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August 25, 2011

Via certified U.S. Mail, return receipt requested and electronic mail to:

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Re: Notice of Intent to Sue for Violations of the Endangered Species Act Related to the Development of the Calico Solar Power Generating Facility.

Dear Secretary Salazar, Secretary Chu, Director Abbey, Director Ashe, Mr. O'Shea, and Mr. Gallagher:

Pursuant to 16 U.S.C. § 1540(g), this letter serves as Defenders of Wildlife's ("Defenders"), the Sierra Club's, and the Natural Resource Defense Council's ("NRDC") 60-day

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notice of intent to sue the U.S. Fish and Wildlife Service (“FWS”) and the Bureau of Land Management (“BLM”) for violations of the Endangered Species Act (“ESA”), 16 U.S.C. § 1531 *et seq.*, in connection with: (1) FWS’s issuance of a biological opinion to BLM in support of the Calico Solar Power Generating Facility (the “Calico Solar Project”) and (2) BLM’s approval of a right-of-way on public lands for the project that will destroy thousands of acres of habitat for the federally threatened desert tortoise. Specifically, and as explained in detail in this letter, FWS has failed to prepare a biological opinion that fully and accurately analyzes the impacts that this utility-scale solar installation will have on the desert tortoise, particularly in light of the threats tortoises already face in the California desert and other anticipated developments that will further reduce and degrade the species’ rapidly dwindling suitable habitat in the region. Absent such a biological opinion, FWS is in violation of its mandatory obligations under section 7 of the ESA, 16 U.S.C. § 1536. By relying on FWS’s deficient biological opinion, BLM has failed to fulfill its mandatory duties under section 7 of the ESA to insure that its actions in authorizing a right-of-way for the Calico Solar Project are not likely to jeopardize the survival and recovery of the desert tortoise.

Pursuant to 16 U.S.C. § 1540(g), this letter also serves as Defenders’, the Sierra Club’s, and NRDC’s 60-day notice of intent to sue BLM and the project developer, Calico Solar, LLC (hereafter, “Calico Solar”) for anticipated violations of section 9 of the ESA, 16 U.S.C. § 1538. Should BLM authorize, and Calico Solar proceed with, ground disturbing activities before FWS and BLM remedy the defects of the biological opinion and ESA consultation described in this letter, their actions will result in the unauthorized “take” of desert tortoises in violation of section 9 of the ESA.

Finally, this letter provides notice that Defenders, the Sierra Club, and NRDC intend to sue FWS and BLM for arbitrary and capricious actions, abuses of discretion, and actions not otherwise in accordance with law under the Administrative Procedure Act (“APA”), 5 U.S.C. § 500 *et seq.*, for violations of the National Environmental Policy Act (“NEPA”), 42 U.S.C. § 4331 *et seq.*, the Federal Land Policy and Management Act (“FLPMA”), 43 U.S.C. § 1701 *et seq.*, and other federal laws in connection with the biological opinion and right-of-way approval for the Calico Solar Project. Those violations are also briefly described in this letter.

If FWS and BLM do not take action within 60-days to remedy their violations of the ESA, Defenders, the Sierra Club, and NRDC will pursue litigation under section 7 of the Act and, if necessary, under section 9 of the Act. Notwithstanding any other statement in this letter, Defenders, the Sierra Club, and NRDC reserve the right to commence a civil action under the APA, NEPA, FLPMA, or any other federal law against BLM, FWS, and Calico Solar immediately and at any time.

Calico Solar has applied to the United States Department of Energy (“DOE”) for a loan guarantee in support of the Calico Solar Project, but, to the best of our knowledge, DOE has yet to approve the company’s application. DOE has relied on BLM’s section 7 consultations to approve loan guaranty applications for other solar power projects in the California desert, and we expect the agency to rely on the defective biological opinion and section 7 consultation described in this letter should it approve a guarantee for the Calico project. In doing so, DOE will also violate section 7 of the ESA by failing to insure that its actions are not likely to jeopardize the survival and recovery of the desert tortoise. Additionally, if the Calico Solar Project proceeds with a loan guarantee from DOE before FWS and BLM remedy the defective biological opinion

and section 7 consultation, DOE's actions will result in the unauthorized "take" of desert tortoise in violation of section 9 of the ESA.

The Calico Solar Project is an unfortunate and glaring example of how not to develop utility-scale solar installations on the public lands in the arid West. Our concerns with the project were explained in detail in joint comments from Defenders and NRDC submitted to BLM on July 1, 2010, on the draft environmental impact statement and Defenders' and NRDC's joint letter protesting the final environmental impact statement dated September 3, 2010. The facts, circumstances, and claims set forth in each of these letters are fully incorporated herein by reference. In light of the significant and extensive impacts that this project will have on the desert tortoise and its habitat, we believe that BLM should abandon the Calico Solar Project as currently planned as one for which the adverse environmental impacts conclusively outweigh any benefits expected to result from its operation and withdraw the project's existing approval. We recommend that Calico Solar relocate the project to disturbed private lands outside of the Pisgah Valley.

I. INTRODUCTION.

Defenders, the Sierra Club, and NRDC strongly support the emission reduction goals found in the Global Warming Solutions Act of 2006, Cal. Health & Safety Code § 38500 *et seq.* (Deering 2011), including development of renewable energy in California. We recognize the significant threat to biodiversity posed by climate change and the urgent need to reduce greenhouse gas emissions as amplified by the findings of the Intergovernmental Panel on Climate Change ("IPCC"):

During the course of this century the resilience of many ecosystems (their ability to adapt naturally) is likely to be exceeded by an unprecedented combination of change in climate and in other global change drivers (especially land use change and overexploitation), if greenhouse gas emissions and other changes continue at or above current rates. By 2100 ecosystems will be exposed to atmospheric CO₂ levels substantially higher than in the past 650,000 years, and global temperatures at least among the highest as those experienced in the past 740,000 years. This will alter the structure, reduce biodiversity and perturb functioning of most ecosystems, and compromise the services they currently provide.

IPCC, 2007. Efforts to address this threat will require reductions in greenhouse gas emissions which, if not initiated soon, will be less likely to help address this 21st century threat to conservation. But, at the same time, it is becoming increasingly apparent that how we develop renewable energy can also be a key determinant in how these technologies impact biodiversity. IPCC, 2011. Development of renewable energy unquestionably provides important benefits, including energy security and reduction in climate-damaging fossil fuels. But these benefits and opportunities come with great responsibility and risk. If not done correctly, consistent with "Smart from the Start" principles, the effort to develop utility-scale renewable energy sources and related transmission facilities on federal lands can threaten serious and widespread impacts

on wildlife, habitat, and ecosystems sustained by those lands.¹ To insure that the proper balance is achieved, we need smart planning for renewable power that is developed in areas that have high clean energy potential; minimal conflicts with wildlife, wild lands, water, and other resources and uses of the surrounding environments; and, wherever feasible, access to existing transmission.

Consistent with our groups' commitment to promote reductions in greenhouse gas emissions, we have worked in earnest with policy makers in the Department of the Interior, BLM, FWS, and DOE to encourage the development of utility-scale solar projects in ways that avoid, minimize, and mitigate their effects on wildlife, wild lands, water, and other natural resources. In this context, we participated in the February 2011 meeting on renewable energy development convened by the Department of the Interior and continue to participate in California specific efforts including the Desert Renewable Energy Working Group and development of the Desert Renewable Energy Conservation Plan.

Through our California Program Office, we have engaged in discussions with nearly every developer of a proposed utility-scale solar energy project in the state and have settled or supported nine utility-scale solar projects, totaling more than 3,800 megawatts ("MW") of utility-scale solar energy.

Consistent with our groups' approach to working with energy developers, we initiated discussions with the developers of the Calico Solar Project nearly three years ago in an attempt to reach agreement on a project site location and design that could lead to the permitting of this project. Defenders and the other groups on this letter repeatedly met with the project developers and stated their concerns over significant and long-term impacts to habitat throughout the project area that support the desert tortoise, desert bighorn sheep, various at-risk species of birds, and rare plants. Indeed, our groups clearly stated that the current project location was inappropriate and suggested alternative locations. In particular, our groups repeatedly raised concerns regarding impacts that the proposed project would have on desert tortoise connectivity and movement opportunities, especially in a north-south direction. The importance of the Pisgah Valley for the desert tortoise, where the project is located, cannot be underestimated. This region of the central Mojave is where three Desert Tortoise Recovery Units converge, a fact that was underscored by FWS's biological opinion for the project. The area is so important that, in the *Calico Biological Opinion*, FWS recommended that BLM prohibit further renewable energy development in the Pisgah Valley as a conservation measure intended to promote the recovery of the species.

In the context of discussions with the developer of Calico, a number of alternatives to the final project site were identified and recommended. In fact, staff of our three groups met with representatives of K-Road Power and its predecessor several times to attempt to find a reasonable alternative to the final project plan. Despite these efforts and our groups' successful record in negotiating modifications to other solar energy projects to reduce and mitigate their impacts on wildlife, wild lands, and unique natural and cultural resources, no such resolution was reached with the developer in regard to the final Calico project.

¹ See generally Letter from Alaska Wilderness League, et al., to President Obama (Feb. 9, 2011) (on file with Defenders).

II. BACKGROUND.

A. Project History.

The proposed site for the Calico Solar Project is adjacent to and north of Interstate 40, approximately 37 miles east of Barstow, California, in the Mojave Desert. *See* BLM, *Final Environmental Impact Statement and Proposed Amendment to the California Desert Conservation Area Plan for the Calico Solar (formerly SES Solar One) Project, San Bernardino County, California*, 1-4, 1-7 & 1-8 (Aug. 2010) (hereafter, the “*Calico Final EIS*”). A Burlington Northern Santa Fe rail line runs approximately parallel to I-40, one mile north of the highway, and bisects the project site. *See id.* at 1-8. The project is bounded by mountainous terrain to the north and east. *See id.* at 1-8 & 3-2. Lands designated by BLM as wilderness study areas, areas of critical environmental concern, and desert wildlife management areas also surround the project site: (1) the vast Cady Mountains Wilderness Study Area lies one mile north; (2) the Pisgah Area of Critical Environmental Concern abuts the site to the southeast; and (3) the Ord-Rodman Desert Wildlife Management Area – Area of Critical Environmental Concern lies immediately to the southeast. *See* Petition to Amend in *For the Calico Solar Project Amendment*, Docket No. 08-AFC-13, 1-3 (Cal. Energy Comm’n Mar. 18, 2011). Indeed, the Calico Project’s proximity to the Cady Mountains Wilderness Study Area renders this project a “high conflict” location under the BLM’s Solar and Wind Energy Applications Pre-Application and Screening Instructional Memorandum. *See* Robert V. Abbey, Instructional Memorandum 2011-061 (Feb. 7, 2011) (high conflict lands include “[l]ands near or adjacent to lands designated by . . . the Secretary for the protection of sensitive viewsheds, resources, and values (e.g., units of . . . the BLM National Landscape Conservation System”), which may be adversely affected by development”).

The Calico project site is located in the Pisgah Valley, a “northwest-southeast trending valley” in the western Mojave Desert where the BLM has proposed to establish a dedicated solar energy development zone on 23,950 acres of public lands. BLM, *Draft Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States*, 9.3-1 (Dec. 2010) (hereafter, the “*Draft Solar PEIS*”). In comments submitted to BLM in response to the *Draft Solar PEIS*, Defenders and NRDC recommended that the agency eliminate the Pisgah Valley from consideration as a solar energy zone because the region provides important habitat for 12 special status species: desert tortoise, Emory’s crucifixion-thorn, small-flowered androstephium, white-margined beardtongue, arroyo chub, Mojave tui chubb, Mojave fringe-toed lizard, southwestern pond turtle, burrowing owl, golden eagle, Bendire’s thrasher, and Nelson’s bighorn sheep. Additionally, the Pisgah Valley provides essential habitat connectivity for desert tortoise, linking recovery units in the Western Mojave, Eastern Mojave, and Colorado deserts, linking the Ord-Rodman, Superior-Conese, and Ivanpah critical habitat units, and linking other natural landscape blocks in the Bristol, Cady, Rodman, Newberry, and Ord Mountain Areas. *See* FWS, *Biological Opinion on Tessera Solar’s Calico Solar Power Generating Facility, San Bernardino County, California* 54-55 (Oct. 15, 2010) (hereafter, the “*Calico Biological Opinion*”). In the *Calico Biological Opinion*, FWS recognized that “maintaining a functional corridor through the Pisgah Valley is critical for the long term recovery of the desert tortoise” and specifically recommended that BLM “prohibit further large-scale development (e.g., solar energy facilities, wind development, etc.) within the Pisgah Valley.” *Id.* at 54, 68. The region’s habitat connectivity is expected to be an important mechanism for desert tortoise adaptation to climate change. *See id.* at 68.

Tessera Solar originally conceived of the Calico Solar Project as 8,230-acre solar energy project using Suncatcher Stirling dish engines located on BLM lands. *See Calico Final EIS* at ES-1 – ES-3 & 1-4. In addition to the generation facility, the proposed project included a substation, other ancillary buildings, roads, a water treatment facility, new groundwater pumping, and new transmission infrastructure.² The project required environmental review and approval by both the California Energy Commission (the “CEC”) and BLM.

Neither the CEC nor BLM approved the project as originally proposed. “[D]ue to the scope and scale of high quality habitat affecting desert tortoises and bighorn sheep that would be lost in order to construct and operate the project,” the CEC recommended that Tessera reduce the project footprint in order to minimize its adverse impacts.³ *See* Committee Order Directing Further Review of Reduced Footprint Alternatives and Notice of Committee Conference, in *Application for Certification for Calico Solar Project*, Docket No. 08-AFC-13, 1 (Cal. Energy Comm’n Sept. 3, 2010). Tessera Solar downsized the project to 4,613 acres in accordance with the CEC’s recommendation, and the CEC approved the reduced project on December 1, 2010. *See* Notice of Decision, in *Application for Certification for Calico Solar Project*, Docket No. 08-AFC-13, 1 (Cal. Energy Comm’n Dec. 1, 2010). BLM issued the final EIS for the Calico project on Aug. 6, 2010, identifying a 6,215-acre configuration as the agency’s preferred alternative, *see* BLM, *Notice of Availability of the Final Environment Impact Statement and Proposed Amendment to the California Desert Conservation Area Plan for the Calico Solar (Formerly SES Solar One) Project, San Bernardino, CA*, 75 Fed. Reg. 47620-01, and subsequently approved a right-of-way for a scaled-down version of the project covering only 4,604 acres on October 20, 2010, “to avoid high-value desert tortoise and Nelson’s bighorn sheep habitat in the north portion of the project site,” BLM, *Record of Decision – Calico Solar Project* §§ 6.1-6.3 (Oct. 2010) (hereafter, the “*Calico Record of Decision*”).^{4,5} Simultaneously with its approval of the right-of-

² We note that BLM did not analyze the cumulative environmental impacts of all of the new transmission facilities that will be required by the project. *See Calico Final EIS* at 4-8.

³ The CEC had lead agency responsibility for review of the Calico project under the California Environmental Quality Act, and therefore, it examined the impacts of the project on desert tortoise, Nelson’s bighorn sheep, and other biological resources.

⁴ BLM determined that “[c]onstruction of the Calico Solar facility would result in direct and indirect adverse short- and long-term impacts on desert tortoises occurring on the project site and in the immediate project vicinity, and may also impact tortoise populations at off-site translocation areas.” *Calico Final EIS* at 4-51. BLM and the CEC required that the developer provide compensatory mitigation at a 1:1 ratio for impacts to tortoise habitat located south of the railroad tracks that bisect the project site and at a 3:1 ratio for impacts to tortoise habitat located north of the railroad tracks. *See id.* 4-56. BLM’s portion of the compensatory mitigation—all of the 1:1 compensatory mitigation required for impacted habitat south of the railroad tracks and one-third of the compensatory mitigation for impacted habitat north of the railroad tracks—would be fee-based and used for habitat enhancement activities within the Ord-Rodman Desert Wildlife Management Area. *See id.* The CEC’s portion of the compensatory mitigation would be used for the acquisition of desert tortoise habitat in the Ord-Rodman, Superior-Cronese, or Fremont-Kramer Desert Wildlife Management Areas. *See id.* BLM did not provide a

way application, BLM also amended the California Desert Conservation Area Plan “to allow a solar energy generation facility” on the site. *Id.* at 10. Notably, in the *Calico Final EIS*, BLM rejected consideration of degraded agricultural lands and brownfields in private ownership near the proposed project site, but outside the sensitive Pisgah Valley, as an alternative to the developer’s proposal to use public lands exclusively. *See Calico Final EIS* at 2-47.

Southern California Edison terminated its agreement to buy power from the Calico Solar Project in December 2010, and Tessera sold the project to K-Road Power. On March 18, 2011, Calico Solar, a subsidiary of K-Road, petitioned the CEC to change the technology installed at the Calico site to a combination of single axis tracker photovoltaic panels (563 megawatts) and SunCatchers (100.5 megawatts) without changing the footprint or the energy generating capacity of the project. *See* Petition to Amend at 1-1. Additionally, according to the CEC, Calico Solar is considering redirecting translocated tortoises to the Pisgah Area of Critical Environmental Concern instead of both the Pisgah and the Ord-Rodman Desert Wildlife Management Area as anticipated in FWS’s biological opinion. *See* Calico Solar Project Amendment (08-AFC-13C) Issues Identification Report, in *For the Calico Solar Project Amendment*, Docket No. 08-AFC-13C, 7-8 (Cal. Energy Comm’n April 14, 2011).

As a result of the proposed changes to the project and new information from the Ivanpah project site (described in more detail in **Section II.D.**), the CEC has initiated an additional environmental review of the amended project under the California Environmental Quality Act:

[T]he impacts to on-site federally endangered species (including the desert tortoise and Bighorn Sheep) as well as other special status plant and wildlife species from the changes in grading and drainage and the introduction of shade from the PV array were not and could not have been previously evaluated. Furthermore, recent developments at the Energy Commission certified Ivanpah Solar Electric Generating System Project resulted in the identification of substantially more endangered desert tortoise on-site than predicted. Because the Final Decision for the Calico Solar Project indicates that the Calico site provides similar, if not better, habitat for the desert tortoise than the Ivanpah site, it is essential that Calico assess anew (1) whether and to what extent the modified project’s impacts on desert tortoise (which may involve significant new environmental impacts or a substantial increase in the severity of previously identified significant impacts) are adequately addressed by the mitigation for the approved project and (2) the feasibility of additional mitigation.

quantitative analysis of the expected benefits for desert tortoise or assess the efficacy of the compensatory mitigation proposed in the *Calico Final EIS*.

⁵ The *Calico Record of Decision* approved a right-of-way of 4,604 acres, approximately 1,600 acres less than the 6,215-acre configuration of the project approved in the *Calico Final EIS* and 9 acres less than the 4,613-acre configuration of the project approved by the CEC. *See Calico Record of Decision* at 1.

Committee Ruling on Sierra Club’s Motion to Dismiss Calico Solar LLC’s Petition to Amend in *For the Calico Solar Project Amendment*, Docket No. 08-AFC-13C, 12 (Cal. Energy Comm’n July 1, 2011).⁶ The CEC concluded:

Finally, as the Committee receives additional information regarding the full scope and nature of the Petition’s environmental impacts and baseline conditions, the Committee will require an updated alternatives analysis.

Id. at 13. While the CEC is moving forward with its analysis, neither BLM or FWS has indicated that they will undertake additional environmental review of the Calico Solar Project or re-open consideration of alternatives to the proposed location even though BLM previously eliminated photovoltaic technology from consideration as an alternative in the final EIS “because it would require the entire site to be graded” and “would result in a greater effect on biological and cultural resources” than the proposed SunCatcher technology. *Calico Final EIS* at 2-53. Moreover, BLM issued a right-of-way to Calico Solar that specified that: “By this instrument, the holder . . . receives a right to use and occupy the following described public lands to construct, operate, maintain, and decommission a 663.5 MW *thermal concentrated solar power generation project*.” BLM, *Right of Way Lease/Grant*, Serial No. CACA-49537, 1 (Oct. 21, 2010) (emphasis added). As amended, the Calico Solar Project is no longer exclusively a thermal concentrated solar power generation project, and BLM’s right-of-way grant is inapplicable by its express terms.

B. The California Desert Conservation Area.

The California desert is home to “rare and endangered species of wildlife, plants and fishes,” 43 U.S.C. § 1781(a), including 2,400 native plant and animals species of which 72 are endemic. Recognizing that the “the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed,” Congress created the California Desert Conservation Area in 1976 and mandated the preparation of the California Desert Conservation Area Plan. 43 U.S.C. § 1781(a); *see also* BLM, *The California Desert Conservation Area Plan 1980 as amended* (1999) (hereafter, the “*CDCA Plan*”).

The goal of the *CDCA Plan* is:

to provide for the use of the public lands, and resources of the California Desert Conservation Area, including economic, educational, scientific, and recreational uses, *in a manner which enhances wherever possible—and which does not diminish, on balance—the environmental, cultural, and aesthetic values of the Desert and its productivity.*

CDCA Plan at 5-6 (emphasis added).

The *CDCA Plan* includes specific goals for wildlife conservation in the California desert:

⁶ We note that Nelson’s bighorn sheep is not a listed species under the ESA; rather this subspecies is an “important wildlife resource[] of [California] to be managed and maintained at sound biological levels” under California Fish & Game Code § 4900. It is the policy of the state “to encourage the preservation, restoration, utilization, and management of California’s bighorn sheep population.” *Id.*

1. Avoid, mitigate, or compensate for impacts of conflicting uses on wildlife populations and habitats. Promote wildlife populations through habitat enhancement projects so that balanced ecosystems are maintained and wildlife abundance provides for human enjoyment.
2. Develop and implement detailed plans to provide special management for: a) areas which contain rare or unique habitat, b) areas with habitat which is sensitive to conflicting uses, c) areas with habitat which is especially rich in wildlife abundance or diversity, and d) areas which are good representatives of common habitat types. Many areas falling into these categories contain listed species, which may become the focus of management as indicator species.
3. Manage those wildlife species on the Federal and State lists of threatened and endangered species and their habitats so that the continued existence of each is not jeopardized. Stabilize and, where possible, improve populations through management and recovery plans developed and implemented cooperatively with the U.S. Fish and Wildlife Service and the California Department of Fish and Game.
4. Manage those wildlife species officially designated as sensitive by the BLM for California and their habitats so that the potential for Federal or State listing is minimized.
5. Include consideration of crucial habitats of sensitive species in all decisions so that impacts are avoided, mitigated, or compensated.

Id. at 28-29. The *CDCA Plan* also requires that BLM develop plans for the management of wide-ranging species found in the California desert, including the desert tortoise, Mojave fringe-toed lizard, and Nelson's bighorn sheep. *See id.* at 31.

The *West Mojave Plan*, a 2006 amendment to the *CDCA Plan*, includes specific goals for desert tortoise conservation in the West Mojave Recovery Unit: (1) protect "sufficient habitat to ensure long-term population viability;" (2) establish "an upward or stationary trend in the tortoise population of the West Mojave Recovery Unit for at least 25 years;" (3) insure "genetic connectivity among desert tortoise populations, both within the West Mojave Recovery Unit, and between this and other recovery units;" and (4) insure "tortoise mortality is reduced." BLM, *Record of Decision, West Mojave Plan, Amendment to the California Desert Conservation Area Plan*, 13 (Mar. 2006) (hereafter, the *West Mojave Plan*"). With regard to its goals for "genetic connectivity," BLM's stated objectives are to (1) "[d]elineate and maintain movement corridors between [desert wildlife management areas or "DWMAs"], and with the Eastern Mojave Recovery Unit, the Eastern Colorado Recovery Unit, and the Northern Colorado Recovery Unit," and (2) "[i]nsure a minimum width of two miles for movement corridors, and include provisions for major highway crossings." BLM, *Final Environmental Impact Report and Statement for the West Mojave Plan*, ES-7 (Jan. 2005).

C. Desert Tortoise.

FWS listed the Mojave population of desert tortoise, a widespread but imperiled species found the arid southwestern United States and northwestern mainland Mexico, as threatened in 1990, providing tortoises protection under the ESA. *See* FWS, *Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for the Mojave Population of the Desert Tortoise*, 55 Fed. Reg. 12178 (April 2, 1990). The Mojave population is located north and west of the Colorado River in California, Nevada, Arizona, and Utah. *See id.* In 2010, FWS determined that listing the Sonoran population of desert tortoises—those tortoises extant east and south of the Colorado River—under the ESA was warranted but precluded and placed this population on the candidate species list. *See* FWS, *Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition To List the Sonoran Population of the Desert Tortoise as Endangered or Threatened*, 75 Fed. Reg. 78094 (Dec. 14, 2010).

FWS issued a recovery plan for the Mojave population in 1994 that set forth a three-step recovery strategy: “(1) identification of six recovery units within the Mojave region, (2) establishment of a system of [Desert Wildlife Management Areas] within recovery units, and (3) development and implementation of specific recovery actions within DWMA’s.” FWS, *Desert Tortoise (Mojave Population) Recovery Plan*, 36 (June 28, 1994) (hereafter, the “1994 Recovery Plan”). FWS initiated a revision of the *Recovery Plan* in 2003 because the effectiveness of the plan’s recommendations was unknown and new scientific information about the species’ response to threats was needed. *See* FWS, *Draft Revised Recovery Plan for the Mojave Population of the Desert Tortoise (Gopherus Agassizii)*, 3 (2008) (hereafter the “Draft Revised Recovery Plan”). The *Draft Revised Recovery Plan* has yet to receive final approval.

Desert tortoises are uniquely adapted to the arid environment of the Mojave—individuals spend a majority of their time in burrows and can survive for more than a year without access to water. *Id.* at 9. The average home range of a male desert tortoise is 25 to 200 acres, and “[o]ver its lifetime, each desert tortoise may use more than 3.9 square kilometers (1.5 square miles) of habitat and may make periodic forays of more than 11 kilometers (7 miles) at a time.” *Id.* “Because desert tortoises occupy large home ranges, the long-term persistence of extensive, unfragmented habitats is essential for the survival of the species.” *Id.* at iv.

The Calico project is located in the Western Mojave Recovery Unit. *See Calico Biological Opinion* at 23. In 2006, FWS concluded “that the population densities of adult desert tortoises in the Western Mojave Recovery Unit exhibited a significant downward trend ($p < 0.0001$) from approximately 1975 through 2000.” *Id.* at 31.

Finally, recent research by Murphy et al. confirms that Mojave and Sonoran desert tortoise populations are in fact different species. *See* Robert W. Murphy, Kristin H. Berry, Taylor Edwards, Alan E. Leviton, Amy Lathrop, J. Daren Riedle, *The dazed and confused identity of Agassiz’s land tortoise, Gopherus agassizii (Testudines, Testudinidae) with the description of a new species and its consequences for conservation*, 113 ZooKeys 39, 65 (2011). Murphy et al. conclude that “[t]he most important implication of describing *G. morafkai* [the Sonoran desert tortoise species] is that Arizona and Mexico can no longer be considered to harbor a genetic reservoir for the Mojavian population of the desert tortoise, now exclusively defined as *G. agassizii*. The recognition of *G. morafkai* reduces the geographic range of *G. agassizii* to about 30% of its former range” *Id.* at 61. Murphy et al.’s research suggests that desert tortoises in the California desert may be more imperiled than previously understood.

D. Impacts of Poorly-Sited Utility-Scale Solar Development on Desert Tortoise.

Since its listing, the recovery of the desert tortoise has been stymied by development activities in the California desert, including mineral and energy development, roads and highways, off-road vehicle use, grazing, and military use of desert lands. *See Draft Revised Recovery Plan* at 14-17. In 1994, FWS observed that:

As a result of cumulative impacts, 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.

1994 Recovery Plan at 3.

FWS recognized in the *Draft Revised Recovery Plan* that energy development on federal lands posed a “significant threat to desert tortoises through habitat loss and fragmentation.” *Id.* at 17. The development of poorly-sited utility-scale solar facilities in the California desert clearly presents a new and serious threat to the survival and recovery of the species. For example, should the Pisgah Solar Energy Zone be included in the BLM Solar Program, the agency anticipates an 80% build-out of the available lands. *See Draft Solar PEIS* at 9.3-3. Expected impacts from poorly-sited solar development on desert tortoises include habitat loss, fragmentation of suitable habitat, destruction of wildlife corridors, and reduction of genetic variation in the resulting isolated populations. *See, e.g., Calico Biological Opinion* at 54; *Draft Revised Recovery Plan* at 17, 111. Additionally, poorly-sited utility-scale solar development will facilitate other threats to the local persistence of desert tortoise like the spread of invasive species, increased wildfire frequency and severity, and the proliferation of subsidized predators like ravens and coyotes. *See, e.g., Calico Biological Opinion* at 53-54.

Because desert ecosystems are slow to recover following human disturbance, poorly-sited utility-scale solar development can destroy suitable desert tortoise habitat for much longer than the life of the project. FWS noted in the Calico biological opinion that “Mojave Desert soils can take between 92 and 124 years to recover in the absence of active restoration” and that “recovery of plant cover and biomass in the Mojave Desert can require 50 to 300 years in the absence of restoration efforts.” *Calico Biological Opinion* at 52.

The adverse impacts from poorly-analyzed utility-scale solar development on desert tortoise recovery should not be underestimated. Since BLM’s approval of the right-of-way for the Calico project, new data has emerged for the Ivanpah solar project, another utility-scale solar project located on BLM lands in eastern San Bernardino County, California. Using pre-construction surveys, BLM estimated 32 adult or subadult desert tortoises were present on that project site; BLM has now revised its estimate to between 57 and 274 individual animals. *See BLM, Revised Biological Assessment for the Ivanpah Solar Electric Generating System (Ivanpah SEGs) Project* § 5.2 (April 19, 2011). FWS has subsequently revised its incidental “take”

statement for the Ivanpah project from 212 tortoises and eggs, *see* FWS, *Biological Opinion on BrightSource Energy's Ivanpah Solar Electric Generating Systems Project, San Bernardino County, California* 55-63 (Oct. 1, 2010), to as many as 1,136 tortoises and eggs, *see* FWS, *Biological Opinion on BrightSource Energy's Ivanpah Solar Electric Generating System Project, San Bernardino County, California* 85 (June 10, 2011) (hereafter “*Revised Ivanpah Biological Opinion*”).

We believe that the Calico project site includes desert tortoise habitat of a similar or higher quality than that present on the Ivanpah site. *See* Committee Ruling on Sierra Club's Motion to Dismiss Calico Solar LLC's Petition to Amend in *For the Calico Solar Project Amendment*, Docket No. 08-AFC-13C, 12 (Cal. Energy Comm'n July 1, 2011). BLM classifies the portion of the Calico Solar Project site located north of the railroad as Category II desert tortoise habitat. *See* CEC and BLM, *Staff Assessment and Draft Environmental Impacts Statement Calico Solar Project, Application for Certification (08-AFC-13) San Bernardino County*, B.2-52 (Mar. 2010) (hereafter, the “*Calico Draft EIS*”). Category II is a protective habitat category from BLM's rangewide plan for desert tortoise habitat management; the agency's goal for Category II habitat is to maintain stable and viable tortoise populations and halt further declines in tortoise habitat values. *See* BLM, *Desert tortoise habitat management on the public lands: a rangewide plan*, 23 (1988). The importance the Calico site for desert tortoises is evidenced by the number of tortoises that continue to occupy public lands in the vicinity of the proposed project. According to the *1994 Recovery Plan*, the population density for the adjacent Ord-Rodman DWMA may be as high as 150 desert tortoises per square mile. *See 1994 Recovery Plan* at App. F, F31. Due to the high density of tortoises occupying the area, and the Pisgah Valley's function as a critical habitat connectivity corridor, the Calico project site is likely very important for recovery of the species.

Because utility-scale solar installations are proposed throughout the range of the threatened desert tortoise, the cumulative adverse impacts of irresponsible project siting could be devastating for the survival and recovery of the species. However, to date, neither BLM nor FWS has adequately analyzed the cumulative impacts of this widespread development. Federal agencies have “fast-tracked” solar projects while ignoring landscape level impacts even though desert tortoise populations continue to decline range wide. *See Draft Revised Recovery Plan* at 6 (observing that management actions have not abated declines in or resulted in increases for desert tortoise populations range wide).

E. The Golden Eagle and Other Wildlife.

Golden eagles are one of the world's largest birds of prey and, in North America, are found mostly throughout the western United States, particularly in the southern part of California. *See Calico Final EIS* at 3-37 – 3-38. Deserts typically constitute suitable habitats for this species, particularly because golden eagles need open terrain for hunting. *See id.* at 3-37. This species prefers “to nest in rugged, open habitats with canyons and escarpments that provide overhanging ledges and cliffs and large trees used as cover. Golden eagle territories can typically have up to six nests, but have also been found to contain up to 14 nests in some locations.” *Id.* at 3-38. The Calico Solar Project is located in golden eagle foraging habitat and in close proximity to golden eagle nesting habitat. *See Calico Final EIS* at 4-62, 63.

In addition to desert tortoise and golden eagle, the Calico Solar Project is expected to adversely impact small-flowered androstephium, Mojave fringe-toed lizard, burrowing owl,

Bendire's thrasher, and Nelson's bighorn sheep. *See Calico Final EIS* at 4-47, 4-58 to 4-62, & 4-69 to 4-71.

III. The Federal Agencies' Environmental Analyses.

A. The Calico Biological Opinion.

1. Introduction.

Pursuant to section 7 of the ESA, BLM initiated consultation with FWS regarding impacts of the Calico Solar Project on April 1, 2010. FWS identified insufficiencies in BLM's initial biological assessment, and on May 17, 2010, BLM submitted a revised biological assessment which FWS deemed sufficient for formal consultation. *See Calico Biological Opinion* at 2. On October 15, 2010, FWS issued a biological opinion to BLM acknowledging that "the effects of this project on desert tortoises are substantial." *Id.* at 59. Nonetheless, FWS concluded that "we do not anticipate that it will result in effects that appreciably reduce the current distribution, numbers, or reproduction of the overall populations within the Western Mojave Recovery Unit or range wide." *Id.* FWS based its conclusions on surveys conducted by URS Corporation, the contractor engaged by Calico Solar, from March 29 to April 15, 2010. *Id.* 35. URS's surveys followed FWS's 2010 "pre-project survey protocol." *Id.* at 35.

Using the survey data, FWS estimated that the desert tortoise population of the Calico project site "may be as high as 29 subadult and adult desert tortoises." *Id.* FWS also estimated that the project site "may support 30 juvenile desert tortoises" and "approximately 87 . . . eggs in a given year." *Id.* at 36-37. FWS stated that its estimates were "based on the best scientific and commercial data," and even though "the overall number of animals and eggs on site may be different," FWS concluded that "because we have selected to consider the high range for our estimates for the population sizes, we expect that we have a reasonably accurate baseline for analysis." *Id.* at 37-38. FWS stated that it chose to estimate the number of desert tortoises at the high end of the confidence interval suggested by the survey data "because it will provide a more robust analysis and identify any potential issues associated with the proposed translocation strategy." *Id.* FWS authorized the incidental "take" through capture and translocation of 29 adult and subadult desert tortoises, 30 juvenile desert tortoises, and 87 eggs prior to construction. *See id.* at 61. FWS also authorized incidental "take" in the form of injury or mortality if the 30 juveniles and 87 eggs are not located during translocation efforts and are later injured or killed during operation or construction of the project. *See id.* at 62. In total, FWS authorized the "take" of 146 desert tortoises and eggs.

FWS determined "that the proposed action is not likely to jeopardize the continued existence of the desert tortoise" based in large part on (i) Calico Solar's protective measures to "reduce the potential that desert tortoises will occupy project work sites," (ii) the expected low mortality of desert tortoises as a result of translocation activities, and (iii) the habitat compensation requirements imposed by BLM and the CEC, including habitat enhancement, habitat acquisition, and the establishment of a 3,617-acres solar development exclusion zone by BLM. *Id.* at 3, 55 & 59-60.

2. **Defects of FWS’s analysis in the *Calico Biological Opinion*.**

a. **FWS ignored the results of scientific research regarding the impacts of desert tortoise translocation.**

Although FWS, BLM, and Calico Solar will rely on translocation to reduce the impacts of the Calico Solar Project on desert tortoises, it has been repeatedly demonstrated throughout the desert tortoise’s range that translocation is not an effective mechanism for mitigating or minimizing the impacts of a poorly-sited utility-scale solar installation for this species. In reaching its biological opinion, FWS ignored the expert opinion of the federal government’s own desert tortoise scientist, Dr. Kristin Berry.⁷ Dr. Berry offered the following opinion at a hearing regarding the Calico project held before the California Energy Commission on August 25, 2010:

[T]here’s very little scientific evidence that translocation is a successful mitigation or minimization measure for Desert Tortoises. And that is a very important point, because we all are supposed to be focusing on how to recover this threatened species. The studies on translocations conducted to date have been short term and some have not demonstrated success if we measure success in terms of survival.

A good example is the Fort Irwin project with which I am involved, and I have a major research project on health and disease associated with this project. We have - - I started, for example, in 2008 with translocating and being responsible for 158 tortoises in the spring. Since that time 49 percent of the tortoises have died. The deaths have continued from 2008 up through this month. And this year alone, 11.6 percent of the 68 tortoises that I had known to be alive in January have died.

Statement of Dr. Kristin Berry, Transcript of the August 25, 2010 Evidentiary Hearing, in *Application for Certification for the Calico Solar Project*, Docket No. 08-AFC-13, p. 79, ll. 14-25, p. 80, ll. 1-5 (Cal. Energy Comm’n 2010) (hereafter “Statement of Dr. Kristin Berry”). Dr. Berry further indicated that that the 49% mortality rate for the translocated population at Ft. Irwin is starkly contrasted with mortality rates of 0% and 2.5% for *non*-translocated populations at other sites during 2010. *See id.* at p. 80, ll. 6-9. The biological opinion does not present any attempt to reconcile the translocation strategy for the Calico project with the opinions and research of Dr. Berry.

Dr. Berry’s opinion is corroborated by the Independent Science Advisors to the Desert Renewable Energy Conservation Plan (“DRECP”). In August 2010, the advisors stated that they “. . . do *not* recommend translocation of desert tortoise as effective mitigation or conservation

⁷ Dr. Berry is a research scientist at the United States Geological Survey, Western Ecological Research Center. She has focused her research on desert tortoise since 1983 and published approximately 50 papers, reports, and agency documents on the species in that time. *See* Statement of Dr. Kristin Berry, Transcript of the August 25, 2010 Evidentiary Hearing before the California Energy Commission, in *Application for Certification for the Calico Solar Project*, Docket No. 08-AFC-13, p. 82, ll. 10-25, p. 83, ll. 1-3 (Cal. Energy Comm’n 2010).

action, in part because translocated tortoises suffer high mortality rates.” DRECP Independent Science Advisors, *Recommendations of Independent Science Advisors for The California Desert Renewable Energy Conservation Plan (DRECP)*, 83 (Oct. 2010) (emphasis in original).

b. FWS relied on an inappropriate survey protocol for desert tortoise.

FWS relied on an inappropriate survey protocol for desert tortoise and, therefore, did not accurately estimate tortoise presence at the Calico project site and in the proposed translocation and control areas in its biological opinion. Biologists employed pre-construction survey protocols for the Calico project that were similar to those used initially at the Ivanpah project site where alternative survey protocols and data subsequently demonstrated expected “take” of 1,136 desert tortoises and eggs. As a result, the *Calico Biological Opinion* likely presents a gross underestimate of the number of desert tortoises occupying the Calico project site as well as the Pisgah ACEC translocation area, the Linkage translocation area, the control area, and the Ord-Rodman DWMA translocation area.

c. FWS failed to adequately evaluate the impact of the Calico project on habitat connectivity for the desert tortoise.

The Calico Solar Project may impede habitat connectivity for desert tortoise through the Pisgah Valley to an extent that impairs the recovery of the species, but FWS failed to adequately evaluate this impact of the project. In the *Calico Biological Opinion*, FWS made several observations regarding the important function of the Pisgah Valley as a wildlife corridor for desert tortoise:

Pisgah Valley is an important part of the desert tortoise habitat which connects desert wildlife management areas in the West Mojave Recovery Unit (e.g., Ord-Rodman) with the Mojave National Preserve. The valley serves as an important corridor connecting not only critical habitat units (Ord-Rodman, Superior-Cronese, and Ivanpah), but it also provides one of the few pathways connecting the Western Mojave and Eastern Mojave recovery units, as well as the Western Mojave and the Colorado Desert recovery units, as described in the draft revised desert tortoise recovery plan.

Calico Biological Opinion at 54-55. The agency observed that “the loss of habitat associated with this project has the potential to reduce the connectivity between desert tortoise populations.” *Id.* at 54. Nonetheless, FWS determined that “based on the currently reduced size of the project site, the establishment of the solar development exclusion area, and the amount of remaining desert tortoise habitat in this area, we conclude that the reduced project design will not eliminate connectivity in this area.” *Id.* at 55.

In fact, FWS did not actually evaluate whether the Calico project will *impede* connectivity to an extent that impairs the recovery of the desert tortoise. Elsewhere in the *Calico Biological Opinion*, FWS stated that there should be no further “large-scale project” in this area precisely because of the critical role of habitat connectivity in the Pisgah Valley for desert tortoise recovery:

We recommend that the Bureau amend the California Desert Conservation Area Plan to prohibit further large-scale development (e.g., solar facilities, wind development, etc.) within the Pisgah Valley. We offer this recommendation because the Service has determined that maintaining a functional corridor through the Pisgah Valley is critical for the long term recovery of the desert tortoise. The importance of this corridor is heightened given the need to allow for the shifting distribution of the desert tortoise and the potential adverse effects of climate change (Service 2010f). While re-design of this project has reduced adverse effects to connectivity, given the uncertainty surrounding this issue, and the critical nature of this connection, we believe a conservative approach is warranted.

Id. at 68. Furthermore, FWS has noted that the Pisgah Valley provides important habitat connectivity for desert tortoises between the Ord-Rodman and Superior-Cronese critical habitat units and Ivanpah critical habitat unit, *see id.* at 54-55, which is located approximately 5 miles from the Ivanpah project site. As discussed in **Section II.D.** *supra*, the tortoises in the Ivanpah Valley will be adversely affected by utility-scale solar development and the maintenance of habitat connectivity remains an important factor in their continued survival.

The *Calico Biological Opinion* offers no resolution of the conflict between FWS's conclusions regarding the Calico project and the agency's concern that the Pisgah Valley is a critical habitat corridor. Even though the project will have "reduced adverse effects" from those inflicted by a larger project, *id.* at 68, and will not entirely "eliminate connectivity," *id.* at 55, the project may still have significant impacts for desert tortoise recovery. Additionally, FWS's brief examination of habitat connectivity and desert tortoise movements is limited to the area north of the approved project, which the agency estimated was sufficient to maintain east-west connectivity. *See id.* at 54-55. FWS failed to address the impairment of north-south connectivity for desert tortoise at all, even though BLM's biological assessment of the effects of the proposed project indicated that there are north-south movement opportunities under existing railways and highways. *See URS, Supplemental Biological Assessment for the Calico Solar Project, San Bernardino County, California* at 3-5 (July 19, 2010) (prepared for BLM and FWS).

d. FWS relied on mitigation measures without adequate assurance that such measures will be implemented by BLM.

In the *Calico Biological Opinion*, FWS relied on a mitigation measure proposed by BLM—the establishment of a 3,617-acre solar development exclusion zone—without adequate assurance that BLM would actually establish the required zone. The biological opinion states that:

based on the currently reduced size of the project site, *the establishment of the solar development exclusion area*, and the amount of remaining desert tortoise habitat in this area, we conclude that the reduced project will not eliminate connectivity in this area . . . [and that BLM's] designation of the area north of the project site and south of the Cady Mountains *as a solar exclusion*

zone is important in reducing habitat fragmentation caused by the proposed action.

Calico Biological Opinion at 55, 59 (emphasis added). Additionally, based on reported acreages, FWS contemplated that the exclusion zone will be a receptor location for some of the desert tortoises removed from the project site. *See id.* at 43. However, BLM appears to have dropped the solar development exclusion zone as a component of the right-of-way grant to Calico Solar; the agency's record of decision failed to include any discussion of the establishment of a 3,617-acre solar development exclusion zone. *See BLM, Record of Decision for the Calico Solar Project and Amendment to the California Desert Conservation Area Land Use Management Plan* (Oct. 2010); *see also* Statement of Caryn Holmes, CEC Staff Counsel, Transcript of Continuation of Committee Conference Before the California Energy Resources Conservation and Development Commission, in *Application for Certification for the Calico Solar Project*, Docket No. 08-AFC-13, 12, ll. 4-11 (Cal. Energy Comm'n Oct. 26, 2010) ("we're not even sure at this point exactly what the status is of the issue involving the exclusionary or the exclusion zone. . . . As I said, it's both potentially an issue that could affect staff's conclusions as well as the potential impact for some sort of a discrepancy between the biological opinion and the Record of Decision.").

e. FWS failed to adequately evaluate other impacts of the Calico project on desert tortoise.

In the *Calico Biological Opinion*, FWS overlooked or inadequately evaluated the following additional impacts of the Calico project on the desert tortoise:

- Loss of habitat and habitat compensation. FWS failed to assess whether proposed habitat compensation actions will effectively mitigate the long-term or permanent loss of desert tortoise habitat caused by the Calico Solar Project. In the *Calico Biological Opinion*, FWS concluded that "[c]onstruction of the Calico facility would cause the long-term loss of a maximum of 4,613 acres of desert tortoise habitat," but the agency cannot predict when or if these lands will be suitably restored after the decommissioning of the project. *Calico Biological Opinion* at 51 (FWS "cannot predict the amount of time required to return areas of long-term disturbance to suitable desert tortoise habitat because of numerous variables associated with restoration success."). Even though adverse impacts to tortoise habitat may continue well beyond the life of the project, FWS cannot conclude that proposed habitat compensation actions will effectively mitigate the expected long-term habitat loss because BLM and FWS did not attempt to quantify the benefits of such actions and because BLM omitted significant details from its proposed compensatory mitigation strategy.

BLM, in conjunction with the CEC, will require (1) tortoise habitat enhancement and (2) the acquisition of conservation lands as compensation for habitat loss on the Calico project site. However, BLM did not provide FWS with information regarding the specific details of proposed habitat enhancement activities or information regarding the location, habitat quality, long-term management, and ownership of the compensatory lands to be acquired. As a result, FWS was not able to evaluate whether compensation activities are likely to result in meaningful conservation results for desert tortoise. *See Calico Biological Opinion* at 56 ("Implementation of some habitat enhancement actions has the potential to result in adverse effects to the desert tortoise. Because we do not have specific information regarding future habitat enhancement and rehabilitation projects, we cannot perform a detailed analysis of these actions."). Furthermore,

BLM and FWS did not even determine if sufficient compensatory lands exist and to what extent they are available for purchase from private owners. FWS concluded that:

the lack of specificity with regard to which actions will be implemented, the uncertainty of success of the actions, and the time lag between implementation of the conservation actions and a substantive effect on recovery of the desert tortoise prohibit us from concluding that the compensation measures would completely offset the adverse effects of the solar facility.

Id. at 58. Without more information about proposed compensatory measures, including a quantitative analysis of their efficacy, FWS was simply unable to determine whether the impact of the long-term or permanent loss of 4,604 acres of desert tortoise habitat in the Pisgah Valley— where habitat connectivity is critical for tortoise recovery—will be ameliorated.⁸

- Climate change. FWS failed to provide any analysis of the impacts of the Calico Solar Project in light of the anticipated effects of climate change even though the agency is aware the climate change poses a serious threat to desert tortoise survival and recovery. In the *Draft Revised Recovery Plan*, FWS observed that “it has become apparent that the combined effects of global climate change (*i.e.*, increased ambient temperatures and altered precipitation patterns) and drought may become significant factors in the long-term persistence of the species.” *Draft Revised Recovery Plan* at 132. The agency has even observed that the Pisgah Valley is an important habitat connectivity corridor for desert tortoise especially in light of climate change. See *Calico Biological Opinion* at 68.

- Adverse cumulative impacts of utility-scale solar. FWS failed to present an analysis of the cumulative impacts of utility-scale solar development in the Mojave Desert—nor has the agency incorporated these impacts in the environmental baseline of the biological opinion—despite its recognition in the *Draft Revised Recovery Plan* that energy development on federal lands poses a “significant threat” to desert tortoises. *Draft Revised Recovery Plan* at 17. FWS ignored these impacts even though BLM recognized that the cumulative effects of solar development in the California desert are “adverse and significant” for desert tortoise in the *Calico Final EIS*. *Calico Final EIS* at 4-101 (“nearly 54 percent of the acreage associated with future projects is within high quality desert tortoise habitat . . . and another 16 percent of this acreage is within medium quality desert tortoise habitat.”)

- Adverse impacts at translocation receptor sites: FWS failed to adequately evaluate the impact to resident desert tortoises and the adverse modification of critical habitat at translocation receptor sites—including the Ord-Rodman Critical Habitat Unit—as a result of the translocation of tortoises from the Calico project site. FWS assumed that desert tortoise mortality among the translocated population and the resident population existing at translocation receptor sites will be similar to natural mortality, see *Calico Biological Opinion* at 46-47, without considering recent compelling evidence to the contrary from the nearby Fort Irwin desert tortoise translocation project, see Statement of Dr. Kristin Berry at p. 79, ll. 22-25, p. 80, ll. 1-10. Because of the inappropriate survey protocol described *supra*, FWS has likely grossly underestimated the

⁸ We note that FWS evaluated the 4,613-acre configuration of the project in the *Calico Biological Opinion*, but ultimately, BLM issued a right-of-way grant for a 4,604-acre project.

density of desert tortoises in receptor sites and overlooked adverse density-related effects, such as the spread of disease, resulting from tortoise translocation.

- Disease. FWS failed to adequately evaluate the impacts to desert tortoises from infectious diseases as a result of the translocation plan. More specifically, while acknowledging that the likelihood that long distance dispersal of translocated tortoises will increase their exposure risk and that BLM's proposed "buffers around diseased resident animals" are insufficient to counter the increased risk, *Calico Biological Opinion* at 41, FWS failed to make any effort to quantify the risk of disease transmission accompanying the dispersal of translocated tortoises. The magnitude of this potential "take" is simply unknown.
- Partial displacement from home ranges. Some desert tortoises will be partially displaced from their home ranges, as opposed to translocated, as a result of the Calico project. *See Calico Biological Opinion* at 51. FWS failed to adequately evaluate the impacts to desert tortoises that are partially displaced from their home ranges.
- Subsidized predators. Ravens and coyotes—desert tortoise predators whose presence on the landscape is subsidized by human development—are known contributors to desert tortoise declines in the California desert. FWS failed to adequately evaluate the impacts to desert tortoises as a result of increased predation from ravens and coyotes whose presence in the area will be bolstered by the Calico project. *See id.* at 57. FWS simply assumed that the high incidence of predation mortality experienced at the Ft. Irwin translocation project would not occur for the translocated tortoises from the Calico project site.
- Non-native vegetation/wildfires. FWS failed to adequately evaluate the impacts to desert tortoise as a result of the spread of invasive, non-native vegetation and wildfire facilitated by the Calico project. FWS acknowledged this risk to desert tortoise—"we anticipate that the amount of disturbance created by the 4,613-acre solar field and the activities in the action area will result in an increase in the abundance of non-native species and thereby elevate the risk of fire, which, in turn heightens the risk of future habitat loss"—but made no effort to evaluate the resulting "take" of desert tortoises on lands in the vicinity of the project site. *Id.* at 54.

3. Significant new information requires the reinitiation of section 7 consultation and a revised biological opinion.

Significant new information has emerged since FWS's issuance of the *Calico Biological Opinion*—specifically, (1) the disclosure of greater than expected "take" of desert tortoises at the Ivanpah project site and likely under-estimation of "take" from pre-construction surveys at the Calico site, (2) new research indicating that Mojave and Sonoran desert tortoise populations are distinct species, (3) proposed changes in project technology from SunCatchers to photovoltaics, and (4) proposed changes to the translocation strategy—that requires the reinitiation of consultation under section 7 of the ESA. In order for FWS and BLM to fully evaluate the impacts of the Calico Solar Project for desert tortoise survival and recovery, this new information must be incorporated into a revised biological opinion for the project.

B. The Calico Final EIS.

1. Introduction.

In the *Calico Final EIS*, BLM adopted a 6,215-acre configuration of the project—an alternative "that was developed in the FEIS as a modification of the Proposed Action"—as the agency's preferred alternative. *See Calico Final EIS* at 2-25. Even though the final preferred

alternative was not analyzed in the *Calico Draft EIS*, BLM determined “that a supplemental DEIS was not required. . . .” *Id.* BLM considered seven alternatives in the *Final EIS*: (1) the proposed 8,230-acre configuration; (2) the agency’s preferred 6,125-acre configuration; (3) a 2,600-acre configuration; (4) a 7,050-acre configuration that eliminated from consideration all donated lands or lands acquired via the Land and Water Conservation Fund; (5) a no action alternative; (6) an alternative under which BLM would deny Calico Solar’s application but amend the *CDCA Plan* to make the site available for other solar development; and (7) an alternative under which BLM would deny Calico Solar’s application and amend the *CDCA Plan* to prohibit any solar development on the project site. *See id.* at ES-3 – ES-6. As discussed above, in October, 2010, BLM issued a right-of-way grant for a 4,604-acre configuration of the project. *See Calico Record of Decision*. Like the *Calico Biological Opinion*, the *Calico Final EIS* contains significant analytical defects.

2. Defects of BLM’s analysis in the *Calico Final EIS*.

a. BLM focused its analysis on meeting Calico Solar’s objectives and dismissed important alternatives from consideration.

BLM constrained its definition of the purpose of the *Calico Final EIS* as being “to respond to the application for a ROW grant to construct, operate and decommission a solar thermal facility on public lands,” and, relying on its stated purpose, the agency rejected consideration of a private lands location for the project. *Calico Final EIS* at 1-5, 2-47. BLM stated that “since [its] responsibility related to the proposed action in this EIS is whether to approve, or deny, or approve with modification an application for a Solar Project to be sited on public land, analysis of a private land alternative would be outside the scope of the analysis.” *Id.* at 2-47. BLM failed to analyze a degraded private lands alternative even though the *Calico Draft EIS* concluded that the use of degraded private lands outside of the sensitive Pisgah Valley “is likely to have less severe cultural, visual, and biological resource impacts.” *Calico Draft EIS* at B.2-2. Additionally, BLM failed to consider alternative project locations that were not contiguous public lands that could accommodate the size of the proposed project, even though Stirling dish-engine technology is appropriate for small-scale application.

Unfortunately, rather than evaluate meaningful alternatives that avoid significant impacts to the desert tortoise and other biological resources, BLM simply accepted the developer’s proposal to build the Calico Solar Project in heavily occupied desert tortoise habitat on public lands—lands that provide a connectivity function critical to the recovery of the species—with minimal compensatory mitigation requirements. The agency’s failure to meaningfully consider a private lands alternative is especially significant where the project poses a risk of unmitigable impacts for ESA listed species and other special status species.

b. BLM failed to evaluate the cumulative effects of utility-scale solar development in the California Desert for desert tortoise.

Like the FWS analysis in the *Calico Biological Opinion*, BLM also failed to evaluate the cumulative effects of utility-scale solar development in the California desert on the desert tortoise. The agency observed that the “cumulative effect of past, present, and foreseeable future projects would be considered adverse and significant given that nearly 54 percent of the acreage associated with future projects is within high quality desert tortoise habitat . . . and another 16 percent of this acreage is within medium quality desert tortoise habitat.” *Calico Final EIS* at 4-101. However, it failed to analyze whether a dramatic expansion of utility-scale solar

development projects—proposed or underway on public lands throughout the range of the Mojave population—will impair the recovery of desert tortoise or whether such cumulative impacts can be successfully mitigated through better siting and other means. Instead, the *Calico Final EIS* stated that:

The adverse significant cumulative effects of past, present, and foreseeable future projects can only be addressed through a regional and coordinated effort aimed at preserving and enhancing large tracts of high quality desert tortoise habitat, restoring degraded areas to address the net loss of habitat, and protecting or enhancing corridors/linkages between DWMA's and other protected habitats. Ongoing collaborative efforts by federal and state agencies to develop a Desert Renewable Energy Conservation Plan and BLM's Solar Energy Development Programmatic EIS provide appropriate vehicles for such a regional mitigation approach.

Id. at 4-102. BLM is in the process of preparing a programmatic EIS for the development of solar energy facilities on public lands which includes a proposed solar energy zone in the Pisgah Valley. *See Draft Solar PEIS* at 9.3-3. As discussed *supra*, Defenders recommends that BLM eliminate the Pisgah Valley from consideration as a solar energy development zone because of the potential for impacts to as many as 12 special status species and crucial wildlife corridors for the desert tortoise. BLM approved the Calico right-of-way grant without waiting for the completion of the programmatic EIS or undertaking a meaningful examination of the cumulative adverse impacts of utility-scale solar development for desert tortoise.

c. BLM failed to take a hard look at the mitigation measures proposed to offset the adverse impacts of the agency's preferred alternative.

BLM did not make the desert tortoise translocation plan available for public comment in the *Calico Draft EIS* even though that plan is the agency's primary means for reducing injury and mortality to desert tortoises for the Calico project. The plan included significant new information about (1) how and where desert tortoises will be captured and relocated off of the project site, (2) procedures proposed to provide for humane treatment of captured and released animals, and (3) the public lands that will be used as receptor sites for the displaced individuals. *See Calico Final EIS* at App. I. As discussed in **Section III.A.** *supra*, research by the federal government's own desert tortoise expert, Dr. Kristin Berry, demonstrates that translocation is not an effective minimization or mitigation strategy for impacts to desert tortoise. The desert tortoise translocation plan is a significant action warranting public comment, particularly in light of the evidence suggesting that translocated desert tortoise populations may experience mortality as high as 49%.

BLM evaluated a compensatory mitigation strategy for impacts to desert tortoise habitat that would provide funds for habitat enhancement for desert tortoises in the Ord-Rodman Desert Wildlife Management Area and require the acquisition of compensatory lands in the Ord-Rodman, Superior-Cronese, or Fremont-Kramer Desert Wildlife Management Areas. *See id.* at 4-56. However, as discussed in **Section III.A.** *supra*, the agency failed to undertake any evaluation of the effectiveness of habitat enhancement actions or to evaluate the availability and

suitability of lands as desert tortoise habitat for acquisition. Without such analysis, BLM cannot reasonably determine whether or not the proposed compensatory mitigation—habitat enhancement and acquisition—will benefit desert tortoises in a meaningful way or offset the adverse impacts of the Calico project.

d. BLM failed to take a hard look at the impacts of the Calico project on habitat connectivity for the desert tortoise.

BLM’s analysis of habitat connectivity for desert tortoise in the vicinity of the Calico project is cursory. In particular, even though the agency recognized that “construction of the Proposed Action would preclude north-south and east-west movement across the project site,” *id.* at 4-44, it did not attempt to analyze what this impact will mean for the continued survival of desert tortoises in vicinity of the project or regionally. The absence of meaningful analysis is particularly glaring where FWS has observed that the Pisgah Valley provides linkages between tortoise populations that are critical for the recovery of the species. *See Calico Biological Opinion* at 68. Additionally, BLM dismissed the impacts of the project on north-south connectivity for desert tortoises even though the *Calico Final EIS* recognizes that movement opportunities are present under the existing railway and interstate highway. *See Calico Final EIS* at 4-44.

e. BLM failed to analyze a mitigation strategy for impacts to golden eagles.

In the *Calico Final EIS*, BLM concluded that the Calico Solar Project “would have direct and indirect, short- and long-term adverse impacts on any golden eagles occurring in the project vicinity” but that these impacts “would be avoided through the implementation of the Avian Protection Plan.” *Calico Final EIS* at 4-64. However, BLM deferred preparation of the Avian Protection Plan for golden eagles until six months after the commencement of construction on the project site, and, as a result, the agency failed to perform any assessment of the efficacy of the mitigation strategy for this species. *See Calico Record of Decision* at § 3.1.3.5.

f. BLM adopted a configuration of the project in the Calico Record of Decision that was not analyzed in the Calico Final EIS.

BLM adopted a new, previously unanalyzed 4,604-acre version of the Calico Solar Project in the *Calico Record of Decision* after the agency issued the *Calico Final EIS* identifying a 6,125-acre version as its preferred alternative. *See Calico Record of Decision* § 1.1. Because BLM adopted a new version of the project in its record of decision, the agency has likely failed to evaluate or has overlooked significant impacts of the project. The *Calico Record of Decision* concedes that the “Modified Agency Preferred Alternative” eliminated “detention basins” for collecting stormwater at the “north boundary of the project site,” and that this “represents a physical change to the Calico Solar Project analyzed in the FEIS.” *Calico Record of Decision* at § 3.4.2. BLM must supplement its analysis in the *Calico Final EIS* to incorporate impacts, such as the foregoing hydrological impacts, that have escaped review as a result of the reconfiguration of the project.

3. Significant new information requires analysis in an EIS.

Significant new information has come to light since BLM’s issuance of the *Calico Final EIS*—specifically, (1) the disclosure of greater than expected “take” of desert tortoises at the

Ivanpah project site and likely under-estimation of “take” from pre-construction surveys for the Calico site, (2) new research indicating that Mojave and Sonoran desert tortoise populations are distinct species, (3) proposed changes to the project’s technology from SunCatchers to photovoltaics, and (4) proposed changes to the desert tortoise translocation strategy—that requires additional analysis. In order for BLM to fully evaluate the impacts of the Calico Solar Project, this new information must be analyzed in an environmental impact statement for the project.

IV. THE ENDANGERED SPECIES ACT.

A. Statutory requirements of the Endangered Species Act.

1. Section 7(a)(1).

Section 7(a)(1) of the ESA requires that “[a]ll other federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this chapter by *carrying out programs for the conservation of endangered species and threatened species . . .*” 16 U.S.C. § 1536(a)(1) (emphasis added). The ESA defines conservation to mean “the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to [the act] are no longer necessary.” *Id.* § 1532(3). Under the act, conservation is not limited to the avoidance of “jeopardy” and “take” but requires that federal agencies develop and implement affirmative conservation programs to protect and recover listed species. *See id.* §§ 1536(a)(1).

2. Section 7(a)(2).

Section 7(a)(2) of the ESA requires that each federal agency “shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of critical habitat of such species. 16 U.S.C. § 1536(a)(2); *see also* 50 C.F.R. § 402.14(a). An action would “jeopardize the continued existence of” a species if it “reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species.” 50 C.F.R. § 402.02. In fulfilling their obligation to insure against jeopardy pursuant to section 7(a)(2) of the ESA, federal agencies must consult with the appropriate federal wildlife agency—here FWS—whenever their actions “may affect listed species or critical habitat.” 50 C.F.R. § 402.14(a). Through this consultation process, FWS must use “the best scientific and commercial data available” to evaluate the impacts the action will have on listed species and to provide its “biological opinion” whether, as a result of those impacts, the action is likely to jeopardize the species. 16 U.S.C. §§ 1536(a)(2) & (b)(3); 50 C.F.R. § 402.14(g). Thus, FWS must: (1) “Review all relevant information provided by the Federal agency or otherwise available. . . ;” (2) “Evaluate the current status of the listed species or critical habitat;” and (3) “Evaluate the effects of the action and cumulative effects on the listed species or critical habitat.” 50 C.F.R. § 402.14(g).

At the beginning of the consultation process, FWS must define the “action area,” *i.e.* “all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” *Id.* at § 402.02. FWS must then describe the “environmental baseline” as it exists within the action area—the “environmental baseline” includes

the past and present impacts of all Federal, State, or private actions and other human activities in the action area, the anticipated impacts of all proposed Federal projects in the action area that have already undergone formal or early section 7 consultation, and the impact of State or private actions which are contemporaneous with the consultation in process.

Id. FWS must consider “direct and indirect effects of an action on the species or critical habitat, together with the effects of other activities that are interrelated or interdependent with that action, that will be added to the environmental baseline.” *Id.*

Based on this information, if FWS determines that the action is likely to jeopardize the continued existence of the listed species or result in adverse modification of critical habitat, FWS “shall suggest those reasonable and prudent alternatives which [it] believes” would not result in jeopardy or adverse modification. 16 U.S.C. § 1536(b)(3). If FWS concludes, however, that the project is not likely to result in jeopardy or adverse modification, it must provide a written authorization for the action’s impacts to listed species—known as an incidental “take” statement—that (1) “specifies the impact of such incidental taking on the species,” (2) “specifies those reasonable and prudent measures that [it] considers necessary or appropriate to minimize such impact,” and (3) “sets forth terms and conditions . . . that must be complied with by the Federal agency or applicant (if any), or both” 16 U.S.C. § 1536(b)(3)(B)(4); *see also* 50 C.F.R § 402.14(i). A federal agency’s duty to insure against jeopardy is ongoing, and the agency must reinitiate consultation if expected “take” is exceeded or if new information indicates that the effects of the action will be greater than anticipated. *See* 50 C.F.R. §§ 402.14(i)(4), 402.16.

3. Section 9.

Section 9 of the ESA prohibits any person, including federal agencies, from “taking” any endangered or threatened species. *See* 16 U.S.C. § 1538(a)(1)(B); 50 C.F.R. § 17.31(a) (extending the “take” prohibition to threatened species). The term “take” is defined broadly to include: “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” 16 U.S.C. § 1532(19); *see* 50 C.F.R. § 17.3. Courts have found federal agencies liable for illegally “taking” listed species where agency-authorized activities have resulted in the killing or harming of listed species. *See, e.g., Defenders of Wildlife v. Adm’r of EPA*, 882 F.2d 1294, 1299-1301 (8th Cir. 1989) (upholding the district court’s determination that EPA’s strychnine registrations violated section 9 of the ESA.).

B. Violations of the Endangered Species Act.

1. BLM is in violation of section 7(a)(1) of the Endangered Species Act.

BLM is in violation of section 7(a)(1) of the Endangered Species Act because the agency has failed to implement and carry out programs for the conservation of the desert tortoise and, in fact, has permitted or is actively considering poorly-sited utility-scale solar projects in desert tortoise habitat on the public lands without adequate avoidance, minimization, and conservation measures.

2. FWS is violation of section 7(a)(2) of the Endangered Species Act.

In its consultation with BLM for the Calico Solar Project, FWS has prepared a biological opinion that is arbitrary and capricious, an abuse of discretion, is otherwise not in accordance with law, and violates section 7(a)(2) of the ESA and the ESA implementing regulations. More

specifically, in preparing the *Calico Biological Opinion*, FWS: (a) failed to rely on the “best scientific and commercial data available” regarding the impacts of desert tortoise translocation; (b) relied on an inappropriate survey protocol for desert tortoise and, therefore, failed to use the “best scientific and commercial data available” in its evaluation of desert tortoise presence at the Calico project site, translocation sites, and control sites; (c) failed to adequately evaluate the impact of the Calico project on habitat connectivity for desert tortoise; (d) relied on a mitigation measure proposed by BLM—the establishment of a 3,617-acre solar development exclusion zone—without adequate assurance that BLM would actually establish the exclusion zone; (e) failed to adequately assess the efficacy of the proposed compensatory mitigation measures; and (f) failed to adequately evaluate the impacts of the project in light of the expected effect of climate change and in light of, in particular, the cumulative effects of poorly-sited utility-scale solar projects. Additionally, FWS must request that BLM reinitiate consultation because the biological opinion does not consider: (a) the expected “take” of desert tortoises at the Ivanpah project site, a region that is biologically connected to the Pisgah Valley; (b) significant new scientific research indicating that Mojave and Sonoran desert tortoises are distinct species; and (c) Calico Solar’s changes to the technology that will be employed at the project site and its proposal to redirect translocated tortoises.

3. BLM is in violation of section 7(a)(2) of the Endangered Species Act.

BLM is in violation of section 7(a)(2) of the ESA in the following ways:

(a) By relying on the defective consultation with FWS and FWS’s biological opinion to approve a right-of-way for the Calico project, BLM failed to insure that its actions are not likely to jeopardize the continued existence of the desert tortoise in violation of section 7(a)(2) of the ESA.

(b) By relying on the defective consultation with FWS and FWS’s biological opinion, BLM failed to use the “best scientific and commercial data available” in violation of section 7(a)(2) of the ESA and the ESA implementing regulations, 50 C.F.R. § 402.14(g)(8).

(c) By failing to reinitiate consultation with FWS for the reasons set forth in subsections (d) through (h) below, BLM failed to insure that its actions are not likely to jeopardize the continued existence of the desert tortoise in violation of section 7(a)(2) of the ESA.

(d) BLM failed to reinitiate consultation with FWS in light of new information regarding desert tortoise survey protocols that indicates that the agencies have grossly underestimated the presence of desert tortoises on the Calico project site, in translocation receptor sites, and in control areas in violation of section 7(a)(2) of the ESA and the ESA implementing regulations, 50 C.F.R. §§ 402.14(i)(4), 402.16.

(e) BLM failed to reinitiate consultation with FWS in light of new information on authorized “take” expected at the Ivanpah solar project site described *supra* in violation of section 7(a)(2) of the ESA and the ESA implementing regulations, 50 C.F.R. §§ 402.14(i)(4), 402.16.

(f) BLM failed to reinitiate consultation with FWS despite BLM’s failure to establish the 3,617-acre solar development exclusion zone referenced and relied upon by FWS in the biological opinion in violation of section 7(a)(2) of the ESA and the ESA implementing regulations, 50 C.F.R. §§ 402.14(i)(4), 402.16.

(g) BLM failed to reinitiate consultation with FWS despite Calico Solar's proposed changes to the solar technology employed at the project site and the proposed redirecting of translocated tortoises to the Pisgah ACEC instead of both the Pisgah and the Ord-Rodman DWMA in violation of section 7(a)(2) of the ESA and the ESA implementing regulations, 50 C.F.R. §§ 402.14(i)(4), 402.16.

(h) BLM failed to reinitiate consultation with FWS despite recent research by Murphy et al. indicating that the Sonoran population of the desert tortoise is a distinct species from the Mojave population in violation of section 7(a)(2) of the ESA and the ESA implementing regulations, 50 C.F.R. §§ 402.14(i)(4), 402.16.

4. BLM and Calico Solar, its successors, assigns, agents, and contractors, will incur liability under section 9 of the Endangered Species Act if installation of the project commences.

BLM and Calico Solar, its successors, assigns, agents, and contractors participating in the development and installation of the Calico Solar Project, have relied or will rely on the defective section 7(a)(2) consultation and biological opinion described in this letter. Therefore, if construction of the project commences, BLM and Calico Solar, its successors, assigns, agents, and contractors, will cause the unauthorized "take" of desert tortoises in violation of section 9 of the ESA.

V. THE NATIONAL ENVIRONMENTAL POLICY ACT.

A. Statutory Requirements of the National Environmental Policy Act.

Congress enacted NEPA in recognition of the "profound impact of man's activity on the interrelations of all components of the natural environment," including "industrial expansion, resource exploitation, and new and expanding technological advances." 42 U.S.C. § 4331(a). NEPA requires all federal agencies to "carefully weigh environmental considerations and consider potential alternatives to the proposed action before the government launches any major federal action." *Lands Council v. Powell*, 395 F.3d 1019, 1026 (9th Cir. 2004). In other words, agencies, must take a "hard look at [the] environmental consequences" of their actions. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989) (internal quotations and citations omitted). An agency's analysis of alternatives and environmental consequences under NEPA must include an analysis of "appropriate mitigation measures." 40 C.F.R. § 1502.14(f); *see also* 40 C.F.R. §§ 1502.16(h), 1508.25(b).

The primary means by which NEPA achieves the foregoing goals is through the requirement that "a federal agency to the fullest extent possible [] prepare a detailed statement on the environmental impact of major Federal actions significantly affecting the quality of the human environment." *Native Ecosystems Council v. Tidwell*, 599 F.3d 926, 936 (9th Cir. 2010) (internal quotations and citations omitted). The environmental impact statement is intended: (1) to create an open, informed, and public decision-making process that insures "that environmental information is available to public officials and citizens before decisions are made and before actions are taken," and (2) "to help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." 40 C.F.R. § 1500.1; *see also U.S. Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004).

NEPA requires federal agencies to “rigorously explore and objectively evaluate” a range of alternatives to proposed federal actions.” 40 C.F.R. § 1502.14(a). The range of alternatives analysis is the “heart of the environmental impacts statement.” 40 C.F.R. § 1502.14. The purpose of the alternatives analysis is to insure “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.” *Envil. Def. Fund v. Corps of Eng’rs*, 492 F.2d 1123, 1135 (5th Cir. 1974).

In the environmental impact statement, an agency is required to “discuss possible mitigation measures in defining the scope of the EIS, 40 C.F.R. § 1508.25(b) (1987), in discussing alternatives to the proposed action, § 1502.14(f), and consequences of that action, § 1502.16(h), and in explaining its ultimate decision, § 1505.2(c).” *Robertson*, 490 U.S. at 351. “It is not enough to merely list possible mitigation measures.” *Colorado Env’tl. Coal. v. Dombeck*, 185 F.3d 1162, 1173 (10th Cir. 1999). “Detailed quantitative assessments of possible mitigation measures are generally necessary when a federal agency prepares an EIS to assess the impacts of a relatively contained, site-specific proposal.” *San Juan Alliance v. Stiles*, No. 10-1259, 2011 U.S. App. LEXIS 14909, *42 (10th Cir. 2011).

B. BLM is in violation of the National Environmental Policy Act.

The *Calico Final EIS* is legally deficient for the following reasons, and, as a result, BLM is in violation of NEPA and the NEPA implementing regulations.

1. BLM’s statement of purpose and need in the *Calico Final EIS* is impermissibly restrictive in scope, focusing solely on the objectives of the project proponent, Calico Solar, and as a result, the agency has failed to give serious consideration to meaningful alternatives. *See Calico Final EIS* at 1-5. Most importantly, BLM rejected all alternatives for the project that would have involved the use of private lands asserting that such lands are outside the jurisdiction of the agency, *see id.* at 2-1, despite the clear instruction of the NEPA implementing regulations that an environmental impact statement should “[i]nclude reasonable alternatives not within the jurisdiction of the lead agency,” 40 C.F.R. § 1502.14(c).

2. BLM failed to evaluate the cumulative effects of utility-scale solar development in the California desert for desert tortoise in violation of 42 U.S.C. § 4332 and 40 C.F.R. §§ 1508.7, 1508.25.

3. BLM failed to take a hard look at the mitigation measures proposed to offset the adverse impacts of the Calico project on desert tortoise habitat in violation of 42 U.S.C. § 4332 and 40 C.F.R. §§ 1502.14(f), 1502.16(h), 1505.2(c), 1508.25(b).

4. BLM failed to take a hard look at the adverse impacts of the Calico project on habitat connectivity for desert tortoise in violation of 42 U.S.C. § 4332 and 40 C.F.R. § 1502.16.

5. BLM failed to take a hard look at the adverse impacts of the Calico project for golden eagles and failed to assess measures to mitigate for such impacts in violation of 42 U.S.C. § 4332 and 40 C.F.R. §§ 1502.14(f), 1502.16, 1505.2(c), 1508.25(b).

6. In the *Calico Record of Decision*, BLM adopted a configuration of the project that was not analyzed in the *Calico Final EIS* in violation of 42 U.S.C. § 4332 and 40 C.F.R. §§ 1502.14, 1502.16.

7. BLM has failed to prepare a supplemental EIS despite significant new information that has come to light since BLM's issuance of the *Calico Final EIS*—specifically, the disclosure of greater than expected “take” of desert tortoises at the Ivanpah project site and the likely underestimation of “take” from pre-construction surveys on the Calico site, new research indicating that Mojave and Sonoran desert tortoise populations are distinct species, and changes to the project's technology and proposed translocation strategy—in violation of 42 U.S.C. § 4332 and 40 C.F.R. § 1502.9.

VI. THE FEDERAL LAND POLICY AND MANAGEMENT ACT.

A. Statutory Requirements of the Federal Land Policy and Management Act.

In general, the Federal Land Policy and Management Act (“FLPMA”) provides a versatile management framework for the public lands based on the principles of multiple use and sustained yield. *See* 43 U.S.C. § 1732(a); *see also* 43 U.S.C. § 1701(a)(8) (listing purposes and values that BLM should consider in its management of the public lands). FLPMA establishes a heightened standard for management of the California Desert Conservation Area—the act specifically provides “for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, *and the maintenance of environmental quality.*” 43 U.S.C. § 1781(b) (emphasis added).

FLPMA requires that BLM “develop, maintain, and, when appropriate, revise land use plans” for the public lands, 43 U.S.C. § 1712(a), and that the agency “[i]n managing the public lands . . . take any action necessary to prevent unnecessary or undue degradation of the lands,” 43 U.S.C. § 1732(b). FLPMA mandated the preparation of the *CDCA Plan*, *see* 43 U.S.C. § 1781(d), which BLM first published in 1980, *see CDCA Plan* at Preface. The goal of the *CDCA Plan* is:

to provide for the use of the public lands, and resources of the California Desert Conservation Area, including economic, educational, scientific, and recreational uses, *in a manner which enhances wherever possible—and which does not diminish, on balance—the environmental, cultural, and aesthetic values of the Desert and its productivity.*

Id. at 5-6 (emphasis added).

FLPMA authorizes the BLM to “grant, issue, or renew rights-of-way over, upon, under, or through” the public lands for, among other uses, “systems for generation, transmission, and distribution of electric energy.” 43 U.S.C. § 1761(a). Each right-of-way shall contain terms and conditions that, among other purposes, “minimize the damage to scenic and esthetic values and fish and wildlife habitat and otherwise protect the environment.” 43 U.S.C. § 1765. FLPMA authorizes the BLM to suspend or terminate rights-of-way upon proper notice and, in certain cases, following an appropriate administrative proceeding for non-compliance with the terms and conditions of the right-of-way grant. *See* 43 U.S.C. § 1766.

B. Violations of the Federal Land Policy and Management Act.

BLM is in violation of the following requirements of FLPMA:

1. BLM's approval of the right-of-way for the Calico project was based on a deficient biological opinion in violation of the agency's obligations under section 7(a)(2) of the

ESA. As a result, BLM has not fulfilled its obligation to “take any action necessary to prevent unnecessary or undue degradation” of the public lands in violation of 43 U.S.C. § 1732(b).

2. BLM failed to conduct an adequate inventory of the resources contained on the Calico project site, translocation areas, and control areas prior to issuing a right-of-way for the Calico project—specifically, but not limited to, accurate inventories for desert tortoise and wildlife corridors for desert tortoise—in violation of 43 U.S.C. § 1711(a). As a result, BLM has not fulfilled its obligation to “take any action necessary to prevent unnecessary or undue degradation” of the public lands in violation of 43 U.S.C. §§ 1732(b).

3. BLM’s approval of a right-of-way for the Calico project was based on the deficient *Calico Final EIS*, which failed to analyze meaningful alternatives to the project, ignored cumulative impacts of utility-scale solar development in the California desert, failed to assess the conservation benefits and efficacy of proposed mitigation measures, and failed adequately analyze the impacts of the proposed project, as described *supra*. As a result, BLM has not fulfilled its obligation to “take any action necessary to prevent unnecessary or undue degradation” of the public lands in violation of 43 U.S.C. § 1732(b).

4. BLM failed to analyze the effects of each of the alternative configurations of the Calico project on the *CDCA Plan’s* specific guidelines and management principles for biological resources, including whether the impacts of the Calico project would preclude BLM from fulfilling its management obligations for desert tortoises and other special status species. *See* 43 C.F.R. § 1610.5-5 (stating that “[i]n all cases, the effect of the amendment on the plan shall be evaluated”). More specifically, BLM failed to determine how the Calico Solar Project will impact the agency’s ability to meet the goals of the *West Mojave Plan* for desert tortoises—*i.e.* to protect sufficient habitat to insure population viability, to insure an upward or stationary trend in the tortoise population for 25 years, to insure genetic connectivity, and to insure tortoise mortality is reduced. BLM also failed to determine how the Calico Solar Project will impact the agency’s objectives for desert tortoise genetic connectivity—to delineate and maintain movement corridors between DWMA’s and to insure a minimum width of two miles for movement corridors.

5. In relying on the deficient *Calico Biological Opinion* and *Calico Final EIS* to approve the right-of-way for the Calico Solar Project, BLM failed to balance its multiple use obligations and to fulfill its obligations under 43 U.S.C. § 1781(b) to manage the “California desert within the framework of a program of multiple use and sustained yield, and maintenance of environmental quality.”

6. Because BLM has conducted a deficient NEPA analysis in the *Calico Final EIS* as described *supra*, the agency has also failed to fulfill its obligations under FLPMA’s implementing regulations for amending resource management plans in violation of 43 C.F.R. §§ 1601.0-6, 1610.0-6, 1610.4-6, 1610.5-5.

VII. CONCLUSION.

In their rush to permit the poorly-sited Calico Solar Project, the U.S. Fish and Wildlife Service and the Bureau of Land Management have overlooked the substantial adverse impacts that this project will have for desert tortoise, desert tortoise wildlife corridors, golden eagles, and the fragile Mohave Desert ecosystem. The agencies have failed to adhere to their obligations under the Endangered Species Act and multiple other federal statutes with regard to this

project—the approval of a right-of-way or a loan guarantee based on this process is legally indefensible. We encourage BLM, FWS, and Calico Solar to abandon the decision to locate the Calico Solar Project on public lands in the Pisgah Valley and recommend that Calico Solar relocate the project to disturbed private lands outside of the valley. If you have any questions regarding this letter or if you believe that any of the statements in this letter are made in error, please contact me at 202.772.3225 or gbuppert@defenders.org.

Thank you for your prompt attention to these matters.

Sincerely,

A handwritten signature in black ink that reads "gregory buppert". The signature is written in a cursive, lowercase style.

GREGORY BUPPERT

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on behalf of Defenders of Wildlife, the
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**FOR THE CALICO SOLAR PROJECT
AMENDMENT**

**Docket No. 08-AFC-13C
PROOF OF SERVICE
(Revised 8/1/2011)**

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DECLARATION OF SERVICE

NOI to Sue for
Violations of the

I, Jeff Speir, declare that on August 26, 2011, I served and filed copies of the attached ESA, dated August 25, 2011. The original document, filed with the Docket Unit or the Chief Counsel, as required by the applicable regulation, is accompanied by a copy of the most recent Proof of Service list, located on the web page for this project at: [www.energy.ca.gov/sitingcases/calicosolar/compliance/index.html].

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For service to all other parties:

- Served electronically to all e-mail addresses on the Proof of Service list;
- Served by delivering on this date, either personally, or for mailing with the U.S. Postal Service with first-class postage thereon fully prepaid, to the name and address of the person served, for mailing that same day in the ordinary course of business; that the envelope was sealed and placed for collection and mailing on that date to those addresses **NOT** marked "e-mail preferred."

AND

For filing with the Docket Unit at the Energy Commission:

- by sending an original paper copy and one electronic copy, mailed with the U.S. Postal Service with first class postage thereon fully prepaid and e-mailed respectively, to the address below (preferred method); **OR**
- by depositing an original and 12 paper copies in the mail with the U.S. Postal Service with first class postage thereon fully prepaid, as follows:

CALIFORNIA ENERGY COMMISSION – DOCKET UNIT
Attn: Docket No. 08-AFC-13C
1516 Ninth Street, MS-4
Sacramento, CA 95814-5512
docket@energy.state.ca.us

OR, if filing a Petition for Reconsideration of Decision or Order pursuant to Title 20, § 1720:

- Served by delivering on this date one electronic copy by e-mail, and an original paper copy to the Chief Counsel at the following address, either personally, or for mailing with the U.S. Postal Service with first class postage thereon fully prepaid:

California Energy Commission
Michael J. Levy, Chief Counsel
1516 Ninth Street MS-14
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I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, that I am employed in the county where this mailing occurred, and that I am over the age of 18 years and not a party to the proceeding.

/s/ Jeff Speir