtongue

This species is a disjunct with a very limited range within California, all within the West Mojave. Incidental take would be limited to 50 acres of occupied and potential habitat.⁷

Defenders believes that much of the habitat in the section of the site immediately north of the BNSF railroad is potential habitat for the species and that therefore the applicant is unable to comply with the above provision in the West Mojave Plan.

IV. The DEIS Must Adequately Analyze Cumulative Impacts

The need to prepare a comprehensive EIS based on cumulative and regional effects on wildlife has been specifically embraced by the D.C. Circuit. For example, in *Natural Resources Defense Council v. Hodel*, 865 F.2d 288 (D.C. Cir. 1988), conservation organizations alleged that the Department of the Interior failed to adequately consider the cumulative effects of simultaneous offshore oil and gas leasing and development in the Pacific and Atlantic Oceans on migratory species including endangered cetaceans, marine mammals, salmon, and marine and coastal birds. The D.C. Circuit agreed with plaintiffs, finding that the EIS "for the most part considers only the impact within each area" of leasing. *Id.* at 298 (emphasis in original). The Court thus held that the analysis did "not address the issue ... which NEPA requires the Secretary to consider...the cumulative impacts of [oil and gas leasing] development in different areas," and that "allowing the Secretary's 'analysis' to pass muster here would eviscerate NEPA." *Id.* at 298-99 (quotations in original). The DEIS does not contain a comprehensive list of projects in the area that may have cumulative impacts.

Further, NEPA requires analysis of significant cumulative impacts of the proposed project when combined with other past, present and reasonably foreseeable future projects. 40 C.F.R. § 1508.27 requires that the significance of actions be analyzed in several contexts such as society as a whole, the affected region, the affected interest, and the locality. This section also requires that the severity of impact be considered and evaluated in determining significance using 10 stated criteria. 40 C.F.R. § 1508.27. The seventh criterion addresses "[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. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts." Therefore, the EIS must analyze the other proposed renewable energy projects in this region, any foreseeable growth in this area, the foreseeable impacts of climate change, and any other reasonably foreseeable future projects.

Finally, the cumulatively significant impacts of the project, or its contribution to cumulative impacts, must be mitigated. The DEIS concludes that without mitigation, the Calico Solar Project would be a substantial contributor to the cumulatively significant loss of the Mojave Desert's biological

⁷ Bureau of Land Management, 2005. West Mojave Plan: A Habitat Conservation Plan and California Desert Conservation Area Plan Amendment. California Desert District, Moreno Valley, CA.

resources, including the State and federally threatened desert tortoise and other special-status species. DEIS, page C.2-7. However, the DEIS does not address *which* existing measures would address the cumulatively significant impacts of the project, or whether additional measures are necessary to deal with the project's contributions to cumulative impacts.

V. Climate Change

The DEIS notes the need to address the effects of climate change largely through reduction of greenhouse gases and development use of renewable energy sources. The DEIS does not analyze the impacts climate change will have on species, and the effects of climate change on habitats that would be required to sustain viable populations of at-risk species.

This “hard look” requirement of NEPA requires federal agencies to consider climate change in NEPA documents. BLM must consider the effect of the proposed action on climate change, the effect of climate change on the proposed action and the effect of climate change on the affected environment. Climate change considerations are relevant throughout the NEPA process, from the scope of the environmental document and the description of the affected environment to the design of the proposed action, its alternatives and their environmental impacts. *See also* Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources, Secretarial Order 3289 (Feb. 22, 2010) (directing DOI agencies to consider and analyze climate change impacts when making major decisions affecting DOI resources), *available at* http://elips.doi.gov/app_so/act_getfiles.cfm?order_number=3289A1.

Analysis of the potential impacts of climate change on a proposed action and the environment is necessary to assess and reduce the vulnerabilities of the proposed action to climate change, to integrate climate change adaptation into the proposed action and alternatives and to produce accurate predictions of environmental consequences of the proposed action and alternatives. It will aid BLM in adequately preparing the proposed action or planning area for the inevitability of climate change. *See, eg*, Letter from Kathleen M. Goforth, Environmental Review Office, EPA, to Ramiro Villalvazo, Forest Supervisor, Eldorado National Forest (Oct. 26, 2009), *available at* [http://yosemite.epa.gov/oeca/webeis.nsf/\(PDFView\)/20090313/\\$file/20090313.PDF?OpenElement](http://yosemite.epa.gov/oeca/webeis.nsf/(PDFView)/20090313/$file/20090313.PDF?OpenElement).

BLM should expand the analysis of the effects of the proposed project and each alternative on biological resources and their ability to adapt to climate change, such as occupation and use of habitat on a regional scale that may be essential in sustaining at-risk species. Such an expanded analysis should include cumulative effects and mitigation measures, including those associated with climate change.⁸

Although the DEIS addressed climate change, we encourage a more in-depth

⁸ *See* Secretarial Order 3226, *Evaluating Climate Change Impacts in Management Planning* § 4 (January 16, 2009) (“Each bureau and office of DOI shall, in a manner consistent and compatible with their respective missions: Consider and analyze potential climate change impacts when undertaking long-range planning exercises, setting priorities for scientific research and investigations, and/or when making major decisions affecting DOI resources”); Council on Environmental Quality, *Considering Cumulative Effects under the National Environmental Policy Act* 24, 42 (1997) (including documentation and analysis of global warming in the affected environment and effects), *available at* <http://ceq.eh.doe.gov/nepa/ccnepa/ccnepa.htm> (last visited Apr. 20, 2010).

analysis of the importance of the habitats and habitat connectivity in sustaining species diversity and landscape level movements as temperatures in the Southwestern U.S. rise significantly over the next several decades, as predicted in numerous studies. BLM should include observed and projected impacts of climate change in the region – assess whether climate change has affected, is affecting, or will foreseeably affect each resource and incorporate that information into the analysis of each resource. Federal and state agencies have published reports, studies and plans that identify the observed and projected impacts of climate change on specific geographic areas or environmental resources and that are readily available to BLM.

BLM must consider the following impacts of climate change on the affected environment:

- Fish and Wildlife: habitat, composition, shifts to higher elevation/latitudes, reduced vegetation food sources, altered migration routes, less available water sources, streamflow change impacts on migratory aquatic species;
- Increases in the frequency, severity, duration and extent of extreme events such as drought, flooding, storms and heat waves;
- Soil: erosion, impacts to soil moisture, fugitive dust concentrations;
- Threatened and Endangered Species: effects of moisture stress on species, changes to migration patterns;
- Vegetation: Preferential CO₂ metabolites, species migration, establishment of invasive species, pathogens, warm/cool season plants, growing season;
- Water: changes to availability, quality, quantity, precipitation patterns, flow regimes dilution, water temperatures, elevation of snow pack, annual snow pack longevity, groundwater elevations, water rights;
- Wildfire: fire frequency, fuel load quantity and composition, fuel temperatures, relative humidity, water availability (e.g. for suppression), tree mortality due to drought and infestations, increased severe precipitation/soil loss; and
- Invasive species.

(See generally U.S. Global Change Research Program, *Global Climate Change Impacts in the United States* (Thomas R. Karl et al. eds., 2009), available at <http://downloads.globalchange.gov/usimpacts/pdfs/climate-impacts-report.pdf>.) Some of these impacts and resources are explained below.

VI. Conclusion

Defenders appreciates this opportunity to submit comments on the DEIS for the Calico Solar Project. California's 33% Renewable Portfolio Standard is an important policy mandate and one that Defenders strongly supports. This is a major step in weaning our State off fossil fuels. However, the permitting agencies must be vigilant in assessing the environmental impacts of renewable energy facilities and not cut corners. To the contrary, because the Calico Solar Project will impact thousands of acres of federal land and set the tone for future projects, BLM must be particularly thorough in its environmental analysis.

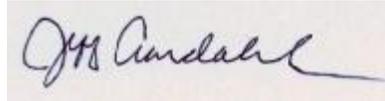
The Calico Solar Project will impact over 8,000 acres of heavily occupied desert tortoise habitat and likely displace up to 176 individual tortoises. The project will destroy several rare plant communities, one of which, the white-margined beardtongue, may face extinction as a result. Finally, many other species may be impacted, including migratory and resident birds, Nelson's bighorn sheep,

and reptiles. Defenders urges BLM to seek alternative sites, avoidance measures, and adequate mitigation measures. A strong EIR will help this project to move forward, as well as the many projects that will follow.

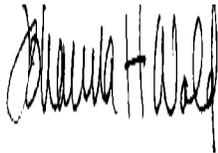
Sincerely,



Joshua Basofin
California Representative
Defenders of Wildlife



Jeff Aardahl
California Representative
Defenders of Wildlife



Johanna Wald
Director, Western Renewable Energy Project
NRDC



Alice Bond
California Public Lands Policy Analyst
The Wilderness Society

References:

Boarman, W.I. 2002. Threats to desert tortoise populations: a critical review of the literature. Unpublished report prepared for the West Mojave Planning Team, Bureau of Land Management. U.S. Geological Survey, Western Ecological Research Center. San Diego, CA.

California Department of Fish and Game. 1993. Burrowing Owl Survey Protocol and Mitigation Guidelines.

Evink, G.L. 2002. Interaction between roadways and wildlife ecology; a synthesis of highway practice. National Cooperative Highway Research Board, NCHRP Synthesis 305, Washington, D.C. 78 pp.

Fish and Wildlife Service. 1994. The Desert Tortoise (Mojave Population) Recovery Plan. http://www.fws.gov/Nevada/desert_tortoise/dtro_1994_recovery_plan.html Last visited on 2/11/2010.

Tsunokawa, K., and C.J. Hoban. 1997. Roads and the environment: a handbook. World Bank Technical Paper No. 376. The World Bank, Washington D.C. 252 pp.