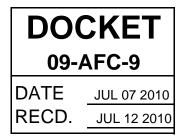






July 7, 2009

Bureau of Land Management California Desert District 22835 Calle San Juan de los Lagos Moreno Valley, California 92553 (Attn: Janet Eubanks) E-mail: <u>CARSPP@blm.gov</u>



California Energy Commission Siting, Transmission and Environmental Protection Division 1516 Ninth Street, MS-15 Sacramento, CA 95814 (Attn: Eric Solorio) E-mail: <u>esolorio@energy.state.ca.us</u>; <u>docket@energy.state.ca.us</u>

> Re: Comments on the Staff Assessment/Draft Environmental Impact Statement for the Solar Millennium Ridgecrest Solar Power Project and Possible California Desert Conservation Area Plan Amendment; 75 Fed. Reg. 17762-63 (April 7, 2010).

Dear Ms. Eubanks and Mr. Solorio:

This letter constitutes the comments on the above-captioned document for the proposed Ridgecrest Solar Power Project by the Defenders of Wildlife, the Natural Resources Defense Council (NRDC) and The Wilderness Society (TWS), national environmental membership organizations with long histories of advocacy for conservation and environmentally sustainable multiple uses of public lands and their resources administered by the Bureau of Land Management (BLM). More recently, our organizations have been intensively involved in the Bureau's work to develop comprehensive renewable energy programs for the public lands as well as its efforts to objectively analyze and consider granting rights-of-ways for numerous "fast track" renewable energy projects in the California Desert. A majority of these proposed projects may be eligible for grant funding under the American Recovery and Reinvestment Act of 2009 (ARRA).

Our organizations recognize the need to develop the nation's renewable energy resources and to do so rapidly in order to respond effectively to the challenge of climate change. Unique natural resources in California are already being affected by climate change, including, for example, the Pika of the High Sierra Nevada and Joshua Trees in the Mojave Desert. We also recognize that renewable energy development can help create jobs in communities that are eager for them because of the nation's economic crisis. For these and other related reasons, our organizations are working with regulators and project proponents to move renewable energy projects forward. That said, renewable energy development is not appropriate everywhere on the public lands and must be balanced against the equally urgent need to protect unique and sensitive resources of the California Desert, including public lands within the California Desert Conservation Area (CDCA). California is fortunate in having sufficient and diverse renewable energy resources throughout the State that can be developed in an environmentally and fiscally sensitive way.<sup>1</sup>

As we and our colleagues at sister organizations have repeatedly stated, the best way to develop the renewable resources of the California Desert is through comprehensive land use planning by applicable federal, state and local government agencies working in concert with the public in an open and participatory process to identify the most appropriate areas for such development -- *i.e.*, development zones -- and to guide development to those zones. See, e.g., letter dated June 29, 2009 to Interior Secretary Salazar and California's Governor Schwarzenegger and signed by 11 organizations, including our own, attached as Exhibit 1. That process, namely the development of the Desert Renewable Energy Conservation Plan (DRECP), is underway and our organizations are active participants. The outcome of this effort will be identification of zones comprised of federal and non-federal lands where 1) certain kinds of renewable energy projects may be allowed through a streamlined, but thorough, environmental review procedure, and 2) conservation will be the primary goal that would preclude consideration of any or most utility-scale renewable energy projects. Permanent conservation goals must be achieved in perpetuity as the basis of this planning effort. We anticipate that such conservation will be based on a combination of federal, state and private lands containing habitat for species at-risk that are covered under the provisions of the DRECP. In addition, the DRECP will include a comprehensive mitigation strategy. The integration and completion of these efforts offers the promise of a balanced plan that will facilitate development of renewable resources in the California Desert while protecting desert resources.

Pending completion of the DRECP, the BLM will, unfortunately, continue to consider and process applications for rights-of-way for numerous utility-scale renewable energy projects, most of which are proposed for public lands in relatively pristine condition that support a wealth of significant biological and cultural resources and their inherent values. Among these projects is the proposed Ridgecrest Solar Power Project. Despite our fundamental belief in the critical importance of agencyguided development of renewable energy, rather than developer-initiated development, we have, as indicated, been investing a great deal of time and effort into the fast track projects. We have done so in response to the emphasis the Department, the BLM and the developers place on meeting ARRA deadlines as well as the potential role these projects could play in meeting the renewable generation and economic goals of the state and federal governments. We have also done so because we wanted to make the proposed projects as environmentally suitable as they can be and because we wanted to ensure, to the extent possible, that their accompanying environmental documents are as sound and defensible as they can be. It is now apparent to us that not even the best of the environmental documents being produced for the fast track projects and/or the best projects should be models or precedents for the future. Regrettably, as written, neither this Staff Assessment/Draft Environmental Impact Statement (SA/DEIS) nor this project is a candidate for either of those categories.

<sup>&</sup>lt;sup>1</sup> California's Renewable Energy Transition Initiative found, for example, that the state potentially could access 500 GW of renewable energy, an order of magnitude greater than the state's peak demand and far beyond the ability of our electric grid to handle.

As we transition toward a clean energy future, it is imperative for our future and the future of our wild places and wildlife that we strike a balance between addressing the near-term impact of large-scale solar development with the long-term impacts of climate change on our biological diversity, fish and wildlife habitat, and natural landscapes. To ensure that the proper balance is achieved, we need smart planning for renewable power that avoids and minimizes adverse impacts on wildlife and wild lands. These projects should be placed in the least harmful\_locations, near existing transmission lines and on or adjacent to already disturbed lands. We expect that the analysis of alternatives in the Environmental Impact Statements ("EISs"), prepared pursuant to the National Environmental Policy Act, 42 U.S.C. § 4332(2)(C) ("NEPA"), will fully address opportunities for locating proposed projects on both federal and privately owned lands consistent with the purpose and need for each project. *See* 40 C.F.R. § 1502.13.

Our comments and recommendations regarding the proposed project are based on the project description contained in the Staff Assessment/Draft Environmental Impact Statement for the proposed Ridgecrest Solar Power Project (SA/DEIS). For background information purposes, we include a brief summary of the project description, as follows:

**Project Description**: Solar Millennium LLC proposes to construct and operate a utility-scale solar thermal electric power generating facility on approximately 2,000 acres of public lands located several miles southwest of the City of Ridgecrest, California. The project will have a nominal output of 250 megawatts (MW), consisting of a single power plant utilizing two solar fields.

Power transmission would be through the existing Southern California Edison 230-kilovolt (kV) Inyokern/Kramer Junction transmission line. The project would require realignment of one-mile each of two existing transmission lines; a 230 kV transmission line and a 115 kV line. The proposed project would consist of two solar fields, a power block, construction areas, a dry-cooling tower, steel transmission towers with associated transmission lines, access roads, three covered water tanks, an underground water pipeline, a water treatment facility, an electrical switchyard, a land treatment unit for bioremediation of any soil that may be contaminated by heat transfer fluid, an office, a warehouse, a parking lot, and facility perimeter fencing.

**Environmental Review**: Intensive field surveys of biological and cultural resources have been conducted on the proposed project site; numerous public meetings and workshops have been held; and the draft subject document containing an analysis of the environmental effects of the proposed project was released for a 90-day public review and comment on or about April 1, 2010. The conclusion of the regulatory agencies about the environmental effects of the proposed project are that it would result in significant and unmitigatable impacts to biological and other natural resources, most notably to the threatened Desert Tortoise, threatened Mohave Ground Squirrel, and scenic quality associated with the view of the adjacent El Paso Mountains from portions of the Indian Wells Valley. Portions of the El Paso Mountains and surrounding area contain a National Register Property designated to protect significant prehistoric cultural resources and lands sacred to Native Americans. A significant portion of the El Paso Mountains are designated the Black Mountain Wilderness.

**Environmental Setting and Land Use Policies**: The proposed project area is roughly divided into two equal parts by Brown Road, a paved two-lane county road which runs in an east-west direction. The applicable land use plan governing use of public lands affected by the proposed

project is the California Desert Conservation Area ("CDCA") Plan<sup>2</sup>. The CDCA Plan, initially released in 1980, was amended by the West Mojave Planning Area amendments of 2006.

The southern half of the proposed project is located in a Limited Use Class zone which is also a part of the BLM-designated Mohave Ground Squirrel Wildlife Habitat Management Area ("MGS Area"), an extensive area of approximately 1.2 million acres of public land in the western Mojave Desert. Multiple uses are allowed within this management area, but habitat loss is limited to a maximum of one-percent of the total over a 30 year period, and any habitat loss associated with multiple use activities is required to be compensated at a ratio of five acres acquired for every acre lost or destroyed. Habitat compensation would typically occur by monetary equivalency sufficient for the BLM to acquire and manage replacement habitat obtained from private sources or by private land acquisition and donation to the BLM or Department of Fish and Game for long-term conservation benefit. The proposed project would result in the loss of approximately 900 acres of habitat within the MGS Area, thus requiring the project applicant to provide funding sufficient to acquire and manage in perpetuity private land habitat totaling 4,500 acres or provide in-lieu mitigation fees.

The northern half of the project, although located in an area that appears to have greater abundance and diversity of wildlife resources, is not within the MGS Area, and is in an Unclassified status for multiple uses. Habitat loss compensation on the northern half of the project would be required at a one to one ratio as per the CDCA Plan, as amended by the West Mojave Planning Area amendments.

Mitigation for impacts to wildlife resources will need to satisfy State and Federal requirements. State mitigation for impacts to listed species (i.e., Desert Tortoise and Mohave Ground Squirrel) will need to be at a level that fully mitigates or offsets impacts. The Federal requirements for federally listed species (i.e., Desert Tortoise) mitigation require that impacts be minimized.

**NEPA Adequacy of the SA/DEIS**: NEPA was enacted to force agencies to document their compliance with "the letter and spirit of the Act" so that their decisions will be "based on understanding of environmental consequences" and that their actions will "protect, restore and enhance the environment." 40 C.F.R. §§ 1500.1 (a) and (c). Our concerns with the SA/DEIS relate to the following key elements: 1) the purpose and need statement, 2) alternatives, 3) cumulative impact analysis, and 4) climate change.

<u>Purpose and Need</u>: The BLM's purpose and need statement for this project is too narrow. The SA/DEIS states that the BLM's purpose and need is "to respond to" the company's ROW application for the proposed project. SA/DEIS at B.2-9. As discussed below, this mindset affected the inadequate range of alternatives examined. The BLM should avoid both this mindset as well as too narrow a statement of purpose and need in order to help ensure that its EISs are legally defensible documents. In place of the statement that was used here, our organizations urge the adoption of the following to achieve these goals:

The purpose of the proposed action is to "facilitate environmentally responsible commercial development of solar energy projects"<sup>3</sup> consistent

<sup>&</sup>lt;sup>2</sup> U.S. Department of the Interior, Bureau of Land Management. 1980. The California Desert Conservation Area Plan. California Desert District, Riverside, CA. 173 pp.

<sup>&</sup>lt;sup>3</sup> This quotation is from Secretary Salazar himself.

with the statutory authorities and policies applicable to the Bureau of Land Management, including those providing for contributions towards achieving the renewable energy and economic stimulus and renewable energy development objectives under the Energy Policy Act of 2005 (EP Act), the American Recovery and Reinvestment Act, and Presidential and Secretarial orders, including the Federal Land Policy and Management Act (FLPMA). Among the most important statutory mandates of the BLM is the Federal Land Policy and Management Act, and particularly Section 601, the California Desert Conservation Area ([43 U.S.C. 1781]:

(1) the California desert contains historical, scenic, archeological, environmental, biological, cultural, scientific, educational, recreational, and economic resources that are uniquely located adjacent to an area of large population; and

(b) It is the purpose of this section to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple use and sustained yield, and the maintenance of environmental quality.

The need for this action is to implement Federal policies, orders and laws that mandate or encourage the development of renewable energy sources, including the Energy Policy Act of 2005, which encourages the Secretary of the Interior to seek to approve at least 10,000 MW of non-hydropower renewable energy on public lands by 2015, and the Federal policy goal of producing 10% of the nation's electricity from renewable resources by 2010 and 25% by 2025; to enable effective implementation of the economic incentives for qualifying projects intended by the American Recovery and Reinvestment Act; and to support the State of California's renewable energy and climate change objectives, consistent with BLM's mandates and responsibilities under FLPMA.

This kind of purpose and need statement would clearly satisfy applicable legal requirements, *see, e.g.,* <u>National Parks Conservation Assn v. BLM</u>, 586 F.3<sup>rd</sup> 735 (9<sup>th</sup> Cir. 2009), and thus help ensure that environmentally acceptable projects will not only be permitted but will also be built without unnecessary delays.

<u>Alternatives:</u> The analysis of alternatives to the proposed project is the "heart of the environmental impacts statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions. See 40 C.F.R. §§ 1502.14(a), 1508.25(c). "An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action." <u>Nw. Envtl. Defense Center v. Bonneville Power Admin.</u> 117 F.3d 1520, 1538 (9th Cir. 1997). An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. <u>City of Tenakee Springs v. Clough</u>, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. *See, eg, Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein). For this project and EIS, the consideration of more environmentally

protective alternatives is also consistent with the FLPMA requirement that BLM "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §1732(d)(2)(a).

A total of 26 alternatives to the proposed project were considered by the CEC and BLM, but BLM considers only four of them reasonable, all of which apply to the same location as the proposed project. Two public land alternatives in locations different from the proposed project were dismissed from further analysis; one in the Alabama Hills area west of Lone Pine, California, and one located in proximity to the Ridgecrest Sanitary Landfill located near the proposed project but closer to the City of Ridgecrest.

BLM considered all the alternatives involving private land as unreasonable because of lack of jurisdiction. The mere fact that lands are not administered by BLM does not render an offsite alternative unreasonable. In defining what is a "reasonable" range of alternatives, NEPA requires consideration of alternatives "that are practical or feasible" and not just "whether the proponent or applicant likes or is itself capable of carrying out a particular alternative"; in fact, "[a]n alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable." Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, Questions 2A and 2B* (emphasis added), *available at* <a href="http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm">http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm</a>; 40 C.F.R. §§ 1502.14, 1506.2(d). The California Energy Commission considers alternatives that include private lands provided site control can be obtained in a reasonable timeframe and with some certainty.

Our groups and sister organizations have affirmatively advocated that certain areas be prioritized for renewable energy development. Criteria we have promoted for identification of those areas include the following: lands that have been mechanically disturbed; lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the California Desert Conservation Area; brownfields; locations adjacent to urbanized areas; and locations that minimize the need to build new infrastructure such as roads and substations. The overall goal of these criteria is to steer projects to areas with comparatively low potential for conflict and controversy in order to facilitate their timely development.

Because the proposed project fails to conform to many of the above siting criteria, and would result in such severe impacts to significant biological and cultural resources, we strongly recommend that the staffs of the California Energy Commission and BLM reformulate and analyze a range of alternative project locations that would result in avoiding and minimizing such impacts when compared with the proposed project. Such alternative locations should include both public and private lands that are or adjacent to developed or degraded lands considered of low value for biological resources, and conform as much as possible to the siting criteria our fellow environmental organizations have recommended, noted above.

Concern over availability and use of water in support of project construction, dust control and operations must be taken very seriously during the examination of alternatives. Even solar thermal trough technology utilizing air-cooled steam condensers require water-cooled heat exchangers for auxiliary equipment. The amount of direct ground disturbance for a solar thermal trough facility is significantly greater compared to other technologies, such as photovoltaic panels on pedestals. The type of technology and its relative level of impact on already limited water supplies and relative degree of ground impact should be strongly considered in the formulation of alternatives.

<u>Cumulative Impacts</u>: The SA/DEIS contains extensive information about current and reasonably foreseeable land use projects within the region and western Mojave Desert that affect and their basic impacts to habitats and species. Placing these impacts in context with BLM's basic mission under FLPMA, and its management policies for habitat and species conservation as contained in Manuals 6500 (Wildlife Habitat Management) and 6840 (Special Status Species Management), and the CDCA Plan, is essential. The cumulative impact analysis must include how these multiple land use activities will impact BLM's ability to carry out its management responsibilities in the western Mojave region where the proposed project is located.

<u>Climate Change Impacts</u>: The SA/DEIS's discussion of climate change focuses on the reduction of greenhouse gases and the development of renewable energy resources. That is, it looks at the effects of the proposed action on climate change. It does not, however, analyze the impacts of climate change on species of concern in the project area, on their habitats, or on the importance of maintaining habitat connectivity in the sustaining species diversity and landscape level movements. The potential impacts of climate change of the project must also be examined, especially in relationship to water availability and use, rainfall amount and intensity, and potential flooding. *See, eg,* Secretarial Order 3289, Addressing the Impacts of Climate Change on America's Water, Land, and Other Natural and Cultural Resources (February 22, 2010). Such an analysis will allow the BLM to assess and reduce the vulnerabilities of the proposed action to climate change, integrate climate change adaptation into the proposed action and alternatives and produce accurate predictions of environmental consequences of the proposed actions and alternatives.

Thank you in advance for considering our comments. If you have any questions about them, please do not hesitate to contact us.

Sincerely,

Otto andahl

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# Audubon California California Native Plant Society \* California Wilderness Coalition Center for Biological Diversity \* Defenders of Wildlife Desert Protective Council \* Mojave Desert Land Trust National Parks Conservation Association Natural Resources Defense Council \* Sierra Club \* The Nature Conservancy The Wilderness Society \* The Wildlands Conservancy

## Renewable Siting Criteria for California Desert Conservation Area

Environmental stakeholders have been asked by land management agencies, elected officials, other decision-makers, and renewable energy proponents to provide criteria for use in identifying potential renewable energy sites in the California Desert Conservation Area (CDCA). Large parts of the California desert ecosystem have survived despite pressures from mining, grazing, ORV, real estate development and military uses over the last century. Now, utility scale renewable energy development presents the challenge of new land consumptive activities on a potentially unprecedented scale. Without careful planning, the surviving desert ecosystems may be further fragmented, degraded and lost.

The criteria below primarily address the siting of solar energy projects and would need to be further refined to address factors that are specific to the siting of wind and geothermal facilities. While the criteria listed below are not ranked, they are intended to inform planning processes and were designed to provide ecosystem level protection to the CDCA (including public, private and military lands) by giving preference to disturbed lands, steering development away from lands with high environmental values, and avoiding the deserts' undeveloped cores. They were developed with input from field scientists, land managers, and conservation professionals and fall into two categories: 1) areas to prioritize for siting and 2) high conflict areas. The criteria are intended to guide solar development to areas with comparatively low potential for conflict and controversy in an effort to help California meet its ambitious renewable energy goals in a timely manner.

#### Areas to Prioritize for Siting

- Lands that have been mechanically disturbed, <u>i.e.</u>, locations that are degraded and disturbed by mechanical disturbance:
  - Lands that have been "type-converted" from native vegetation through plowing, bulldozing or other mechanical impact often in support of agriculture or other land cover change activities (mining, clearance for development, heavy off-road vehicle use).<sup>1</sup>
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:<sup>2</sup>
  - Allow for the expansion of renewable energy development onto private lands.
  - Private lands development offers tax benefits to local government.
- o Brownfields:
  - Revitalize idle or underutilized industrialized sites.
  - Existing transmission capacity and infrastructure are typically in place.

- o Locations adjacent to urbanized areas:<sup>3</sup>
  - Provide jobs for local residents often in underserved communities;
  - Minimize growth-inducing impacts;
  - Provide homes and services for the workforce that will be required at new energy facilities;
  - Minimize workforce commute and associated greenhouse gas emissions.
- Locations that minimize the need to build new roads.
- Locations that could be served by existing substations.
- o Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- o Locations adjacent to federally designated corridors with existing major transmission lines.<sup>4</sup>

### High Conflict Areas

In an effort to flag areas that will generate significant controversy the environmental community has developed the following list of criteria for areas to avoid in siting renewable projects. These criteria are fairly broad. They are intended to minimize resource conflicts and thereby help California meet its ambitious renewable goals. The criteria are not intended to serve as a substitute for project specific review. They do not include the categories of lands within the California desert that are off limits to all development by statute or policy.<sup>5</sup>

- Locations that support sensitive biological resources, including: federally designated and proposed critical habitat; significant<sup>6</sup> populations of federal or state threatened and endangered species,<sup>7</sup> significant populations of sensitive, rare and special status species,<sup>8</sup> and rare or unique plant communities.<sup>9</sup>
- Areas of Critical Environmental Concern, Wildlife Habitat Management Areas, proposed HCP and NCCP Conservation Reserves.<sup>10</sup>
- o Lands purchased for conservation including those conveyed to the BLM.<sup>11</sup>
- Landscape-level biological linkage areas required for the continued functioning of biological and ecological processes.<sup>12</sup>
- Proposed Wilderness Areas, proposed National Monuments, and Citizens' Wilderness Inventory Areas.<sup>13</sup>
- Wetlands and riparian areas, including the upland habitat and groundwater resources required to protect the integrity of seeps, springs, streams or wetlands.<sup>14</sup>
- o National Historic Register eligible sites and other known cultural resources.
- o Locations directly adjacent to National or State Park units.<sup>15</sup>

## **EXPLANATIONS**

<sup>&</sup>lt;sup>1</sup> Some of these lands may be currently abandoned from those prior activities, allowing some natural vegetation to be sparsely re-established. However, because the desert is slow to heal, these lands do not support the high level of ecological functioning that undisturbed natural lands do.

<sup>&</sup>lt;sup>2</sup> Based on currently available data.

<sup>&</sup>lt;sup>3</sup> Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

<sup>&</sup>lt;sup>4</sup> The term "federally designated corridors" does not include contingent corridors.

<sup>&</sup>lt;sup>5</sup> Lands where development is prohibited by statute or policy include but are not limited to:

National Park Service units; designated Wilderness Areas; Wilderness Study Areas; BLM National Conservation Areas; National Recreation Areas; National Monuments; private preserves and reserves; Inventoried Roadless Areas on USFS lands; National Historic and National Scenic Trails; National Wild, Scenic and Recreational Rivers; HCP and NCCP lands precluded from development; conservation mitigation banks under conservation easements approved by the state Department of Fish and Game, U.S. Fish and Wildlife Service or Army Corps of Engineers a; California State Wetlands; California State Parks; Department of Fish and Game Wildlife Areas and Ecological Reserves; National Historic Register sites.

<sup>6</sup> Determining "significance" requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

<sup>7</sup> Some listed species have no designated critical habitat or occupy habitat outside of designated critical habitat. Locations with significant occurrences of federal or state threatened and endangered species should be avoided even if these locations are outside of designated critical habitat or conservation areas in order to minimize take and provide connectivity between critical habitat units.

<sup>8</sup> Significant populations/occurrences of sensitive, rare and special status species including CNPS list 1B and list 2 plants, and federal or state agency species of concern.

<sup>9</sup> Rare plant communities/assemblages include those defined by the California Native Plant Society's Rare Plant Communities Initiative and by federal, state and county agencies.

<sup>10</sup> ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The CDCA Plan has designated specific Wildlife Habitat Management Areas (HMAs) to conserve habitat for species such as the Mohave ground squirrel and bighorn sheep. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

<sup>11</sup> These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

<sup>12</sup> Landscape-level linkages provide connectivity between species populations, wildlife movement corridors, ecological process corridors (e.g., sand movement corridors), and climate change adaptation corridors. They also provide connections between protected ecological reserves such as National Park units and Wilderness Areas. The long-term viability of existing populations within such reserves may be dependent upon habitat, populations or processes that extend outside of their boundaries. While it is possible to describe current wildlife movement corridors, the problem of forecasting the future locations of such corridors is confounded by the lack of certainty inherent in global climate change. Hence the need to maintain broad, landscape-level connections. To maintain ecological functions and natural history values inherent in parks, wilderness and other biological reserves, trans-boundary ecological processes must be identified and protected. Specific and cumulative impacts that may threaten vital corridors and trans-boundary processes should be avoided.

wilderness values. The proposed must be: 1) introduced as legislation, or 2) announced by a member of Congress with publicly available maps. Proposed National Monuments: areas proposed by the President or a member of Congress to protect objects of historic or scientific interest. The proposal must be: 1) introduced as legislation or 2) announced by a member of Congress with publicly available maps. Citizens' Wilderness Inventory Areas: lands that have been inventoried by citizens groups, conservationists, and agencies and found to have defined "wilderness characteristics." The proposal has been publicly announced.

<sup>14</sup> The extent of upland habitat that needs to be protected is sensitive to site-specific resources. For example: the NECO Amendment to the CDCA Plan protects streams within a 5-mile radius of Townsend big-eared bat maternity roosts; aquatic and riparian species may be highly sensitive to changes in groundwater levels. <sup>15</sup> Adjacent: lying contiguous, adjoining or within 2 miles of park or state boundaries. (Note: lands more than 2 miles from a park boundary should be evaluated for importance from a landscape-level linkage perspective, as further defined in footnote 12).