Steve Taffolla

From: Wald, Johanna <jwald@nrdc.org>
Sent: Friday, March 04, 2011 5:45 PM
To: ECOSUB; catulewind@blm.gov
Cc: jeff.aardahl@defenders.org; Barb Boyle; Joan Taylor; Garry George; Ileene Anderson; Lisa Belenky; Helen O'Shea; Kim Delfino; Lon
Subject: comments on Tule Wind DEIR/DEIS
Attachments: Attachment 3 - Peninsular_bighorn_FCH.pdf; Attachment 1 - Desert Siting Criteria Memo June 29.pdf; Attachment 2 - CDREWG Recommendations_12-22-10.pdf; 3.4.11 Tule Wind DEIR DEIS comments.pdf

To: Iain Fisher, CPUC and Greg Thomsen, BLM

Attached please find the comments of multiple environmental membership organizations on the Joint Draft Environmental Impact Report/Draft Environmental Impact Statement East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects. These comments consist of one letter plus three attachments.

If you have any questions about these documents please do not hesitate to contact me.

I would appreciate it very much if you would confirm receipt of these documents.

Thank you in advance for your consideration of our views. Johanna Wald

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DEFENDERS OF WILDLIFE
NATURAL RESOURCES DEFENSE COUNCIL
SIERRA CLUB
CENTER FOR BIOLOGICAL DIVERSITY
AUDUBON CALIFORNIA
SAN DIEGO AUDUBON SOCIETY

March 4, 2011

Iain Fisher, CPUC
Greg Thomsen, BLM
c/o Dudek
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Via email: ecosub@dudek.com; catulewind@blm.gov

Re: **Joint Draft Environmental Impact Report/Draft Environmental Impact Statement**
East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects

Dear Sirs:

This letter constitutes the comments on the above-captioned proposed project and draft environmental impact report/environmental impact statement (hereinafter referred to as the DEIR/DEIS) by the above named environmental organizations—all membership organizations with long histories of advocacy on behalf of the lands and resources administered by the Bureau of Land Management (BLM).

Defenders of Wildlife (Defenders) has 950,000 members and supporters nationally, 145,000 of whom reside in California. Defenders is dedicated to protecting all wild animals and plants in their natural communities. To this end, we employ science, public education and participation, media, legislative advocacy, litigation, and proactive on-the-ground solutions in order to impede the accelerating rate of extinction of species, associated loss of biological diversity, and habitat alteration and destruction.

The **Natural Resources Defense Council** (NRDC) has over 1.2 million members and online activists nationwide, more than 250,000 of whom live in California. NRDC uses law, science, and the support of its members and activists to protect the planet's wildlife and wild places and to ensure a safe and healthy environment for all living things. NRDC has worked to protect wildlands and natural values on public lands and to promote pursuit of all cost-effective energy efficiency measures and sustainable energy development for many years.

The **Sierra Club** is a national nonprofit organization of approximately 1.3 million members and supporters (approximately 250,000 of whom live in California) dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Sierra Club's concerns encompass protecting our public lands, wildlife, air and water while at the same time rapidly increasing our use of renewable energy to reduce global warming.

The **Center for Biological Diversity** is a non-profit environmental organization dedicated to the protection of native species and their habitats in the Western Hemisphere through science, policy, and environmental law. The Center has over 320,000 members and on-line activists throughout California and the western United States, including members and staff that visit and enjoy the McCain Valley and adjacent environs where the project is proposed.

Audubon California is the state office of National Audubon Society with 150,000 members and supporters in California. Audubon's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. For more than a century, Audubon has built a legacy of conservation success by mobilizing the strength of its network of members, Chapters, Audubon Centers, state offices and dedicated professional staff to connect people with nature and the power to protect it.

The mission of the **San Diego Audubon Society (SDAS)** is to foster the protection and appreciation of birds, other wildlife, and their habitats, through education and study, and to advocate for a cleaner, healthier environment. Originally founded in 1948, SDAS has been bringing people and nature together in the San Diego region for over 60 years. SDAS has approximately 2,500 members and over three hundred volunteers.

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 here in California are already being affected by climate change, including, for example, the pikas of the High Sierra Nevada and the 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 continuing economic situation. For these and other related reasons, our organizations are working with regulators and project proponents to move renewable energy projects forward. That said, renewable development is not appropriate everywhere on the public lands and must be balanced against the equally urgent need to protect important environmental, scenic, cultural, and biological resources. California is fortunate indeed that we have sufficient renewable energy resources, including wind, throughout the State[1] to allow for development in an environmentally and fiscally responsible manner.

Our organizations have been intensively involved in the BLM's work to develop comprehensive renewable energy programs for the public lands as well as its efforts to "fast track" the permitting of individual renewable energy projects in California so that they may be eligible for grant funding under the American Recovery and Reinvestment Act of 2009 (ARRA). Thus far, the experience with fast-track project has been decidedly mixed. Although six public lands solar projects received agency approval by the end of 2010, many remain controversial, and all six projects permitted have been challenged in federal court. We believe that the issues being raised in these lawsuits—National Environmental Policy Act (NEPA) document adequacy, biological impacts, impacts to cultural resources, and associated consultation obligations—could and should have been addressed by more up-front collaboration with affected stakeholders and by paying more attention to repeated concerns regarding project siting. As we have often stated, our collective goal should not simply be the issuance of permits—what matters most is building projects on appropriate sites and delivering "clean" electrons to consumers in support of our broader goals of reducing our reliance on dirty energy and addressing the climate change challenge.

In our view, the best way to develop the renewable resources in California is through comprehensive, pro-active planning by both the federal government and the state to identify the most appropriate areas for such development on both public and private land -- *i.e.*, development zones -- and to guide development to those zones. Our organizations have made repeated efforts to address project siting issues in a proactive way. In a letter dated June 29, 2009 to Interior Secretary Salazar and California's Governor Schwarzenegger and signed by 11 organizations, including most of the signers of this comment letter, we outlined an approach to identify appropriate development zones for renewable energy projects, and identified places where proposed development would likely cause a high level of controversy (*see* Attachment #1).

[1] 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, although not all of this potential resource is located in environmentally desirable places.

More recently, the California Desert Renewable Energy Working Group (CDREWG), a group including industry and environmental organization participants, including most of the signers of this comment letter, submitted recommendations regarding project siting to the Department of the Interior (*see* Attachment #2).[2] Criteria were developed which categorized the level of potential conflict (and, by extension, the potential ease of receiving a permit) associated with different types of sites with various types of resources present. Sites were grouped into Low Conflict Areas, Areas with Potentially Resolvable Conflicts, and High Conflict Areas.

While there are differences in the two sets of recommendations, both emphasize that previously disturbed sites that are served by existing infrastructure should be prioritized for renewable energy development.[3] 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. Regrettably, the project currently under review meets few of these criteria—and as such there is an increased risk that the project will not be permitted or constructed with a minimum of delay and/or controversy and that, as a result, the delivery of clean, renewable energy to the grid will also be delayed.

It should also be noted that in the middle of the comment period for this project, the Department of Interior issued a series of guidance documents covering a variety of issues which are directly or indirectly relevant to this project. The guidance documents involving NEPA compliance and eagle management are directly relevant to the agency's consideration of this project, and we appreciate that

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[2] While we recognize that the ecological criteria discussed in the June 29, 2009 letter were intended for application to projects proposed in the California Desert Conservation Area (CDCA), and the CDREWG recommendations were focused on solar projects, we believe they can be useful in screening potentially suitable wind energy sites as well. This broader applicability is specifically referenced in the December 22, 2010 cover letter to Secretary Salazar which accompanied the CDREWG recommendations: "To facilitate coming to agreement on these recommendations, we focused our comments on ways to improve planning and permitting for large-scale solar energy projects on BLM lands here in California. That being said, we realize that many of these recommendations may also apply to other states and to other technologies, and encourage you and your team to think of them in a broader context." This cover letter was signed by all members of the CDREWG who signed onto the recommendations, and the group has since expanded to include representatives of the wind industry.

[3] *Criteria from the June 29, 2009 letter* (edited somewhat for clarity and brevity):
*Lands that have been mechanically disturbed, such as 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).
*Public lands of comparatively low resource value, particularly lands located adjacent to degraded and impacted private lands
*Brownfields
*Locations adjacent to urbanized areas--including rural communities that welcome local industrial development, but not communities that are dependent on tourism for their economic survival
*Locations that are served by existing infrastructure, such as existing roads, substations, or sources of municipal wastewater for use in cleaning
*Locations proximate to load centers.
*Locations adjacent to federally designated corridors with existing major transmission lines.

Criteria from the CDREWG recommendations:
*Mechanically disturbed lands such as fallowed agricultural lands.
*Brownfields, idle or underutilized industrial areas.
*Locations adjacent to urbanized areas and/or load centers where edge effects can be minimized.
*Locations that minimize the need to build new roads and that meet the one or more of the following transmission sub-criteria: transmission with existing capacity and substations is already available; minimal additional infrastructure would be necessary, such as incremental transmission re-conductoring or upgrades, and development of substations; if a new line is needed, the line has already been permitted and is not the subject of pending litigation.

For a full comparison of relevant language, please consult the attachments.

the agency granted a three week extension to allow us and others concerned about the project to digest the new guidance and re-consider the project in light of the new recommendations. That said, we would have preferred if the agency had re-published the document after incorporating its own changes made necessary by the new direction. Moreover, we wish that the agency had taken the opportunity to join with the CDREWG members in support of the evolving consensus on siting issues, rather than release guidance some of which, as the group told Interior Department officials in a meeting in Washington, DC on February 11, 2011, is likely to perpetuate siting problems experienced over the course of the past year.

While we have endeavored to focus our comments below on the project currently being considered, we believe this broader context is important, and request that the agency consider our comments with this broader context in mind.

Purpose and Need

In our opinion, the purpose and need statement for this project is too narrow, and this has negatively affected the range of alternatives examined. The DEIR/DEIS states that the purpose and need is "to respond to" the Pacific Wind Development and SDG&E's right-of-way applications. DEIR/DEIS at A-6. Such a statement places undue emphasis on BLM's procedural authority, and fails to adequately capture the *underlying* purpose and need to facilitate environmentally responsible commercial development of renewable energy projects.

BLM should broaden its purpose and need statement to help ensure that this EIS is legally defensible. In place of the current purpose and need statement, we urge the adoption of the following:

> The purpose and need of the proposed action is to facilitate environmentally responsible commercial development of renewable energy projects consistent with the statutory authorities and policies applicable to the Bureau of Land Management, including those providing for contributions towards achieving the renewable energy development objectives under the Energy Policy Act of 2005 (EPAct), economic benefits under the American Recovery and Re-Investment Act, as well as the general land management provisions of the Federal Land Policy and Management Act (FLPMA), and all relevant Presidential and Secretarial orders. These laws and policies establish a Department of the Interior goal to approve at least 10,000 MW of non-hydropower renewable energy on public lands by 2015, and a Federal policy goal of producing 10% of the nation's electricity from renewable resources by 2010 and 25% by 2025.

This kind of purpose and need statement would clearly satisfy applicable legal requirements, *see, e.g.*, National Parks Conservation Assn v. BLM, 606 F.3d 1058 (9th Cir. 2010), and thus help ensure that environmentally acceptable projects will not only be permitted but will also be built without unnecessary delays.

We note that the recent guidance on NEPA compliance for renewable energy projects suggests Bureau support for the type of purpose and need statement used in the present document, particularly the "to respond to an application" language. We continue to have serious concerns regarding this characterization of purpose and need, and encourage the agency to work with us and others who share these concerns to develop acceptable language to avoid unnecessary litigation on the matter.

Alternatives

The alternatives section is "the heart of the environmental impact 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." Nw. Envtl. Defense Center v. Bonneville Power Admin. 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. City of Tenakee Springs v. Clough, 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, e.g.*, 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 Federal Land Policy and Management Act's 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).

The mere fact that lands are not administered by BLM does not render an offsite alternative unreasonable. In its "40 Questions" guidance, the Council on Environmental Quality (CEQ) advised that 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* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm; 40 C.F.R. §§ 1502.14, 1506.2(d). We note that the California Energy Commission considers alternatives that include private lands provided site control can be obtained in a reasonable timeframe and with some certainty.

The alternatives presented in the DEIR/DEIS are relatively numerous, owing to the fact that the project has several components, and multiple development scenarios are analyzed for each component. Notably, the BLM has analyzed a reduced development scenario for the Tule Wind portion of the overall project, and in fact identified an alternative including a reduced development scenario for the wind project as its preferred alternative at the draft stage.

Several additional alternatives were proposed by stakeholders during the scoping phase. Many of these scoping comments addressed the need to look at alternative sites and technologies. The scoping letter from Defenders of Wildlife, dated Jan. 28, 2010, stated: "The DEIS must include alternative project sites or locations, including those that may not fall under the jurisdiction of the BLM; project extent and electrical power generation that differ from the applicant's proposal; and the potential for different technology that may lead to lesser potential impacts on sensitive environmental resources." We later learned that similar comments were made by the U.S. Environmental Protection Agency (EPA) in their comment letter, also dated Jan. 28, 2010.[4] That letter stated: "Reasonable alternatives should include, but are not necessarily limited to, alternative sites, capacities, and technologies as well as alternatives that identify environmentally sensitive areas or areas with potential use conflicts." The project record also indicates that a specific request was made to analyze distributed energy generation and efficiency improvements as a means of achieving project objectives.

These suggestions, and the alternatives which would logically result from their consideration, were either rejected or dealt with in a cursory fashion. Agency rationale for eliminating various alternatives from further consideration is provided in Section C of the DEIR/DEIS, starting at page 43. The rationale for rejecting distributed energy generation and energy efficiency alternatives is provided at pages C-60-63. With respect to the distributed energy generation and energy efficiency suggestion, we believe the agency should have considered these issues in combination, rather than as individual proposals.

[4] For reasons unknown, EPA's comment letter was not included in the scoping report which was posted online at http://www.blm.gov/ca/st/en/fo/elcentro/nepa/tule/scoping_report.html. Accordingly, there is no way to know if these comments were taken into account during the alternative selection process.

On page C-56, the agency provides its rationale for rejecting an alternative labeled "Tule Alternative Site Closer to Demand Areas, Near Existing Transmission Facilities." Reference is made to figure A-1 which shows wind resource data for San Diego County and part of neighboring Imperial County. This alternative is considered infeasible due to a lack of wind velocity in "more urban areas to the west." This statement, however, is not fully responsive to the specific concerns raised during comments and more generally in other forums where appropriate project siting of renewable energy projects has been discussed. As discussed above in our comments regarding appropriate project siting, the ideal scenario would be to site such facilities in areas where there is a convergence of exploitable wind resources and previously disturbed (not necessarily "urban") land, provided these locations do not negatively impact other important resources such as wildlife or cultural resources. While figure A-1 provides useful information on the wind resource, it is of little value in the context of this analysis—a more useful figure would have overlaid areas of suitable wind resources with the locations of previously disturbed land, and in addition marked any "exclusion zones" as identified in existing land management plans.

While we acknowledge the considerable effort which went into selecting the alternatives to be carried forward for analysis in the DEIR/DEIS, we are forced to conclude that the agency has not been rigorous enough in considering proposals for alternative sites and technologies, and its rejection of otherwise reasonable alternatives was arbitrary and capricious. We view this as a significant defect in the document that warrants the preparation of a Supplemental Draft.

We are concerned that the recent BLM guidance with respect to analysis of alternatives will limit consideration of otherwise reasonable alternative sites for this and other projects. This is particularly true of the guidance language under the heading "Non-Federal Lands:" "The BLM will not typically analyze a non-Federal land alternative for a right-of-way application on public lands because such an alternative does not respond to the BLM's purpose and need to consider an application for the authorized use of public lands for renewable energy development." When considered in combination with the overly-narrow "respond to an application" purpose and need guidance discussed previously, we fear that this guidance will preclude a full consideration of suitable public, private, or mixed-ownership sites as required by NEPA.

Project Impacts

As detailed in the DEIR/DEIS, the proposed project, considered in combination with the Campo, Manzanita, and Jordan wind energy projects, would have adverse impacts that cannot be mitigated to biological resources, visual resources, cultural resources, noise, air quality, water resources, and fire and fuels management. *See* ES-18. The proposed Tule Wind project, which is our chief concern, would have significant adverse impacts in the following issue areas: biological resources (bird/golden eagle strikes with turbines), visual resources (impacts to scenic vistas, existing visual character, light/glare, and inconsistency with policies/plans), cultural resources (potential adverse change to traditional cultural properties), short-term construction noise and air emissions, and wildland fire and fuels management. *See* ES-20. BLM's preferred alternative, which removes 62 turbine sites (11 turbines adjacent to the BLM In-Ko-Pah Mountains Area of Critical Concern (ACEC) and 51 turbines adjacent to wilderness areas on the western side of the project site) would purportedly "substantially reduce the risk of golden eagle mortality." However, "the risk of mortality due to collision with operating turbines by golden eagle remains adverse and unmitigable due to the fact that the remaining turbines would continue to present risk, albeit with lower risk of collision to golden eagles foraging in the vicinity of the project." *See* ES-21. It remains to be seen whether this level of risk will be deemed consistent with the Bald and Golden Eagle Protection Act, which imposes strict limitations on take of eagles. The Final Rule on Eagle Act Take Permits (74 FR 48635) establishes a "no net loss" standard for eagles, and it is unknown whether proposed mitigation efforts as reflected in an avian protection plan will pass muster with the U.S. Fish & Wildlife Service (USFWS).

Construction Impacts

Construction and operation of the Tule Wind Project will require the construction of 36.38 miles of new roads in an area which is currently used primarily as open space. See DEIR/DEIS Page B-8 and Figure D-4-8. The analysis treats this new construction as of little consequence in terms of environmental impacts—an approach that appears to have been taken because this construction is not otherwise precluded in the areas targeted for development, and these roads are expected to be decommissioned at the conclusion of the project's operation.[5] In our experience, however, roads which are constructed on public lands have a tendency to remain on the landscape, despite the original purpose of their construction or well-intentioned plans for their eventual removal. In addition, such routes often serve as jumping-off points for additional route pioneering by off-road vehicle enthusiasts. Given the proximity of the project to wilderness and ACEC lands, this issue has the potential to become a significant concern in the future.

Accordingly, we suggest proactive mitigation efforts within or outside the project area to reduce environmental impacts associated with road and motorized trail development. Such efforts would be particularly useful if they focused on areas where existing motorized recreation is having an adverse effect on sensitive species, including species which stand to be impacted by the project as a whole.

Effect on designated management areas

Defenders raised the issue of impacts to designated management areas and their associated wildlife resources in their January 28, 2010 scoping letter on this project. We are extremely concerned that the DEIR/DEIS has not addressed these impact issues and the compatibility of the proposed projects with the goals and objectives established for those designated wildlife management areas. Rather, the rationale is simply that the plans allow for consideration of multiple use activities and that the recent Eastern San Diego County Resource Management Plan specifically designated McCain Valley for renewable energy development. We do not consider the proposed project or the alternatives with regard to McCain Valley consistent with the land designations and the wildlife goals and objectives in existing management plans. Specific designated wildlife management areas we are concerned about include:

- McCain Valley National Cooperative Land and Wildlife Management Area: Among the first actions taken to conserve lands and wildlife resources in McCain Valley was establishment of the McCain Valley National Cooperative Land and Wildlife Management Area in 1961 by Secretary of the Interior Stuart Udall. It was established by Public Land Order 2460. According to the USDI, Office of the Secretary, in an information notice dated August 16, 1961, the McCain Valley Cooperative Land and Wildlife Management Area was established for the purpose of "…development of wildlife, recreational, and other natural resources for benefit of the entire Nation."

- McCain Valley Wildlife Habitat Management Plan: BLM, in cooperation with the California Department of Fish and Game, prepared the first McCain Valley Wildlife Habitat Management Plan in 1978 and an updated version in 1984. The purpose of these habitat management plans is to establish policies to protect and enhance wildlife habitat and numerous species of plants and animals occurring on public lands in McCain Valley. Wildlife species and their habitats addressed in the plan included upland game birds, raptors, Mule Deer, and Peninsular Bighorn Sheep. Several species of rare plant species were noted and habitat protection goals were established.

Lands acquired for conservation

According to the BLM's 1981 Eastern San Diego County Management Framework Plan (MFP), certain nonfederal land parcels for acquisition to facilitate management of critical wildlife and cultural resources and enhance and recreational opportunities. That MFP indicated BLM has acquired non-

[5] Per the DEIR/DEIS at Page D-4-104: "When the Tule Wind Project is decommissioned the project area would be restored to pre-construction conditions according to the applicable federal and local land use designations."

federal parcels of land in the McCain Valley Wildlife Habitat Management Area through purchase using funding from the Land and Water Conservation Fund (LWCF), and that such land acquisition would continue with the goal of securing remaining private lands within McCain Valley into public ownership. The DEIS/DEIR was silent on the issue of impact to lands acquired for conservation and recreation from the proposed project.

Scope of Analysis of Biological Resources

The DEIR/DEIS should address potential impacts to biological resources of the United States that may result from the construction and operation of the ESJ Wind Project in Mexico. Per NEPA, by considering the ESJ Gen-Tie line within the U.S. as part of the proposed PROJECT, this document is required to address potential impacts from ESJ wind turbines in Mexico that could potentially impact the United States. Consideration of potential impacts to the United States' biological resources from turbines constructed and operated in Mexico would require technical studies for the generation project in Mexico be made readily available to the public for review. Assessments, including detailed assessment of avian/bat risk of turbine collision, should include consideration of species protected under the Federal Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act and the Federal Endangered Species Act.

Migratory Birds

The document generally discusses migratory birds and migratory pathways in southern California. Nocturnal bird migration was not studied, but from two diurnal survey reports the claim is made that nocturnal migratory bird mortality is generally very low based on one citation (Erickson 2007, cited in the avian survey reports). However, Erickson's work predated the accelerated deployment of ever-taller wind turbines over ever-more-expansive portions of the Pacific Flyway. Moreover, recent research has established that species such as Golden Eagles tend to hunt or migrate at or below ridgelines, potentially putting these species at risk if turbines are deployed in these ridge areas (Manville 2009). Furthermore, the document establishes that the Tule Wind project is located on the Pacific Flyway but provides no clear data for the impacts of the project on nocturnal migratory birds and bats or on migratory pathways for birds and bats. Migratory birds are protected by the Migratory Bird Treaty Act of 1918 and the project must address these impacts. We recommend the use of publicly available NEXRAD data that can be delimited rather inexpensively and quickly to determine quantity, magnitude and timing of nocturnal migratory birds and bats on the project site and adjacent areas, and to help determine if on site radar studies should be conducted for further analysis. Recent published scientific reports indicate that greater than 10% of nocturnal migrating songbirds migrating over ridges fly at elevations putting them within the area of rotating turbines (Mabee at al. 2006, WILDLIFE SOCIETY BULLETIN 34(3):682–690

An on site radar study in California's desert at San Gorgonio Pass reported that "approximately 37 million birds passed through the Coachella Valley in the fall and an additional "approximately 32 million birds flew through the Coachella Valley during spring 1982," making the total in 1982 approximately 70 million birds. The study concludes "we estimate that approximately 256,000 birds/km could potentially come into contact with wind turbine generators each fall in the WRSA" and "approximately 182,000 birds/km potentially come into contact with wind turbine generators each spring."[6] The document needs to analyze the on site impacts of the larger turbines proposed at Tule Wind project on nocturnal migratory songbirds and bats in comparison to this data on a nearby site.

In addition, the bird use counts for avian species on the site every two weeks as reported in the avian reports do not conform to California Energy Commission guidelines, which recommend:

[6] Nocturnal Avian Migration Assessment of the San Gorgonio Wind Resource Study Area, Spring 1982 (McCrary, et al (1982), p. 105

"Bird Use Counts. The bird use count (BUC) is a modified point count that involves an observer recording bird detections from a single vantage point for a specified time period. Sampling Duration/Frequency. Conduct BUCs for 30 minutes once a week for one year, covering most daylight hours and weather conditions"[7]

Raptors

Raptors are highly vulnerable to collision with wind turbines. The document reports raptor surveys for 20 minutes and concludes that raptor use is low. Twenty minute surveys are inadequate to draw this conclusion. Industry standards for large bird surveys defined by Hawk Migration Association of North America, Hawk Watch International, Cape May Bird Observatory and others recommend all day surveys every day to determine raptor use on the site. Only by using this method can relatively rare events such as occasional large migration flocks of Swainson's Hawks, which are known to congregate nearby, Turkey vultures or White Pelicans be detected. The 20 minute survey approach in the document would easily miss the presence of Golden Eagles during migration or from nearby nests that were documented, one of which is reported active yet no Golden Eagles were observed.

Nesting raptor species on the proposed project site are protected under the federal Migratory Bird Treaty Act, including those species known to be vulnerable to turbine collision such as the red-tailed hawk. Aside from the aerial survey completed by the Wildlife Research Institute (WRI), were focused ground-based raptor nest surveys completed within the Tule Wind project site in order to accurately characterize the resident population density of particularly vulnerable raptor species? How close are red-tailed hawk nests and other raptor species nests located to proposed wind turbines?

Combined with nest survey results, is red-tailed hawk use (data from point count surveys) of the Tule Wind project considered reflective of a low or high density of this species as compared to other parts of the County? Is the proposed Tule Wind project likely to result in impacts to the local population of red-tailed hawks from turbine collision and if so, how will these impacts be minimized?

Golden Eagle

The DEIR/DEIS cites a study in footnotes entitled WRI (Wildlife Research Institute). 2010. *Golden Eagle Aerial Surveys Surrounding Tule Wind Energy Developments in San Diego County, California. Prepared by the Wildlife Research Institute for Iberdrola Renewables, Inc*. Ramona, California: Prepared by Wildlife Research Institute for Iberdrola Renewables, Inc. June 11, 2010.. However, the cited report is not provided as an Appendix. Instead, the proponent has provided a document from proponent's environmental consultant WEST with a brief statement of some data from the report, and a long analysis of Golden Eagle mortality at sites that are not comparable to Tule Wind. The sites in the report in Minnesota, Washington and other locations in the U.S. are not comparable as these sites do not have 11 Golden Eagle territories on them and are of a very different ecology. The study that is cited in the DEIR/DEIS must be provided for public review, rather than the abbreviated and/or non-relevant information that has so far been provided as a substitute.

Additionally, the DEIR/DEIS reports conflicting Eagle counts:

One section of the DEIR/DEIS reports that "Within 10 miles of the ECO project area, three golden eagle territories were observed, none which were currently active."[8]

Another section the DEIR reports that "10 known golden eagle territories have been documented within 10 miles of the proposed project (WRI 2010)."[9]

[7] CALIFORNIA GUIDELINES FOR REDUCING IMPACTS TO BIRDS AND BATS FROM WIND ENERGY DEVELOPMENT, California Energy Commission, 2007, p. 10
[8] East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects DEIR/DEIS D.2 BIOLOGICAL RESOURCES, p. D-2-72

The site specific evaluation and analysis of the results of this survey are provided by WEST (2010b)."[10] It reports that "Eleven golden eagle territories were identified based on their historical occurrence and the 2010 surveys. Of the 11 territories, the 2010 surveys found nests in all areas except for one."[11]

These conflicting data of Golden Eagle territories contained in the DEIR/DEIS would suggest that the analysis of Golden Eagle needs in the document is inadequate.

Additionally, the findings in the DEIR/DEIS that impacts to Golden Eagle are significant and unmitigable under the California Environmental Quality Act (CEQA) conflict with the findings of proponent's environmental consultant that the site has low risk to Eagles.

The DEIR/DEIS also reports that "In general, specific and consistent raptor nest buffers at wind projects have not been established" and recommends a "1-mile buffer for ferruginous hawk nests and a 0.5-mile buffer for golden eagle nests for surface occupancy for turbines (WGFD 2009)"[12] citing a Washington state guideline. The National Golden Eagle Colloquium on March 2-3, 2010 attended by 85 participants from various agencies and Golden Eagle and raptor scientists from across the country contradicts this analysis. The scientists concluded that "Buffers we currently recommend are at least 4 - 10 air miles from a golden eagle territory."[13]

The document also reports that "Half of the active nests documented during the surveys are greater than five miles (eight kilometers [km]) from the project boundary. One of the active nests is within ½ mile (0.8 km) of proposed project turbines but the nest is protected below the ridgeline and birds from that nest are not in view of wind turbines. Two others are within one mile (1.6 km) of the proposed project turbines, but these two only have one turbine within 1-mile of the nests (Table 1)." If 50% of the nests are further than 5 miles, then 50% have home ranges that are closer than 5 miles and are at high risk for mortality from collision with turbines. Additionally, the document should analyze the territory size of each eagle territory and not just the distance of the turbine from the nest. Eagles often fly further than a five mile territory. A nest as close as 0.5 miles would predictably kill adult and fledgling eagles, and eleven territories of Golden Eagle indicate an unacceptable risk of "take" for Golden Eagle in mortality and disturbance for a wind project.

It is unclear in the document if aerial surveys were completed within 10 miles of the proposed turbines or within 10 miles in all directions of all components of the proposed project, including the ECO Substation and ESJ Gen-Tie. Were surveys completed in Mexico to consider a 10-mile radius, as recommended in the Draft Interim USFWS Golden Eagle Technical Guidance (February 2010), around this component of the proposed project?

We recommend that the DEIR/DEIS be revised and re-circulated in order to reconsider impacts to Golden Eagle more thoroughly using recommendations and analysis by Eagle experts who performed the surveys as well as peer review by qualified Eagle experts. The next iteration of the DEIR/DEIS should also consider USFWS Draft Eagle Conservation Plan Guidance issued January 2011 to Federal Register (76 R 9529 - Docket ID: FWS-R9-MB-N018), as applicable per the Bald and Golden Eagle Protection Act. Such a reconsideration would allow the Bureau, the proponent and the USFWS to fully evaluate the site and whether it should be abandoned due to unacceptable, unmitigable risk to Golden Eagle.

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[9] Ibid, p. D-2-46
[10] Ibid, p. D-2-4
[11] Golden Eagle Information Tule Wind Project *Prepared for :*Iberdrola Renewables, Inc. *Prepared by:* Wallace Erickson
Western EcoSystems Technology, Inc. 2003 Central Avenue, Cheyenne, Wyoming 82001. June 2010, p. 2
[12] Ibid, p. 6
[13] National Golden Eagle Colloqium, March 2-3,2010: Carlsbad Fish and Wildlife Office, Carlsbad, California, p. 26

Condor

The DEIR/DEIS's discussion of the California condor does not address San Diego Zoo's Institute for Conservation Research/San Diego Zoo Global's current and future reintroduction plan to increase the population size of this species inhabiting the region south of the proposed project in Baja California. Consideration of potential impacts to California condors from risk of collision with turbines appears inadequate to address expanding range of this species in vicinity of project and ramifications of proposed wind development on ability of this species to continue to persist. The DEIR/DEIS does not address presence/absence/proximity of potential food sources/attractants of California condor to the proposed project, such as livestock or large game species.

Peninsular Bighorn Sheep

Unfortunately, the DEIR/DEIS fails to provide adequate identification and analysis of the potentially significant impacts to the federally endangered and state fully protected Peninsular bighorn sheep. While the DEIR/DEIS recognizes that the projects are not within the currently designated critical habitat for peninsular bighorn, it fails to acknowledge that the projects fall within previously designated critical habitat. Currently, the Center for Biological Diversity, Sierra Club and others are challenging the 2009 designation in court. We provide Attachment 3 that maps the current 2009 and previous 2006 final critical habitats for the sheep. As proposed the projects currently appear to overlap with habitat previously designated as critical for the survival and recovery of the Peninsular bighorn sheep. In addition, as Figure D.2-9 – Key Wildlife Species clearly identifies, Peninsular bighorn sheep range into areas outside of designated critical habitat. Therefore, regardless of the current designation, the project will impact habitat for this imperiled species, and comprehensive surveys should have been done for the sheep, upon which a robust analysis of potential should have been based. Because these data and subsequent analysis is lacking for this imperiled species, the DEIR/DEIS fails to comply with CEQA or NEPA.

Another issue that the DEIR/DEIS fails to evaluate is the movement of Peninsular bighorn sheep and habitat due to climate change. Plant communities in bighorn habitat have been documented to be moving up in elevation[14]. As climate change continues, Peninsular bighorn ranges will shift to appropriate habitat areas which will generally be higher elevations[15]

By assuming that Peninsular bighorn sheep were not and in the future will not be present on the proposed project site, the DEIR/DEIS failed to evaluate the impact on the species from increased human activities and the wind towers themselves. While no published literature is available on the effects of wind towers on activities of bighorn sheep, data does exist that indicates increased human presence cause sheep to avoid portions of habitat.[16]

Additionally, incomplete analysis was provided on the cumulative impacts to the Peninsular bighorn from these and adjacent proposed projects including Ocotillo Wind Express, which also has potential significant impact on the Peninsular bighorn. The combination of these two proposed projects significantly narrows the movement corridor for bighorn in this area. The cumulative analysis also failed to assess the metapopulational impacts from not only these proposed projects, but the projects in Mexico, which will likely cut off connectivity between Peninsular bighorn sheep in Baja and the United States, further isolating both populations which will cause continued declines on both sides of the border for this iconic species.

[14] Kelley and Goulden 2008. Rapid shifts in plant distribution with recent climate change. Proceedings of the National Academy of Sciences 105(33): 11823-11826.
[15] Epps et al. 2004. Effects of climate change on population persistence of desert-dwelling mountain sheep in California. Conservation Biology 18(1): 102-113.
[16] Papouchis et al. 2001. Responses of Desert Bighorn Sheep to Increased Human Recreation. The Journal of Wildlife Management65(3): 573-582

Because of the short-comings in the CEQA/NEPA review, a revised or supplemental draft EIR/EIS needs to be produced.

Cumulative impacts

We appreciate the comprehensive listing of existing and planned projects within the eastern San Diego County region that cumulatively impact the natural landscape and diverse animal and plant communities, and the explanation of the approach taken to assess the effects of land use activities of the environment. However, for avian and bat species, the DEIR/DEIS's geographic scope of analysis is inadequate, as more fully outlined below.

Moreover, for all biological resources, we believe the cumulative impact analysis needs to consider their condition and trend under the current or baseline condition, and then account for the anticipated impacts added to the baseline due to proposed and reasonably foreseeable land use activities. A projected condition and trend should then be established. We think this is a critical missing component of the analysis under NEPA, and one which the BLM, California Public Utility Commission, U.S. Fish and Wildlife Service and California Department of Fish and Game need to carry out under their legal and regulatory responsibilities. The condition and trend analysis for biological resources should, at a minimum, include those species of plants and animals that warrant special management attention, such as the BLM's Special Status Species, Sensitive Species, and California's fully protected species, as well as avian and bat species known to be especially at risk from wind turbines, either through barotrauma or collision.

The cumulative impact analysis (Appendix F) identifies a wide range of impacts attributed to the proposed project and each alternative, and combines them with the potential effects of planned and foreseeable projects. The impacts are then subjectively described as either below the significance threshold under CEQA for cumulatively or individually significant. We appreciate the candid statements regarding the efficacy of proposed mitigation measures to reduce anticipated impacts and whether or not the residual impacts would be reduced below the significance threshold. We find, however, that the cumulative impact analysis does not appear to take into account the condition and trend of biological resources within the affected region, some of which are at-risk and potentially in decline. The analysis needs to be strengthened through the use of data that demonstrates the magnitude of impacts to at-risk plants, animals and their habitats, and to what degree the applied mitigation measures would reduce impacts.

Cumulative impacts to avian and bat species

In particular, the DEIS cumulative impacts analysis fails to adequately analyze the Project's cumulative impacts to avian species, especially Golden Eagle, Swainson's Hawk and bat species. The Bureau must consider the Project in combination with existing and foreseeable avian and bat mortality factors, such as other wind development, transmission lines, loss of foraging habitat, loss of prey base to drought, poisoning and other factors. The document itself reports that "Currently, this region has been undergoing a prolonged drought, which has resulted in a reduced population size of jackrabbits, a primary prey source for golden eagles (WRI 2010). As a correlate to the lower prey population size, WRI has confirmed unusually low reproductive levels of golden eagles in other regions of Southern California (WRI 2010).[17]

Regarding Golden Eagle, there is a strong likelihood that cumulative mortality will drive Golden Eagles extinct in California, or at the very least cause the species to be listed. It has been documented that 40 to 60 Golden Eagles are killed by turbines at Altamont Pass each year. Just to recoup for the loss of 50 eagles a year on average at Altamont requires the production of 167 breeding pairs due to infant mortality rates. There are only some 1000 breeding pairs in the state today, and there are many other

[17] East County Substation/Tule Wind/Energia Sierra Juarez Gen-Tie Projects Draft DEIR/DEIS D.2 BIOLOGICAL RESOURCES, p. D-2-45

causes of mortality in addition to Altamont Pass turbines.[18] Therefore, the DEIS must address the grave potential for mortality by anthropogenic causes to exceed the ability of Golden Eagles to reproduce in California.

It is generally acknowledged that current mortality rates of Golden Eagles (and other aerial species) from wind farms are not well known or not known at all for turbines which are not monitored (such as those on Indian Reservation land and others). In fact, it is thought by most experts that actual mortality is far greater than documented, as monitoring is not conducted on all wind turbine operations, and many dead birds and bats are never found or documented, due to scavenging and other factors. Monitoring and documentation are sorely lacking. But given current mortality rates of Golden Eagles from all causes including turbines, it is foreseeable that if enough wind farms are deployed, then the mortalities will exceed the threshold beyond which the state population of Golden Eagles is too small to be genetically fit, if not to exceed the ability of Golden Eagles to repopulate.

While Golden Eagles could be driven to the point of no net gain in nest production in California, it would be expected that migrating eagles would still enter the state. However, their mortality rate would be expected to increase as well. The EIR/EIS must analyze the cumulative effects of massively deploying 400' and 500' tall wind turbines on the crests of ridges throughout the state and the potential impact on raptor migration, which generally follows these ridges (Manville 2009).

Although little is known about migration routes for Golden Eagle and Swainson's Hawk, which is the subject of annual surveys in this same region, experts believe there are probably multiple parallel routes running north/south through the state. As stated by Manville and others, these routes likely follow the mountainous ridges, many of the very same places where wind farms are being proposed. The DEIR/DEIS must address this issue.

Likewise, little is really known about foraging patterns. But clearly Golden Eagles may fly great distances as needed for foraging, and regardless, the bulk of the proposed Tule Wind lies within five miles of known Golden Eagle nesting sites.

Regarding bats, fatalities in the southwestern United States are poorly understood. But like raptors, bats are experiencing population declines and these declines are even steeper in the case of bats. Even the Brazilian Free-Tailed Bat, one of the most numerous species in the U.S., appears to be vulnerable and comprises 41%-86% of the bats documented killed by turbines, at those few locales where such surveys have been conducted in the species' range. (Arnett et al. 2008, Miller 2008). Yet the DEIR/DEIS fails to adequately consider the cumulative impacts to this and other bat species and to assess the trend and its import for these species.

The DEIR/DEIS has an affirmative obligation to gather known information, and use expert guidance where there are gaps in information, to make a reasoned in-depth analysis of cumulative effects on sensitive raptors. What is the viability of Golden Eagle, Swainson's Hawk, and other bird and bat populations, given this unprecedented potential massive disruption to aerial habitat? In addition to NEPA, the Bureau's own policies require it to manage resources to avoid contributing to listings of species. Thus, BLM must revise the EIS to take a hard look at the cumulative impacts of Tule Wind on avian species and bats.

Moreover, by limiting consideration of cumulative impacts to San Diego and Imperial Counties, the Bureau is failing to fulfill its responsibilities under NEPA, the Migratory Bird Treaty Act, and other applicable law and regulation. In order to properly assess affects on both resident and migratory birds,

[18] See *Golden Eagles in a Perilous Landscape: Predicting the Effects of Mitigation for Wind Turbine Blade-Strike Mortality*. (P500-02-043F. July 2002.) [available for download at www.energy.ca.gov/reports/2002-11-04_500-02-043F.PDF]; *The Trend of Golden Eagle Territory Occupancy in the Vicinity of the Altamont Pass Wind Resource Area: 2005*. (P500-2006-056) [available for download at www.energy.ca.gov/pier/final_project_reports/CEC-500-2006-056.html]

it must expand the geographic scope of the analysis to include: Altamont Pass; San Gorgonio Pass; and existing and proposed wind development on Indian Reservations, the Tehachapis, the southern Sierra and elsewhere in the state, as well as Baja California and elsewhere along the Pacific Flyway. The Tule Wind project is not occurring in isolation and cumulative impacts are potentially profound and irreversible for migratory species utilizing the Pacific Flyway.

Mitigation

The document identifies various measures and best management practices that could be employed to minimize impacts to biological resources. In general, these are largely terms and conditions in a permit or authorization for the project. Examples are plans that would be developed and implemented after the project has been authorized but before construction could commence, such as for dust control; weed control; special status plant and animal avoidance/impact minimization, etc. NEPA requires that all mitigation measures, including best management practices, impact avoidance plans, and habitat compensation and enhancement, must be applied and analyzed in the NEPA document rather than after a final decision has been made. Therefore, the DEIS should be revised to unambiguously incorporate all proposed mitigation measures and clearly state them in its mitigation and monitoring plan. Where proposed measures are untested or hypothetical, they must be so identified and their ability to mitigate must be discounted accordingly.

The document also implies that mitigation may involve habitat loss compensation through acquisition of similar natural habitats within the analysis area by the project proponent: "Although land ownership and other factors determine the availability of land for mitigation, a sufficient supply of land suitable to provide mitigation for the long-term maintenance of vegetation communities is available within the analysis area." (DEIR/DEIS, Page F-24). Habitat loss compensation should be required for all unmitigated impacts to public resources. Furthermore, impacts to fully protected species under CEQA must be fully mitigated. According to the DEIR/DEIS, significant impacts resulting from the proposed project and the alternatives that cannot be avoided through mitigation measures will occur to the following:

- Quino checkerspot butterfly occupied habitat, including designated critical habitat (federally listed under the Endangered Species Act)
- Golden eagle injury and mortality due to collisions with turbines

Compensation for unmitigated impacts through habitat acquisition should be based on a habitat acquisition and protection strategy and, depending on the ratio of habitat loss to habitat acquisition, habitat enhancement. We are concerned with the conclusion in the document that "a sufficient supply of land suitable to provide mitigation for the long-term maintenance of vegetation communities is available within the analysis area." This needs to be confirmed and will most likely be based on a willing-seller basis. A habitat compensation plan for the proposed project needs to be developed in advance and the public assured that is feasible and will be successfully implemented in a timely fashion.

Much more stringent mitigation for the Quino checkerspot and golden eagle needs to be required. For example, impacts to Quino checkerspot habitat was required at a 5:1 mitigation ratio in the Sunrise-Powerlink FEIR/S. Here, however, mitigation is only proposed at a 2:1 or 3:1 ratio, which is woefully inadequate. Even with this higher level of mitigation that needs to be instituted, we agree that the impacts are significant and unmitigable. The Quino checkerspot butterfly is particularly vulnerable to climate change,[19] and careful analysis of impacts of this project in light of how it will be moving on the landscape also need to be evaluated and analyzed in the supplemental or revised DEIR/DEIS.

[19] Parmesan et al 2000.

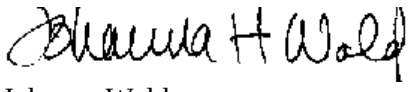
Treatment of Climate Change

The DEIR/DEIS 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 or on their habitats. The latter impacts are clearly relevant. *See, e.g.*, 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.

Conclusion

Thank you for your consideration of our comments. If you have any questions about them, please do not hesitate to contact Johanna Wald of NRDC at 415-875-6100 or jwald@nrdc.org.

Sincerely,



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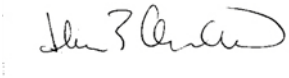

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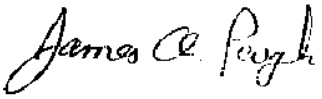

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Desert Protective Council * Mojave Desert Land Trust
National Parks Conservation Association
Natural Resources Defense Council * Sierra Club * The Nature Conservancy
The Wilderness Society * The Wildlands Conservancy

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, i.e., 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).[1]
- Public lands of comparatively low resource value located adjacent to degraded and impacted private lands on the fringes of the CDCA:[2]
  - Allow for the expansion of renewable energy development onto private lands.
  - Private lands development offers tax benefits to local government.
- Brownfields:
  - Revitalize idle or underutilized industrialized sites.
  - Existing transmission capacity and infrastructure are typically in place.

- Locations adjacent to urbanized areas:[3]
    - 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.
- Areas proximate to sources of municipal wastewater for use in cleaning.
- Locations proximate to load centers.
- Locations adjacent to federally designated corridors with existing major transmission lines.[4]

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.[5]

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

EXPLANATIONS

[1] 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.

[2] Based on currently available data.

[3] Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for their economic survival.

[4] The term "federally designated corridors" does not include contingent corridors.

[5] 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.

[6] Determining "significance" requires consideration of factors that include population size and characteristics, linkage, and feasibility of mitigation.

[7] 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.

[8] 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.

[9] 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.

[10] 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).

[11] These lands include compensation lands purchased for mitigation by other parties and transferred to the BLM and compensation lands purchased directly by the BLM.

[12] 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.

[13] Proposed Wilderness Areas: lands proposed by a member of Congress to be set aside to preserve wilderness values. The proposal 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.

[14] 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.

[15] 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).

Recommendations to Secretary of the Interior Ken Salazar
on Ways to Improve Planning and Permitting
for the Next Generation of Solar Energy Projects
on BLM Land in the California Desert

California Desert & Renewable Energy Working Group
December 22, 2010

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Table of Contents

I. Reduce Speculation in Solar ROW Applications[1]

Issue: The Bureau has made significant progress in reducing speculative applications for solar development in California. As a result of the Bureau's enforcement of its Plan of Development ("POD") policies in California, the total quantity of applications and acreage has declined substantially. The Bureau's adoption of enhanced guidance, such as the October 7, 2010, Instruction Memorandum (the "Oct. 2010 IM"),[2] promises further improvement. However, speculative applications remain, both in terms of applications that may not be technically and economically feasible, and in terms of the size of applications relative to the reasonably likely size of facilities (even accounting for additional acreage reserved to allow for reconfiguration, which we support).

Solution: To ensure that the most suitable lands for solar development are used appropriately, and that real solar development is not displaced from those lands onto other lands that may be less suitable, the Right-of-Way ("ROW") application process requires further reform. It will be particularly important to avoid unduly oversize ROW applications, relative to actual project size, in Solar Energy Study Areas/Zones, as these are intended to be the place for focused, large-scale, solar development. If areas in those zones are taken up with speculative applications, the purpose of the Solar Energy Study Areas/Zones will be frustrated, and real solar development will be diverted elsewhere.

To that end, the California BLM office should resume its enforcement of the existing POD policy, and other state BLM offices should follow California's example. In addition, the Bureau should build on the concepts in its Oct. 2010 IM, and on its existing regulations, to provide for earlier screening to eliminate speculative applications. This process should focus on objectively-determined assessments of site development progress.

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[1] Although these recommendations are intended for implementation in California, the Bureau may wish to consider how they may apply to other states

[2] IM 2010-003 (Oct, 2010) , available at http://www.blm.gov/wo/st/en/info/regulations/Instruction_Memos_and_Bulletins/national_instruction/2011/IM_2011-003.html

2011 Q1 Progress Assessments

The Bureau can act to focus its resources on the most viable 2011 projects, and reduce speculation, through assessments of the projects' progress in achieving the milestones discussed below. These milestones address aspects of financial and technical viability but do not address other aspects of project viability, including the appropriateness of the site for solar energy development, as discussed in Section II of these recommendations.

A. Enforcing Plan of Development Standards

As noted above, the California state office has made substantial progress in reducing speculative applications by requiring Plans of Development that meet the Bureau's standards. Resuming enforcement of this requirement will undoubtedly continue to provide good results. As part of this effort, the Bureau should ensure that the size of the applications is reasonably related to the size of the project described in the Plan of Development, with flexibility to allow for reconfiguration to avoid or minimize environmental, cultural or other impacts.

B. Applying Financial Viability Screens

The Oct. 2010 IM provides for assessment of financial viability, providing a presumption of viability for entities that have successfully owned, developed, or managed similarly-sized electric generation projects, and allowing individual demonstrations for others, which may be evaluated jointly with the Department of Energy. Projects proposed for potential approval in 2011 should be evaluated in the first quarter of 2011. To ease administrative burdens, avoid duplicative governmental efforts, and make use of reasonable market-based indicators of financial viability that can be objectively ascertained, the Bureau should expand its presumptions of financial viability to include projects that have (i) a conditional commitment for a DOE loan guarantee; (ii) a power purchase agreement that has been approved by the California Public Utilities Commission or municipal power authority; or (iii) an engineering, procurement and construction ("EPC") contract with an entity that has successfully constructed electric generation projects of similar capacity within the last five years. As provided in the Oct. 2010 IM, projects that do not meet these presumptive tests should be allowed to make individual demonstrations of financial viability to the Bureau.

C. Applying Technical Viability Screens

Technical viability should be presumed, similar to financial viability, if (i) the DOE has provided a conditional commitment for a loan guarantee; (ii) the basic technology to be deployed has been demonstrated for at least one year in a commercial or demonstration plant; or (iii) the key components of the technology have been demonstrated, and the applicant has supply contracts with credible third-party vendors for the manufacture and/or supply of those demonstrated, key components. These technical viability tests would not apply to demonstration projects.

D. Evaluating Site Development Progress

To ensure sites are being actively evaluated for approval and development, and not held speculatively, developers should demonstrate that they are undertaking the necessary assessments. For 2011 projects, site-specific technical assessments, including meteorological and geotechnical data collection and evaluation, as well as biological surveys, should either already have been completed or should be planned. All applicants should be required to provide a schedule for conducting remaining technical assessments needed to complete timely NEPA analyses, consistent with completing the permitting process in 2011. Applicants should be required to demonstrate diligent progress on the schedule through regular reports.

E. Assessing Permitting & Transmission Viability

All solar development projects require state and/or local government permitting for construction and operation, as well as approval to interconnect their facility with transmission. As with technical assessments, solar development applicants should provide the Bureau with a schedule for applying for all necessary permits, as well as for interconnection with transmission. The timetable should demonstrate that the necessary permits will be obtained to allow timely construction commencement and completion, consistent with the deadlines provided in the Oct. 2010 IM. The Bureau may wish to consult with the California ISO or other appropriate permitting or transmission oversight entities to determine whether proposed schedules are reasonable. Applicants should be required to demonstrate diligent progress on the schedule through regular reports.

II. Apply Screening Criteria for California Desert Solar Projects on BLM Land

Issue: BLM has limited resources to apply to the review of proposed renewable energy projects in the California Desert in 2011. The agency should focus first on those projects with the greatest technical and financial viability and the fewest environmental conflicts.

Solution: BLM should adopt criteria to help ensure that it moves forward expeditiously to prioritize those projects that have the highest likelihood of permit approval by the end of 2011 – i.e., likely to be permitted and built with a minimum of time and controversy. Priority projects include those in low conflict areas and those with potentially resolvable conflicts where attention is paid to resolving the conflicts.

Ground rules: The criteria set out below are designed only for allocation of BLM resources in 2011 for solar projects on BLM land in the California desert.[3] Moreover, they are not comprehensive criteria for BLM: there are other important criteria such as cultural and historic criteria that are not addressed here, because our group does not include representatives of those interests

[3] To be clear, we did not develop these criteria for use outside of the California desert, by other agencies, other than in 2011, or for technologies other than solar.

The criteria should be applied on the basis of currently available data by multi-disciplinary teams that include biologists and botanists familiar with the California Desert. In addition, they should be applied to projects concurrently with the technical and financial viability screens that are also part of our suggested guidance. Projects should be placed in one of the three proposed categories if they meet some or all of the criteria provided for that category. The number of criteria for a given category that a project meets will be highly relevant. For example, in the case of the criteria designed to help identify "low conflict areas," the more of those criteria that a project appears to meet, the better.

Projects identified by DOI as potentially able to meet 2010 ARRA deadlines, and listed in Appendix A would be exempt from these screening criteria.[4]

Recommended Guidance for use in prioritizing 2011 projects:

Low Conflict Areas: timely or expedited permitting/probable permit approval
As indicated above, projects should be placed in this category if they fit some or all of the following criteria. In addition, they should be included here if it appears that they can be revised or modified relatively easily in order to address conflicts identified in the categories below. That being the case, it is entirely possible that once additional data are obtained from site-level surveys, BLM may find that sites that initially appear to meet these criteria may nonetheless present conflicts.

- Mechanically disturbed lands such as fallowed agricultural lands.[5]
- Brownfields, idle or underutilized industrial areas.
- Locations adjacent to urbanized areas[6] and/or load centers where edge effects[7] can be minimized.
- Locations that minimize the need to build new roads and that meet the one or more of the following transmission sub-criteria: transmission with existing capacity and substations is already available; minimal additional infrastructure

[4] However, even for those projects, these screening criteria may provide useful information regarding potential high conflict sites and, accordingly, the BLM should ensure that developers are aware of these criteria.

[5] This criterion covers 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). 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.

[6] Urbanized areas include desert communities that welcome local industrial development but do not include communities that are dependent on tourism for the economic survival.

[7] The edge effect in ecology is the effect of the juxtaposition or placing side by side of contrasting environments on an ecosystem. This term is commonly used in conjunction with the boundary between natural habitats and disturbed or developed land. Edge effects are especially pronounced in small habitat fragments where they may extend throughout the patch. See Harris, Larry D., *"Edge Effects and Conservation of Biotic Diversity,"* Conservation Biology, Vol. 2, No. 4 (December 1988).

would be necessary, such as incremental transmission re-conductoring or upgrades, and development of substations; if a new line is needed, the line has already been permitted and is not the subject of pending litigation.

- Proposed Solar Zones that will be published in the BLM's draft Solar PEIS with the exception of the proposed Iron Mountain and Pisgah zones[8]
- Areas in the West Mojave that have been run through the criteria above and previously identified for BLM by environmental groups as potentially appropriate for development.[9]

Areas with Potentially Resolvable Conflicts: more difficult permitting process unless conflicts are resolved

- Wetlands, riparian areas, and areas required to protect the integrity of seeps, springs, washes, streams or wetlands that have been previously identified by the BLM, the Army Corps of Engineers, or other relevant state or federal agencies.[10]
- Lands that have been formally identified as including plant communities that are both unique and rare by the BLM, California Department of Fish and Game (CDFG) or USFWS, including areas containing or designated Unique Plant Assemblages (UPAs), Stands, or Vegetation Alliances that are limited in distribution or that support sensitive or endemic species.[11]
- Dunes and the sand transport systems and corridors that support them.[12]
- Locations within one mile of National or State Park units.
- Landscape-level biological linkage areas that have been identified in reports listed in Appendix C as key connectivity references for the desert; or by state or federal agencies as necessary and required for the continued functioning of biological and ecological processes (e.g., connectivity); and that have been mapped by, contracted for, or used in state or federal agency maps provided in land management plans and proposed plans. For these areas closer scrutiny of the broad-scale maps and reports will be necessary.

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[8] This is not a consensus position of the CDREWG. However, the environmental organizations that are members of the group are on record stating that both the Iron Mountain and Pisgah Solar Energy Study Areas are inappropriate for development and should be deleted.

[9] A map of these areas is attached and explanatory material is included in Appendix B.

[10] These areas may include the upland habitat as well as groundwater resources that are proposed to be used. 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.

[11] These areas are identified in the California Desert Conservation Area Plan of 1980, in the California Department of Fish and Game's List of California vegetation alliances (2009), and in NatureServe's Community Heritage Program, which is internationally recognized as the Natural Communities Conservation Ranking system.

[12] The USGS document Muhs et al 2003 "Eolian sand transport pathways in the southwestern United States: importance of the Colorado River and local sources" will be helpful in identifying these areas.

High Conflict Areas: very difficult permitting process

Members of this group agree that the following areas are high conflict areas:

- Designated critical habitat for federally threatened and/or endangered species.
- Designated special management areas such as Areas of Critical Environmental Concern (ACECs), Desert Wildlife Management Areas and Wildlife Habitat Management Areas.[13]
- Lands that have been formally proposed by federal agencies for designation as wilderness, or proposed for a national monument or wilderness designation in S.2921 (111th Congress).
- Lands that were originally part of a renewable energy right of way application and were eliminated from a ROW application by BLM or the applicant due to resource conflicts.[14] For example, where the final project represents a smaller or different footprint to avoid wildlife habitat, rare vegetation or desert washes, the excluded portion of the right of way should no longer be available for development.[15]
- Lands that have conservation value and were purchased with federal, state or private funds, and donated or transferred to the BLM for conservation purposes.
- Lands purchased with federal, state or private funds, and donated or transferred to the BLM expressly as mitigation for project impacts.

The group also agrees that projects that propose to use wet cooling will likely face additional controversy in the permitting process.

The environmental groups signatory to this document believe that there are other factors that will be controversial within their community, as noted below.[16]

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[13] ACECs include Desert Tortoise Desert Wildlife Management Areas (DWMAs). The California Desert Conservation Area Plan has designated specific Wildlife Habitat Management Areas (WHMAs) to conserve habitat for species such as the Mojave ground squirrel and bighorn sheep and to preserve connectivity. Some of these designated areas are subject to development caps which apply to renewable energy projects (as well as other activities).

[14] This category also includes the projects in the West Mojave that were rejected by BLM solely because they were located in areas subject to a 1% development cap. This group continues to believe that the agency should develop guidance regarding how that cap will be applied to subject areas, but development in these areas will likely remain controversial.

[15] We urge the BLM to develop and maintain a publicly accessible database of lands that have been eliminated from ROW applications due to resource conflicts.

[16] These factors include the following:

- Lands that have been designated or are undergoing a formal review process by Bureau of Land Management (BLM) or the U.S. Fish and Wildlife Service (USFWS) for designation for protection of federally-listed, state-listed or candidate species in any past or present recovery plan as of November 19, 2010, in any past or present critical habitat proposal or in any areas formerly designated as critical habitat as of November 19, 2010, or in any past or present ACEC proposal by BLM as of November 19, 2010. In addition, lands that have been formally identified by CDFG, BLM, or USFWS as critical to the survival and/or recovery of federal or state listed or candidate species as of November 19,

III. Ensure early and ongoing input from stakeholders

Issue: The public had little input into the selection of the initial BLM "fast-track" projects in 2009, and few opportunities to provide input into alternative project configurations or ROW footprints. Lack of early public input can result in significant investments of time and money by companies with little opportunity to obtain clear signals on potential conflicts and controversies associated with their proposals prior to committing resources.

Solution: Provide guidance to the BLM to establish a process to facilitate early and ongoing input and coordination with interested stakeholders, per the Oct. 2010 IM, including project developers, regulators, conservation groups and other members of the public, while ensuring a workable process:

- Provide opportunity for early input in connection with initial agency review of projects. This could include, for example, sponsoring preliminary public workshops prior to official scoping.

- Provide, and encourage developers to participate in, forum(s) where the public can interact with them, regulators and other interested parties, including tribes, to ensure early (i.e., prior to NEPA) as well as ongoing input into:
  - project configuration and potential modifications to minimize environmental impacts,
  - disclosure and analysis of likely mitigation requirements, and
  - identification of appropriate alternatives.

  Any project modifications made prior to NEPA review that reduce potential project impacts should be recognized in the agency's NEPA document.

- Ensure stakeholders can provide early and ongoing input to inter -governmental entities that are established to coordinate renewable energy development (such as those established under MOUs with states, like the REPG and REAT in California), and that applicants are made aware of the substance of suggested project modifications in a timely fashion.

2010 should be included in this category. Lastly, lands identified as "ecologically core" and "ecologically intact" by The Nature Conservancy in its October 2010 Mojave Desert report.

- Lands that have been: inventoried by trained citizen groups, conservationists and/or agency personnel using BLM protocols; found to meet Congress' definition of "wilderness characteristics;" and publicly identified as of November 19, 2010. Maps of these lands in California (and other western states) as of November 19, 2010 can be found at http://www.nrdc.org/land/sitingrenewables/default.asp.

- Ensure that all forums for public involvement, including workshops and public meetings, are, to the maximum extent possible, designed to provide effective and meaningful opportunities for interested stakeholders to provide their views about proposed projects. Examples include but are not limited to: group question and answer sessions following presentations, ways to submit questions both during presentations and online, site visits with agency and company representatives, etc.

IV. Improve the quality and consistency of environmental reviews

Issue: The environmental reviews for the first set of fast track projects have varied widely in quality and thoroughness across BLM districts and states.

Solution: Through specific, clear guidance to BLM managers, ensure that moving forward, NEPA reviews are internally consistent, thorough, and reflect strong data-based analysis of the likely impacts from proposed projects. The overall NEPA review process should also be designed to identify, and facilitate, modifications that will result in improved projects. Not only will this inspire public and stakeholder confidence in the Bureau's management of the new program, it will likely insulate well-sited, designed and analyzed projects from legal challenge.

The Interior Secretary should direct the BLM to issue guidance to project managers, supervisors, and state directors that clearly spells out the following elements of strong NEPA reviews and recommended practices:

- Provide opportunities for early public involvement in the process, before investments are irrevocably committed to a specific design within a right of way (ROW), to diminish unacceptable impacts of renewable energy projects, identify potential improvements, and increase public support.

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- A consistent structure for environmental documents, to ease public review and help avoid missing elements.

- Purpose and need statements must include broader objectives, rather than solely responding to an application for a ROW; for example, the purpose and need statement should incorporate a phrase similar to the following: "To consider the proposed siting of a (large scale solar) project on public land consistent with national and state renewable energy and climate goals while protecting important natural values and environmental and cultural resources." This broader purpose and need objective would logically lead to a broader range of alternatives than project/no project.

- Analysis of a full range of alternatives is one of the most important aspects of NEPA. In the case of renewable energy projects, such a range may include, in addition to the proposed project and no action alternatives, alternative sites on public land as well as private land or "conjunctive use" involving both private and public land where appropriate, projects of reduced size and configuration, and

alternatives that include phasing the project based on successfully meeting specific benchmarks before proceeding from one phase to the next.

- A strong evaluation of impacts must be based on adequate site-specific data that stakeholders can fully evaluate, with specific requirements for data adequacy including appropriate protocol wildlife and plant surveys. Depending on the site and the likely species, this may require multiple surveys at different times of the year. Surveys of reasonable areas beyond the project footprint, should be conducted so that different configurations may be fully analyzed. Where surveys indicate changes in configuration would reduce impacts, BLM should expressly allow the applicant to expand or change the area(s) subject to the project application.

- A robust cumulative impacts analysis will ensure sufficient review of the project, focusing on quantitative assessments to the extent practicable, including all past, present and reasonably anticipated future projects within the relevant area, considering the resources at issue. In contrast, the direct and indirect impacts of connected actions (such as any additional transmission lines or substations that are required to serve a proposed project) should be fully evaluated as part of the proposed project, as well as reasonably anticipated additional projects within the relevant area, considering the resources at issue.

- The substance of important NEPA-related reports and plans (for example, a desert tortoise translocation plan, an avian protection plan, and mitigation plans) should be provided in time to allow for public review and comment in the Draft EIS. While we understand that it may be difficult to provide completed reports and plans at Draft EIS stage, any reports and plans that have been drafted or completed should be provided in the Final EIS and all final plans and reports should be issued at the time the ROD is released, along with the USFWS biological opinion.

- Project design changes that reduce environmental or other undesirable impacts are positive results of the NEPA process and such changes should not cause undue delays; however, major changes that have not been proposed or analyzed previously may require supplemental analysis.

- BLM should develop and apply consistent guidance to address issues that apply to several types of projects, and work with the U.S. FWS to develop such guidance in areas of their jurisdiction, such as desert tortoise translocation protocols. Such issues should be addressed in a standard manner across different projects, where practical, and where the standard approach is in the best interest of the impacted resources.

- Where project approval contemplates a plan amendment as well as issuance of a ROW, and information collected through the NEPA process suggests part of the ROW applied for is important for conservation and incompatible with

development, the plan amendment approved contemporaneously with the ROW should also designate the excluded areas within the original ROW application as unavailable for future such development.

- If a plan amendment is not contemplated as part of project approval, and areas within the ROW application have been identified as incompatible with development, BLM should initiate a separate plan amendment process to designate such areas as unavailable for future development.

V. Standardize and clarify mitigation procedures

Issue: While renewable energy at scale provides benefits for forestalling climate change impacts to species and habitat, large-scale solar projects also generally require large-scale mitigation. The current approach of project-by-project mitigation has resulted in a piece-meal and inefficient process for assessing and carrying-out mitigation, and fails to make the best use of mitigation resources to provide more comprehensive, coordinated benefits for affected species and their habitat.

Solution: Better defined, more uniform, and more coordinated approaches should be taken to address mitigation associated with these projects. The fast-track renewable projects have provided a number of important lessons in how to do mitigation, for the benefit of both the project proponents and the impacted natural resources. We believe that mitigation can be done with better coordination, greater efficiency, and strategic investment resulting in an improved conservation result on the ground, while retaining the beneficial aspects of large-scale solar projects.

We recommend that DOI adopt the following principles in directing its agencies on how to improve mitigation for renewable energy projects approved in 2011:

1. **Strategic & Effective Investment:** DOI and state agencies should develop a regional strategic mitigation process founded on habitat conservation planning principles that generates more robust and effective mitigation than can be achieved on a project-by-project basis. This effort can be informed by endangered species recovery plans and other long-term land and wildlife conservation plans. Strategic mitigation planning must address the following:
    a. Incorporation of biodiversity sustainability/viability indicators, including long term surface and groundwater supplies
    b. Designation of regions, based on biological integrity and ecosystem functions
    c. Designation of target mitigation acquisition lands and public land actions within each region that will maximize habitat, maintain and protect migration corridors, and maximize species survival and recovery.
    d. Allocation of pooled mitigation funds and activities for larger scale land acquisitions of designated property and mitigation measures.
    e. Long term stewardship and funding of stewardship of mitigation lands

f. Mechanisms to ensure mitigation investments are enduring and mitigation investment decisions are science-based

2. **Improved Coordination:** Mitigation measures should be formulated as a comprehensive package, in which all jurisdictional agencies coordinate their requirements and review, and in which other state, federal and local resource agencies with relevant expertise and information are consulted to the maximum extent possible. The comprehensive package for any individual project should, to the maximum extent possible, contribute along with measures taken for other projects to provide coordinated and increased benefits to impacted species, habitat and corridors. Federal and state agencies should also consult with local land agencies, land trusts, and other local experts.

3. **Consistency in Mitigation Approaches:** Project proponents and conservation NGOs believe that it is important to apply basic mitigation principles of how and when to assess mitigation in a uniform manner, so that all parties have a clear understanding of what is expected by the DOI agencies. The following are recommended mitigation principles to ensure consistency across projects:

    a. Mitigation Hierarchy: Mitigation must follow the hierarchy of avoid first, then minimize, then restore, then offset. The first step ("avoid") refers to measures taken (e.g., siting decisions) to preclude significant impacts from the outset, in order to completely eliminate such impacts on certain components of biodiversity or to meet specific conservation goals. The second step ("minimization") refers to changes (e.g., to project design or operations) that reduce site-specific impacts.

    b. Specific Mitigation Requirements: Mitigation measures for individual projects should be clearly justified, specific to the impact, and enduring. They should also be formulated to clearly link the impact to be mitigated to one or more specific mitigation measures. For example, tortoise fencing requirements should first explain how the tortoise fencing contributes to compensating for unavoidable harm, and should prescribe how many miles must be fenced, where the fencing is to be placed, and who will maintain it. Finally, specific alternative mitigation measures of equivalent mitigation value should be identified, in the event a specified mitigation measure proves to be infeasible or impracticable.

    c. Mitigate Appropriate Level and Scale of Impacts: Mitigation must be required for significant impacts resulting from the renewable project, whether direct, indirect or cumulative, including significant impacts resulting from the scale of the project. Mitigation of cumulative impacts should be developed for areas and resources impacted by multiple renewable energy projects and should address impacts to habitat quality (e.g., connectivity), ground and surface water resources, and air quality.

d. Address Climate Change Impacts: In determining appropriate mitigation, DOI agencies should consider changes in habitat, corridors, and species needs as the climate changes.

4. **Compensatory Mitigation Principles:** Compensatory mitigation for individual projects should include:
    a. As a first preference, acquisition, restoration and long-term management of private lands, providing replacement habitat of at least equivalent size and function ("compensation lands"), provided that:
        i. Compensation lands are managed as conservation lands. If compensation lands are to be transferred to agencies, they should be legally protected and held solely for conservation purposes. For example, any compensation lands transferred to BLM should be permanently segregated or withdrawn from all non-conservation use under the mining, grazing and other land use laws, using legally effective means (e.g., deed restrictions with enforcement rights held by third parties).
        ii. Mitigation value of compensation lands may be increased by enhancements and/or restoration to improve habitat value, in the same fashion as provided below with respect to public lands;

    b. As a second preference, enhanced conservation management and/or restoration of specified public lands that would not have otherwise been conducted by the agency using public funds. For example, lands should be permanently segregated or withdrawn from all non-conservation use under the mining, grazing and other land use laws, and BLM should consider mitigation mechanisms identified in the CDCA Plan as amended, including construction and maintenance of fencing near roads, buy-outs and retirement of grazing allotment permits, route closure, and re-vegetation of closed routes, etc.

    c. Compensation lands, whether owned or managed by public or private entities, must be accompanied by assurance of adequate long-term conservation management. For example, this assurance could be addressed through a committed, non-wasting fund adequate to provide long-term conservation management to enhance and maintain the required resource values, or other enduring measures.

VI. Standardize requirements for scientific monitoring

Issue: BLM's "use authorization" process does not currently have in place a standardized set of requirements for scientific monitoring. Thus, when BLM issues use authorizations, the requirements for scientific monitoring are inconsistent across BLM offices and personnel. This inconsistency wastes time and money, and interferes with the collection of information that could be used by the agencies, project developers and other

stakeholders to improve planning, review, management, and decision-making for renewable energy and other desert resources.

Solution: Building on the Instruction Memorandum guidance issued on October 7, 2010, BLM should identify a comprehensive set of monitoring requirements to be used in all future use authorizations. Clear and consistent criteria will have multiple benefits, including increased cost-effectiveness for BLM, taxpayers, and project developers, and the creation of a "level playing field" for solar project developers and the utility customers who buy the solar electricity. In addition, the adoption of clear, consistent monitoring criteria will help to improve scientific understanding of desert resources, including desert wildlife species, their habitats and their needs, and the effects of large scale projects, information which can be used to improve environmental reviews, design better mitigation plans, and support the development of projects with fewer impacts. Such information can also be used to inform larger scale analyses of eco-regions, species and other key indicators, and be shared with other agencies working to improve resource management.

BLM's guidance should establish clear and consistent criteria for gathering the biological and other resource data needed to establish the appropriate "baseline", and to monitor these resources over the life of the "use authorization" at both individual project sites and across multiple project sites. Such standardized criteria shall specify:

- The type of scientific data needed, including the identification of control sites;
- Responsibility for each kind of data collection and monitoring;
- The timing and frequency of data collection and monitoring;
- Protocols for collecting and modeling the data;
- Protocols for managing the data collected;
- Protocols for analyzing the data collected;
- Limits of acceptable change in resource conditions, and actions to be taken if those limits are exceeded;
- "Fallback" measures to be put into effect in the event that specified monitoring activities are not carried out;
- The need to make all monitoring data available for public review and evaluation; and
- The need to finalize a detailed monitoring plan, and commitment to fund the plan, prior to initiating project construction.

VII. Improve coordination within and between agencies and departments

Issue: Experience with the "fast-track" projects has shown that coordination within and between federal agencies, as well as with appropriate state agencies, is critical to a timely and efficient permitting process. The approach to federal-state coordination taken in California (where there is a separate state permitting process for solar thermal projects through the California Energy Commission) ultimately worked well. This approach may also be helpful in other states. However, coordination between federal agencies is in serious need of improvement.

Solution: In specific and clear guidance, adopt an improved process for coordination within and between federal agencies as outlined below. Such guidance should also capture the essence of the approach to federal-state coordination taken in California. In this way, the Department can ensure that key federal agencies work together efficiently and effectively, and that the benefits of the California approach can be exported to other states. We provide these recommendations to help facilitate a robust and timely permitting process for appropriately sited projects.

Guidance should be issued that directs the following:

1. At the national level:

- Establish a coordinating council within DOI that includes representatives of the Secretary's office, Assistant Secretary of the Interior for Lands and Minerals, BLM, FWS, NPS, the Solicitor's office and other relevant agencies (BIA) to review status of project reviews and related policy development, including the solar PEIS, and identify barriers to realization of the Administration's and the Secretary's goals. Council to meet at least monthly (preferably every 2 weeks).

- Convene an inter-agency group composed of relevant agencies outside of DOI – i.e., DOD, EPA, ACOE, FAA, Forest Service, and DOE – on a regular basis to discuss cross-cutting issues relating to planning and permitting.

- Designate a single lead official whose full-time job is to coordinate and facilitate project reviews over the next 18 months and to oversee the building of the framework for a more efficient, effective and coordinated "long-term" policy.

2. Establish a similar structure at the state level, led by each BLM state office, to identify issues, barriers and problems for resolution. These groups should meet every two weeks and should report on these issues etc. to the federal coordinator on a regular basis. Identify key contacts within all federal agencies from the top offices to the district level.

3. Encourage state governments to enter into MOUs with DOI that will create parallel structures in each state to interact with the federal representatives. The groups established in California, i.e., the REPG and REAT, have been instrumental in ensuring improved communication and coordination. Ensure all key contacts are identified as in #2 above and seek to identify effective ways to include counties as appropriate.

4. Establish a process, goals and timeline for project reviews during the "transition period" between the fast track projects and the Solar PEIS (i.e., next 18 months) and for completion of the long-term policy.

5. Require state teams and the federal government to establish goals and a workplan to achieve those goals that identifies resource needs and deficiencies.

6. Work through the above DOI processes to complete the solar PEIS and to review existing policies re: wind and geothermal development.

7. Use the above DOI processes to evaluate whether a dispute resolution-like process could assist in resolving conflicts earlier between agencies, developers and the public.

8. At the same time, encourage CEQ to provide a forum for interdepartmental coordination and cooperation between agencies (including FERC, Treasury and Energy) and tribal governments to discuss policy and other issues essential to achieve Administration's clean energy strategy/goals.

Appendix A

List of Solar Fast Track Projects on Public Lands in CA as of October 16, 2009

CA	Tessera, Imperial Valley
	Bright Source, Ivanpah
	First Solar, Desert Sunlight
	Solar Millennium, Palen
	Solar Millennium, Blythe
	Solar Millennium, Ridgecrest
	Tessera, Calico
	Nextera Genesis, Ford Dry Lake
	Chevron, Lucerne Valley

Appendix B

Additional Solar Energy Development Study Areas in the Western Mojave
Explanatory Narrative (8/18/2010)

Background: Several prominent national environmental organizations[17] are actively participating in identifying issues and seeking appropriate opportunities for renewable energy development in the California Desert by developing recommended siting criteria that would potentially allow for development of projects in the an environmentally sustainable manner.

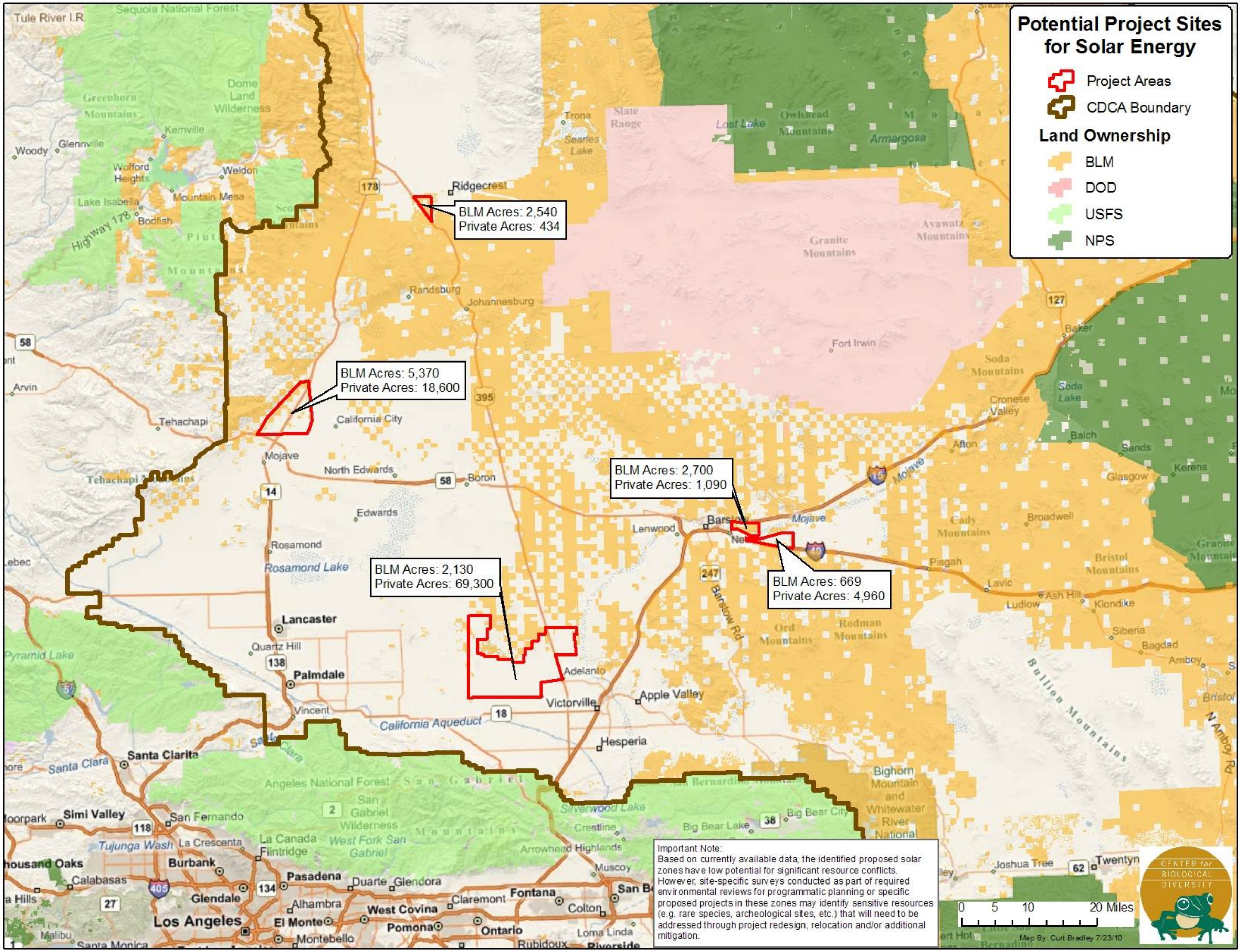
In April 2009 these organizations identified draft recommended solar energy development study areas consistent with their recommended siting criteria. These 2009 draft study areas were comprised of 53,400 acres of public land administered by the Bureau of Land Management and 242,200 acres of adjacent private lands. Subsequently these organizations sought to identify additional Western Mojave areas.

In recognition of the interest in the western Mojave region of California for solar energy development by industry, and the need to direct any such development to locations that are consistent with the siting criteria of the environmental organizations, additional potential solar study areas have been identified, as shown in the following table and on the attached map which consolidates the original study areas from 2009 with newly identified ones in the western Mojave desert.

Area Name	Acres		Total Acres	MW Potential[18]	
	Public (BLM)	Private		Public	Private
Ridgecrest	2,540	434	2,974	318	54
Mojave	5,370	18,600	23,970	671	2,325
Yermo	2,700	1,090	3,790	338	136
Newberry	669	4,960	5,629	84	6,200
Adelanto	2,130	69,300	71,430	266	8,662
Total	13,409	94,384	107,793	1,677	17,377

These potential study areas were selected based on a cursory analysis of slope, proximity to existing development and transmission infrastructure, and the same criteria used to select the original study areas in 2009. These additional locations are likely to have fewer biological values for conservation than other areas of the western Mojave desert due to existing disturbance, fragmentation of habitat and proximity to existing development. All of these areas include substantial private lands, because private lands tend to have sustained more disturbance and fragmentation as well as often being close to existing energy infrastructure

[17] Center for Biological Diversity, Defenders of Wildlife, Natural Resources Defense Council, Sierra Club, The Wilderness Society, Western Watersheds Project
[18] Assuming average of 8 acres/MW


Potential Project Sites for Solar Energy
Project Areas
CDCA Boundary
Land Ownership
BLM
DOD
USFS
NPS
BLM Acres: 2,540
Private Acres: 434
BLM Acres: 5,370
Private Acres: 18,600
BLM Acres: 2,700
Private Acres: 1,090
BLM Acres: 669
Private Acres: 4,960
BLM Acres: 2,130
Private Acres: 69,300
Important Note:
Based on currently available data, the identified proposed solar zones have low potential for significant resource conflicts. However, site-specific surveys conducted as part of required environmental reviews for programmatic planning or specific proposed projects in these zones may identify sensitive resources (e.g. rare species, archeological sites, etc.) that will need to be addressed through project redesign, relocation and/or additional mitigation.
0 5 10 20 Miles
Map By: Curt Bradley 7/23/10
CENTER for BIOLOGICAL DIVERSITY
Ridgecrest
Randsburg
Johannesburg
California City
Mojave
Tehachapi
North Edwards
Boron
Edwards
Rosamond
Rosamond Lake
Lancaster
Palmdale
Adelanto
Victorville
Apple Valley
Hesperia
Barstow
Lenwood
Fort Irwin
Granite Mountains
Soda Mountains
Baker
Santa Clarita
Los Angeles
California Aqueduct

Appendix C
Reference list for landscape-level biological linkage areas

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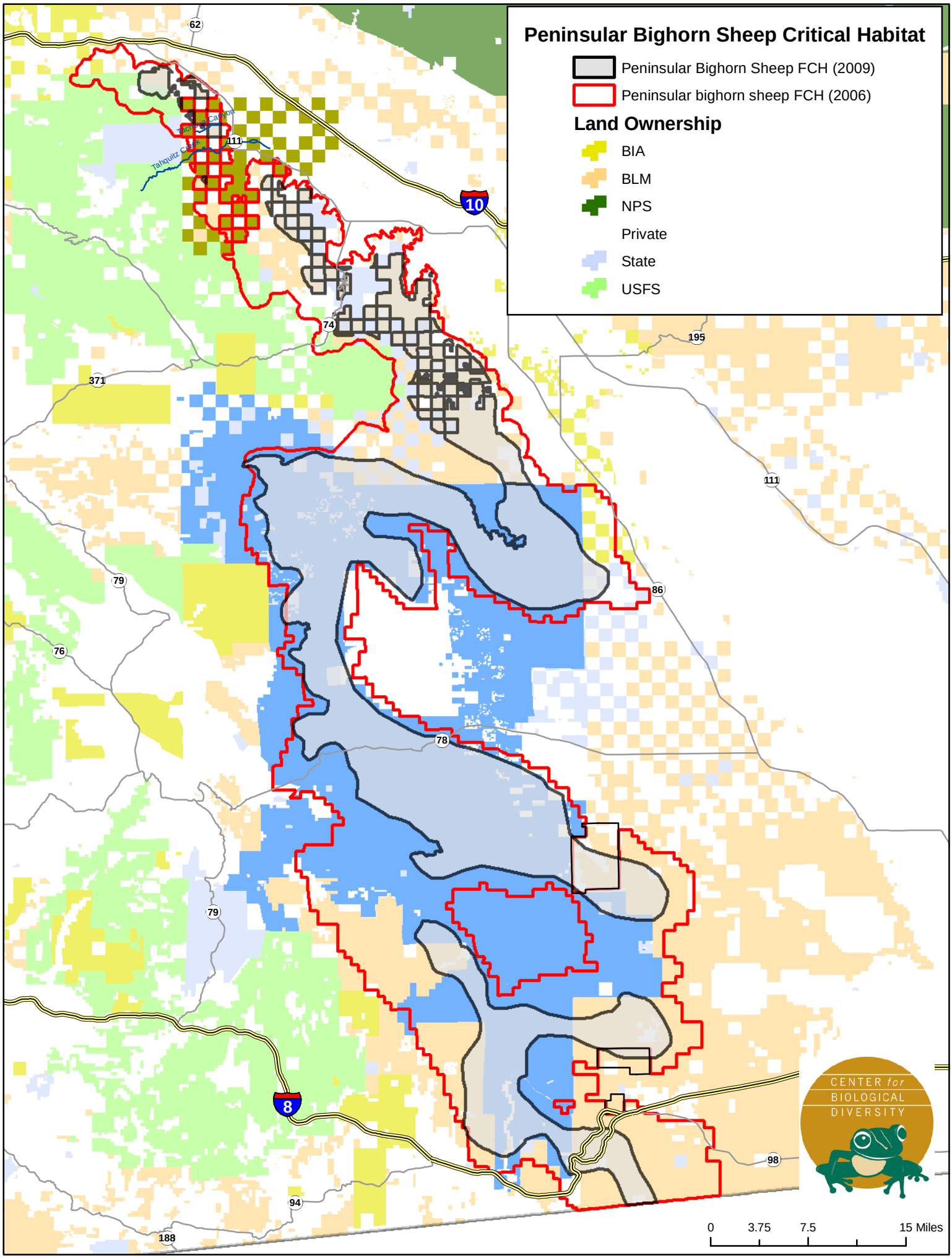
Beier, P., K. Penrod, C. Luke, W. Spencer, and C. Cabanero. 2006. South Coast Missing Linkages: restoring connectivity to wildlands in the largest metropolitan area in the United States. Pages 555-586 in: K. Crooks and M. Sanjayan (eds.). Connectivity Conservation. Cambridge University Press. (Beier et al. 2006)

Penrod, K., C.R. Cabanero, P. Beier, C. Luke, W. Spencer, E. Rubin, and C. Paulman. 2008. A linkage design for the Joshua Tree-Twentynine Palms connection. South Coast Wildlands, Fair Oaks, CA. www.scwildlands.org. (South Coast Wildlands 2008)
(http://www.scwildlands.org/reports/JT_TP_Connection.pdf)

Epps, C.W., J.D. Wehausen, V.C. Bleich, S.G. Torres, and J.S. Brashares. 2007. Optimizing dispersal and corridor models using landscape genetics. Journal of Applied Ecology 44:714-724. (Epps et al. 2007)


Peninsular Bighorn Sheep Critical Habitat
Peninsular Bighorn Sheep FCH (2009)
Peninsular bighorn sheep FCH (2006)
Land Ownership
BIA
BLM
NPS
Private
State
USFS
62
111
Tahquitz Creek
10
74
195
371
111
79
86
76
78
79
8
98
94
188
0
3.75
7.5
15 Miles
CENTER for BIOLOGICAL DIVERSITY