Appendix D
NEPA and CEQA Scoping

1. Notice of Intent
2. Notice of Preparation
3. Scoping Report

D.1 Notice of Intent

governance funding agreement may include, but are not limited to: Construction, farming, concessions, maintenance, biological program efforts, habitat management, fire management, and implementation of comprehensive conservation planning.

Locations of Refuges and Hatcheries With Close Proximity to Self-Governance Tribes

The Service developed the list below based on the proximity of identified self-governance Tribes to Service facilities that have components that may be suitable for administering through a self-governance funding agreement.

1. Alaska National Wildlife Refuges—Alaska
2. Alchesay National Fish Hatchery—Arizona
3. Humboldt Bay National Wildlife Refuge—California
4. Kootenai National Wildlife Refuge—Idaho
5. Agassiz National Wildlife Refuge—Minnesota
6. Mille Lacs National Wildlife Refuge—Minnesota
7. Rice Lake National Wildlife Refuge—Minnesota
8. National Bison Range—Montana
9. Ninepipe National Wildlife Refuge—Montana
10. Pablo National Wildlife Refuge—Montana
11. Sequoyah National Wildlife Refuge—Oklahoma
12. Tishomingo National Wildlife Refute—Oklahoma
13. Bandon Marsh National Wildlife Refuge—Washington
14. Dungeness National Wildlife Refuge—Washington
15. Makah National Fish Hatchery—Washington
16. Nisqually National Wildlife Refuge—Washington
17. Quinault National Fish Hatchery—Washington
18. San Juan Islands National Wildlife Refuge—Washington
19. Tamarac National Wildlife Refuge—Wisconsin

For questions regarding self-governance, contact Scott Aikin, Fish and Wildlife Service, National Native American Programs Coordinator, 1211 SE Cardinal Court, Suite 100, Vancouver, Washington 98683, telephone (360) 604–2531 or fax (360) 604–2505.

F. Eligible U.S. Geological Survey (USGS) Programs

The mission of the USGS is to collect, analyze, and provide information on biology, geology, hydrology, and geography that contributes to the wise management of the Nation's natural resources and to the health, safety, and well-being of the American people. This information is usually publicly available and includes maps, data bases, and descriptions and analyses of the water, plants, animals, energy, and mineral resources, land surface, underlying geologic structure, and dynamic processes of the earth. The USGS does not manage lands or resources. Self-governance Tribes may potentially assist the USGS in the data acquisition and analysis components of its activities.

For questions regarding self-governance, contact Monique Fordham, Esq., National Tribal Liaison, U.S. Geological Survey, 12201 Sunrise Valley Drive, Reston, Virginia 20192, telephone (703) 648–4437 or fax (703) 648–6683.

G. Eligible Office of the Special Trustee for American Indians (OST) Programs

The Department has responsibility for what may be the largest land trust in the world, approximately 56 million acres. OST oversees the management of Indian trust assets, including income generated from leasing and other commercial activities on Indian trust lands, by maintaining, investing and disbursing Indian trust financial assets, and reporting on these transactions. The mission of the OST is to serve Indian communities by fulfilling Indian fiduciary trust responsibilities. This is to be accomplished through the implementation of a Comprehensive Trust Management Plan (CTM) that is designed to improve trust beneficiary services, ownership information, management of trust fund assets, and self-governance activities.

A Tribe operating under self-governance may include the following programs, services, functions, and activities or portions thereof in a funding agreement:

1. Beneficiary Processes Program (Individual Indian Money Accounting Technical Functions).

2. Appraisal Services Program. Tribes/consortia that currently perform these programs under a self-governance funding agreement with the Office of Self-Governance (OSG) may negotiate a separate memorandum of understanding (MOU) with OST that outlines the roles and responsibilities for management of these programs.

The MOU between the Tribe/consortium and OST outlines the roles and responsibilities for the performance of the OST program by the Tribe/consortium. If those roles and responsibilities are already fully articulated in the existing funding agreement with the OSG, an MOU is not necessary. To the extent that the parties desire specific program standards, an MOU will be negotiated between the Tribe/consortium and OST, which will be binding on both parties and attached and incorporated into the OSG funding agreement.

If a Tribe/consortium decides to assume the operation of an OST program, the new funding for performing that program will come from OST program dollars. A Tribe's newly-assumed operation of the OST program(s) will be reflected in the Tribe's OSG funding agreement.

For questions regarding self-governance, contact Lee Frazier, Program Analyst, Office of External Affairs, Office of the Special Trustee for American Indians (MS 5140—MIB), 1849 C Street NW, Washington, DC 20240–0001, phone: (202) 208–7587, fax: (202) 208–7545.

IV. Programmatic Targets

The programmatic target for Fiscal Year 2018 provides that, upon request of a self-governance Tribe, each non-BIA bureau will negotiate funding agreements for its eligible programs beyond those already negotiated.

V. Public Disclosure

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: February 15, 2018.

Ryan K. Zinke,

Secretary.

[FR Doc. 2018–04743 Filed 3–8–18; 8:45 am]

BILLING CODE 4337–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLCAD06000 L51010000.ER0000 17XL5017AP LVRWB17B5120 CACA 051967]

Notice of Intent To Prepare a Joint Environmental Impact Statement/Environmental Impact Report and Possible Land Use Plan Amendment for the Proposed RE Crimson Solar Project, Riverside County, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), and the Federal Land Policy and Management Act of 1976, as amended (FLPMA), the Bureau of Land Management (BLM)

Palm Springs-South Coast Field Office, Palm Springs, CA, intends to prepare a joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR), including a potential amendment to the California Desert Conservation Area (CDCA) Plan, and by this Notice is announcing the beginning of the scoping process to solicit public comments and identify issues.

DATES: This Notice initiates the public scoping process for the EIS/EIR and possible plan amendments. Comments on issues may be submitted in writing until April 9, 2018. The date(s) and location(s) of any scoping meetings will be announced at least 15 days in advance through local media, newspapers, and the BLM website at: *https://eplanning.blm.gov/.*

To be included in the Draft EIS/EIR, all comments must be received prior to the close of the 30-day scoping period or 15 days after the last public meeting, whichever is later. The BLM will provide additional opportunities for public participation upon publication of the Draft EIS/EIR.

ADDRESSES: The public may submit comments related to the RE Crimson Solar Project by any of the following methods:

- *Website: https://eplanning.blm.gov/.*
- *Email: blm_ca_crimsonsolar@blm.gov.*
- *Fax:* (541) 618–2400, ATTN: Miriam Liberatore, project manager, RE Crimson Solar.
- *Mail:* ATTN: Miriam Liberatore, project manager, RE Crimson Solar, Bureau of Land Management, 3040 Biddle Road, Medford, OR 97504.

Documents pertinent to this proposal may be examined at the BLM Palm Springs-South Coast Field Office located at 1201 Bird Center Drive, Palm Springs, CA 92262.

FOR FURTHER INFORMATION CONTACT: Miriam Liberatore, project manager, telephone (541) 618–2412; address Bureau of Land Management, 3040 Biddle Road, Medford, OR 97504; email: *mliberat@blm.gov.* Contact Ms. Liberatore to be added to the mailing list. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at (800) 877–8339, to contact the above individual during normal business hours. The Service is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. Telephone replies will be returned during normal business hours.

SUPPLEMENTARY INFORMATION: Sonoran West Solar Holdings, LLC, a wholly owned subsidiary of Recurrent Energy LLC, has requested a right-of-way (ROW) authorization to construct, operate, maintain, and decommission a maximum 350 megawatt solar photovoltaic facility and necessary ancillary facilities, including battery storage, project substations, access roads, operations and maintenance buildings, and lay down areas.

The Project site consists of about 2,700-acres of BLM-administered land within the Riverside East Solar Energy Zone (SEZ). The Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment also designated the area as a Development Focus Area (DFA).

This document provides notice that the BLM Palm Springs-South Coast Field Office and the California Department of Fish and Wildlife intend to jointly prepare an EIS/EIR, which may include a CDCA Plan Amendment, for the Project. It also announces the beginning of the scoping process for this effort and seeks public input on environmental issues and potential planning criteria relevant to the Project and any potential plan amendments. The public scoping process guides the planning process and determines the relevant issues that will influence the scope of the environmental analysis, including alternatives and environmental consequences.

Preliminary issues for the project have been identified by BLM personnel; Federal, State, and local agencies; and other stakeholders. The issues include: Air quality and greenhouse gas emissions; biological resources, including special status wildlife and vegetation species; cultural resources; geology and soils; hazards and hazardous materials; hydrology and water quality; lands and realty; mineral resources; noise; paleontological resources; recreation; socioeconomics and environmental justice; special designations; transportation and travel management; visual resources; wildland fire ecology; and areas with high potential for renewable energy development.

Written comments may be submitted to the BLM at a scoping meeting, or via one of the methods listed in the addresses section above. Input must be received by the close of the 30-day scoping period or within 15 days after the last public meeting, whichever is later.

By this Notice, the BLM is complying with requirements in 43 CFR 1610.2(c) to notify the public of potential amendments to the CDCA Plan, as amended, predicated on the findings in the EIS/EIR.

If one or more land use plan amendments are necessary, the BLM will integrate the land use planning process with the NEPA process for the Project. A preliminary list of the potential planning criteria that will be used to help guide and define the scope of the plan amendment includes:

1. The plan amendments will be completed in compliance with FLPMA, NEPA, and all other relevant Federal laws, executive orders, and BLM policies;

2. Existing valid plan decisions will not be changed and any new plan decisions will not conflict with existing plan decisions; and

3. The plan amendment(s) will recognize valid existing rights.

The public may submit comments to the BLM on issues and planning criteria in writing at any public scoping meeting, or by using one of the methods listed in the **ADDRESSES** section above.

The BLM will use and coordinate the NEPA scoping process to help fulfill the public involvement process under the National Historic Preservation Act (NHPA) (54 U.S.C. 306108 as provided in 36 CFR 800.2(d)(3)). The information about historic and cultural resources within the area potentially affected by the proposed action will assist the BLM in identifying and evaluating impacts to such resources.

The BLM will consult with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, will be given due consideration. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the proposed action that the BLM is evaluating are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate in the development of the environmental analysis as a cooperating agency.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. The minutes and list of attendees for each scoping meeting will be available to the public and open for 30 days after the meeting to any participant who wishes to clarify the views he or she expressed. With respect to the

potential land use plan amendment, the BLM will evaluate identified issues to be addressed in the plan amendment, and will place them into one of three categories:

1. Issues to be resolved in the plan amendment;

2. Issues to be resolved through policy or administrative action; or

3. Issues beyond the scope of this plan amendment.

The BLM will provide an explanation in the Draft EIS/EIR as to why an issue was placed in category two or three. The public is also encouraged to help identify any management questions and concerns that should be addressed in the EIS/EIR and potential land use plan amendments. The BLM will work collaboratively with interested parties to identify the management decisions that are best suited to local, regional, and national needs and concerns.

The BLM will use an interdisciplinary approach to develop the EIS and potential land use plan amendments in order to consider the variety of resource issues and concerns identified. Specialists with expertise in the following disciplines will be involved in the planning process: Air, minerals and geology, outdoor recreation, archaeology, paleontology, wildlife and botany, lands and realty, hydrology, soils, sociology, and economics.

Authority: 40 CFR 1501.7 and 43 CFR 1610.2.

Danielle Chi,

BLM California Deputy State Director.

[FR Doc. 2018–04691 Filed 3–8–18; 8:45 am]

BILLING CODE 4310–40–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[17XL1109AF LLUTG01100 L13100000.EJ0000]

Notice of Availability of a Draft Environmental Impact Statement for the Greater Chapita Wells Natural Gas Infill Project, Uintah County, Utah

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of availability.

SUMMARY: In accordance with the National Environmental Policy Act of 1969, as amended, the Bureau of Land Management (BLM) has prepared a Draft Environmental Impact Statement (EIS) for the Greater Chapita Wells Natural Gas Infill Project and by this notice is announcing the opening of the comment period.

DATES: To ensure comments will be considered, the BLM must receive written comments on the Greater Chapita Wells Draft EIS within 45 days following the date the Environmental Protection Agency publishes its NOA in the **Federal Register**. The BLM will announce future meetings or hearings and any other public involvement activities at least 15 days in advance through public notices, media releases, and/or mailings.

ADDRESSES: You may submit comments related to the Greater Chapita Wells project by any of the following methods:

- *Website: http://go.usa.gov/csKAz.*
- *Email: UT_Vernal_Comments@blm.gov.*
- *Fax:* 435–781–4410.
- *Mail:* Bureau of Land Management, Vernal Field Office, 170 South 500 East, Vernal, Utah 84078.

Copies of the Greater Chapita Wells Draft EIS are available in the Vernal Field Office at the above address and website.

FOR FURTHER INFORMATION CONTACT: Stephanie Howard, Project Manager, 435–781–4400; BLM Vernal Field Office, 170 South 500 East, Vernal, UT 84078; *showard@blm.gov.* Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service (FRS) at 1–800–877–8339 to contact the above individual during normal business hours. FRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The BLM published in the September 9, 2009, **Federal Register** a Notice of Intent to prepare an EIS (74 FR 46458). The Greater Chapita EIS Project Area encompasses approximately 43,109 acres located in Township 8 South, Ranges 22 through 24 East; Township 9 South, Ranges 22 and 23 East; and Township 10 South, Range 23 East, Salt Lake Base and Meridian, about 25 miles south of Vernal, Utah. Of the 43,109 acres within the project area, about 76 percent is Federal surface administered by the BLM; 15 percent is tribal trust surface; 5 percent is State of Utah surface administered by the Utah Trust Lands Administration; and 4 percent is private surface. The entire project is within the exterior boundary of the Uintah and Ouray Reservation (Uncompahgre Indian Country).

Oil and gas drilling has been ongoing within the Chapita project area since 1952. As of March 2014, the project area contained 1,247 active gas wells on 960 well pads, approximately 257 miles of roads, and approximately 268 miles of pipelines. Total existing disturbance in the project area is approximately 3,975 acres, with approximately 1,000 acres under interim reclamation.

The Draft EIS analyzes a proposal by EOG Resources Inc (EOG) to further develop natural gas resources on their Federal leases in the project area. EOG's proposal includes drilling up to 2,808 new wells and constructing associated ancillary transportation, transmission, and water disposal facilities within the project area. The proposed life of the project is 55 years, with drilling and development activities to occur within the first 15 years. The new gas wells would be drilled to the Green River, Wasatch, Mesaverde Group (including the Blackhawk), Mancos, and Dakota formations at depths of 6,000 to 15,000 feet.

The Draft EIS describes and analyzes in detail the impacts of the No Action Alternative, and three action alternatives, including EOG's Proposed Action. Seven additional alternatives were considered, but eliminated from detailed analysis. The alternatives considered in detail include a landscape-scale mitigation plan that incorporates applicant-committed measures, design features (including best management practices), and the mitigation hierarchy, including compensatory mitigation as applicable to minimize or eliminate impacts to the resources of concern. In particular, the Draft EIS action alternatives contain an applicant-committed ozone management strategy designed to provide a reasonable assurance that project implementation would not contribute to the ongoing ozone situation in the Uinta Basin. This strategy contains five approaches to managing project emissions, including: Applicant-committed emission reduction measures; audio, visual, olfactory and infrared monitoring; a commitment to no-net increase of volatile organic compound emissions to be tracked via an emissions balance sheet; ozone training for personnel; and an ozone event action plan. The following is a summary of the main components of the various alternatives:

1. *No Action Alternative*—The proposed natural gas development on BLM lands and leases as described in the Proposed Action would not be implemented. However, under this alternative, natural gas exploration and development is assumed to continue on Federal, State, and private lands under previous authorizations. Up to 462 new gas wells would be drilled from 425 new well pads and 37 expanded well pads. This alternative also includes expansion of an existing compressor station, construction of 18 liquids gathering system (LGS) facilities,

D.2 Notice of Preparation

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region (Region 6)
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

Notice of Preparation of a Joint Draft Environmental Impact Statement/Environmental Impact Report and Notice of Public Scoping Meetings

Date: March 8, 2018

To: Responsible/Trustee Agencies and Interested Parties

From: California Department of Fish and Wildlife

Subject: Notice of Preparation (NOP) of a Joint Draft Environmental Impact Statement/Environmental Impact Report for the RE Crimson Solar Project and Notice of Public Scoping Meetings

NOP Public Review Period: March 9 to April 23, 2018

Public Scoping Meetings:

Date: April 11, 2018 (Wednesday) **Location:** University of California, Riverside, Palm Desert, Room B117, 75080 Frank Sinatra Drive, Palm Desert, CA 92211 **Time**: 5:00 to 8:00 p.m.	**Date:** April 12, 2018 (Thursday) **Location:** City of Blythe Multipurpose Room, City Hall, 235 North Broadway, Blythe, CA 92225 **Time:** 12:00 to 3:00 p.m.

A. Introduction

In accordance with Section 15063 of the California Environmental Quality Act (CEQA) Guidelines, the California Department of Fish and Wildlife (CDFW), as the CEQA lead agency, will prepare a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the RE Crimson Solar Project (proposed project) jointly with the U.S. Department of the Interior Bureau of Land Management (BLM). The project applicant, Recurrent Energy (RE), will need to obtain an Incidental Take Permit (ITP) and Lake and Streambed Agreement (LSAA) from the California Department of Fish and Wildlife and has also filed a Right-of-Way (ROW) Grant application with BLM. CDFW's need to contemplate a ITP and LSAA triggers the need to comply with CEQA and BLM's need to contemplate a right-of-way grant application triggers the need to comply with the National Environmental Policy Act (NEPA). CDFW and BLM have agreed to prepare a joint Draft EIS/EIR for the RE Crimson Solar Project. Therefore, CDFW, as the lead agency under California law, and BLM, as the federal lead agency, will prepare a Draft and Final EIR/EIS to comply with CEQA and NEPA.

As required by CEQA, this Notice of Preparation (NOP) is being sent to the Office of Planning and Research, responsible and trustee agencies and interested members of the public who submitted a request for such notices. The purpose of the NOP is to inform recipients that CDFW is beginning preparation of an EIS/EIR for the proposed project and to solicit comments concerning the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Information that will be most useful at this time would be descriptions of the significant environmental issues and reasonable alternatives and mitigation measures you would like to see explored in the Draft EIS/EIR.

As required by NEPA, the BLM will publish a Notice of Intent (NOI) in the Federal Register for preparation of a joint EIR/EIS for the RE Crimson Solar Project. Similar to this NOP, the intent of the NOI is to initiate the public scoping for the EIR/EIS, provide information about the proposed project, and also serve as an invitation for other federal agencies granted cooperating agency status to provide comments on the scope and content of the EIR/EIS.

This NOP includes background information on the project and the project location (Section B), a description of the proposed project (Section C), a summary of potential project impacts (Section D), time and location of the public scoping meetings (Section E), information on how to provide comments to CDFW (Section F), and where documents are available for public review (Section G).

In accordance with CEQA Guidelines Section 15082(b), there will be a 45-day comment period for this NOP, beginning on March 9, 2018, and ending on April 23, 2018. CDFW welcomes agency and public input during the public review period. In the event that no response or well-justified request for additional time is received from any responsible, federal, or trustee agency by the end of the review period, CDFW may presume that such agencies have no response.

B. Background and Project Location

B.1 Background

Sonoran West Solar Holdings LLC (Applicant), a wholly owned subsidiary of Recurrent Energy LLC, proposes to construct, operate, and decommission the proposed 350 megawatt (MW) utility-scale solar photovoltaic (PV) and would include up to 350 MW energy storage on approximately 2,500 acres of public lands administered by the BLM within the California Desert Conservation Area (CDCA) planning area. The proposed project is also located within the Riverside East Solar Energy Zone (SEZ) and within a Desert Renewable Energy Conservation Plan (DRECP) Development Focus Area (DFA).

The proposed project site was formerly identified for development of the Sonoran West Solar Energy Generating Station as proposed by BrightSource Energy in 2009. The former Sonoran

West project consisted of a 540-megawatt (MW) dual-turbine power tower project on approximately 7,600 acres of a combination of BLM-administered and privately owned land. The current proposed project represents a substantial reduction in land use requirements and associated impacts.

B.2 Project Location

The proposed project site is located in unincorporated eastern Riverside County, approximately 13 miles west of Blythe, north of Mule Mountain, and south of Interstate 10 (I-10), including portions of Sections 1, 2, 11, 12, 13, 24, and 25 within Township 7 South, Range 20 East; and portions of Sections 6, 7, 17, and 18 within Township 7 South, Range 21 East (Figure 1). The proposed project site consists of approximately 2,500 acres of BLM-administered land within the Riverside East SEZ and within a DRECP DFA. The proposed project is not sited within the adjacent Section 368 Federal Energy Corridor pursuant to the Westwide Energy Corridor Final Programmatic EIS, except for a short gen-tie line that would interconnect the utility-scale solar PV facility to the Colorado River Substation.

The proposed project site is situated at the eastern edge of the Chuckwalla Hydrologic Area. The project area supports a broad alluvial fan that includes many braided washes and channels that converge into a primary channel flowing into an intra-state playa lake northwest of the proposed project site.

The proposed project site is surrounded primarily by BLM-managed lands with some private parcels also located in the vicinity. The proposed project site is located at the northern foot of the Mule Mountain Area of Critical Environmental Concern, which is an important cultural resource for local Native American tribes. Southern California Edison (SCE) high-voltage transmission lines and the Colorado River Substation (CRS) are located directly north of the proposed project site, and the I-10 freeway is north of and parallel to those facilities. The proposed First Solar Desert Quartzite project site is located to the east of the proposed project site, and the recently approved Blythe Mesa Solar Project is located northeast of the Desert Quartzite site. Designated critical habitat for desert tortoise is located to the west of the proposed project site as is the Chuckwalla Desert Wildlife Management Area and Critical Habitat Unit.

C. Project Description

The proposed project consists of a utility-scale solar PV and energy storage project that would be located on up to approximately 2,500 acres of public lands managed by the BLM within the CDCA planning area. The proposed project would interconnect to the regional electrical grid at the SCE 230-kilovolt (kV) CRS. The project would generate up to 350 MW of renewable energy using PV technology and would include up to 350 MW of integrated energy storage capacity.

The proposed project is comprised of the following components/facilities:

- **Photovoltaic Modules and Support Structures**: the solar facility would include an estimated 2 million solar modules, although the precise module count would depend on the technology ultimately selected at the time of procurement. Module mounting systems that may be installed include either fixed-tilt or tracking technology, depending on the PV modules ultimately selected. Modules would be arranged next to each other in long strings called rows and supported by steel piles.
- **Inverters, Transformers, and Electrical Collection System**: The proposed project would be designed and laid out primarily in 2 MW increments, which would include an inverter equipment area measuring approximately 40 feet by 25 feet. Each 2 MW increment would include an inverter-transformer station constructed on a concrete pad or steel skid and centrally located within the PV arrays.
- **Project Substations and Gen-Tie Line**: Up to four substations would transform voltage from the 34.5 kV electrical collection cables to 230 kV. The area of each substation and associated equipment would be approximately 30,000 square feet and would include power transformers and footings, control buildings, metering stands, microwave towers up to approximately 100 feet in height, and dead-end structures up to approximately 80 feet in height. The project gen-tie would be would be constructed with either monopoles, lattice steel structures, or wooden H-frame poles. A portion of the gen-tie line may be constructed underground to cross under existing transmission lines.
- **Operations and Maintenance Building**: An operations and maintenance (O&M) building would be located near the project substations. The O&M building would be approximately 2,000 square feet (approximately 40 feet by 50 feet by 15 feet at its tallest point) and would accommodate O&M staff.

Other features/components of the proposed facility include a supervisory control and data acquisition system, an optional battery or flywheel storage system capable of storing up to 350 MW of electricity, a meteorological data collection system, and telecommunications facilities. If provided, the storage system would consist of up to 3,000 electrical enclosures measuring approximately 40 feet by 8 feet by 8.5 feet high and installed on concrete foundations.

Access to the project site would be provided from the existing paved Powerline Road to the CRS. The project's on-site roadway system would include a perimeter road, access roads, and internal roads. In the event that the Applicant cannot reach an agreement with the private landowner, two new access road segments along Powerline Road would be constructed in order to avoid two privately owned parcels through which the existing Powerline Road crosses. Multiple points of ingress/egress would be provided to the site and accessed by site personnel via locked gates. Security fencing would be installed along the perimeter of the proposed project site and motion-sensitive, directional security lights would be installed to provide adequate

illumination around the substation areas, each inverter cluster, and at gates. Other security measures including infrared security cameras may be installed.

D. Potential Environmental Effects

The EIS/EIR will evaluate potential environmental effects of the proposed project. The EIS/EIR will identify reasonable alternatives, compare the environmental impacts of the alternatives to those of the proposed project, and propose mitigation to avoid and/or reduce impacts deemed potentially significant.

Potential issues and impacts to the existing environment to be analyzed in the EIS/EIR include the following environmental topics. Note, topic names in parenthesis below is terminology used in NEPA documentation and will appear in the joint EIR/EIS.

- Aesthetics (Visual Resources)
- Air Quality
- Biological Resources
- Cultural and Paleontological Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials, Wildland Fire Ecology
- Hydrology and Water Quality
- Land Use and Planning (Lands and Realty)
- Mineral Resources
- Noise
- Population and Housing (Socioeconomics and Environmental Justice)
- Recreation
- Tribal Cultural Resources
- Transportation and Traffic (Transportation and Public Access)
- Utilities and Public Services

The EIS/EIR will also address the cumulative environmental consequences of the proposed project in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area. This will serve to satisfy CEQA requirements regarding regional cumulative effect concerns. Pursuant to CEQA Guidelines Section 15063(a), CDFW has elected to proceed directly to the preparation of a Draft EIR rather than preparing an Initial Study.

In compliance with CEQA Guidelines Section 15126.6, the EIS/EIR will describe and evaluate the comparative merits of a reasonable range of alternatives to the proposed project. The EIS/EIR will also identity any alternatives that were considered but rejected by the lead agency as infeasible and briefly explain the reasons why. The EIS/EIR will provide an analysis of the No Project Alternative and will also identify the environmentally superior alternative. The alternatives to be analyzed in the EIS/EIR will be developed during the environmental review process and will consider input received during public scoping.

E. Public Scoping Meeting

CDFW and BLM will hold two public scoping meetings to inform interested parties about the proposed project, and to provide agencies and the public with an opportunity to provide written comments on the scope and content of the joint EIS/EIR. The meeting dates, locations, and times are as follows:

Date: April 11, 2018 (Wednesday) **Location:** University of California, Riverside Palm Desert, Room B117, 75080 Frank Sinatra Drive, Palm Desert, CA 92211 **Time**: 5:00 to 8:00 p.m.	**Date:** April 12, 2018 (Thursday) **Location:** City of Blythe Multipurpose Room, City Hall, 235 North Broadway, Blythe, CA 92225 **Time:** 12:00 to 3:00 p.m.

The meeting space is accessible to persons with disabilities. Individuals needing special assistive devices will be accommodated to the best ability of CDFW. For more information, please contact Magdalena Rodriguez via email at magdalena.rodriguez@wildlife.ca.gov or phone at 909.844.2520 at least 1 week before the meeting.

Everyone is encouraged to attend a meeting to express their concerns about the proposed project and to offer suggestions regarding the project as proposed, including alternatives.

F. Providing Comments

At this time, CDFW is soliciting comments on the NOP regarding your views on how the project may affect the environment. This information will be considered when preparing the Draft EIS/EIR's discussion of environmental topics, significant effects, mitigation measures, and alternatives. Because of time limits mandated by state law, comments should be provided no later than 5:00 p.m. on [April 23, 2018 (45-day comment period).

You may submit comments in a variety of ways: (1) by U.S. mail, (2) by electronic mail (email), or (3) by attending a public scoping meeting and submitting written comments at that time. Comments provided by email should include "**RE Crimson Solar Project NOP Scoping Comments**" in the subject line, and the name and physical address of the commenter should be contained in the body of the email.

Please send all comments to:

California Department of Fish and Wildlife
Attention: Magdalena Rodriguez, Project Manager
Mailing Address: 3602 Inland Empire Boulevard, Suite C220, Ontario, California 91764

OR via email: magdalena.rodriguez@wildlife.ca.gov
(subject line: "**RE Crimson Solar Project NOP Scoping Comments**")

All comments on environmental issues received during the public comment period will be considered and addressed in the Draft EIS/EIR, which is anticipated to be available for public review in late 2018/early 2019.

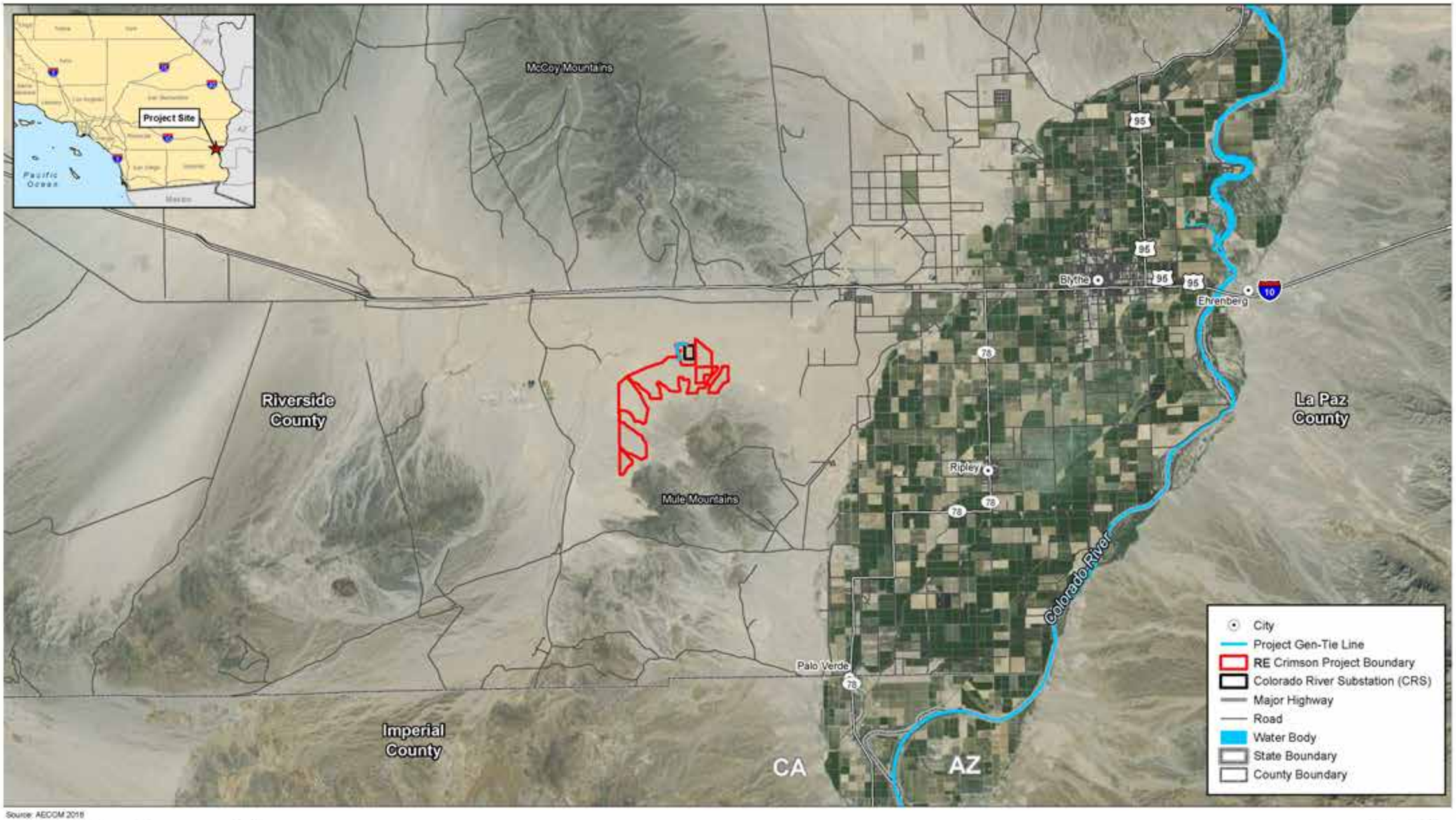
G. Location of Documents Available for Public Review

A hard copy of the NOP is available for review at the locations listed in Table 1.

Table 1
Repository Sites

Site	Address	Telephone
CDFW Blythe Office	17041 South Lovekin Boulevard Blythe, CA 92225	760.922.9189
CDFW Inland Deserts Region Office	3602 Inland Empire Boulevard, Suite C220, Ontario, CA 91764	909.484.0167
BLM Palm Springs-South Coast Field Office	1201 Bird Center Drive, Palm Springs, CA 92262	760.833.7150
Palo Verde Valley District Library	125 West Chanslor Way Blythe, CA 92225	760.922.5371
Lake Tamarisk Public Library	43880 Tamarisk Drive Desert Center, CA 92239	760.227.3273

The NOP and all public review documents for this project will also be available for review online at https://www.wildlife.ca.gov/Notices



Source: AECOM 2018

3 1.5 0 3 Miles

1:190,080 1 inch = 3 miles

Figure 1
Notice of Preparation - Project Location Map

Attachment 1

California Environmental Quality Act Environmental Checklist

Following are the questions included in Appendix G of the California Environmental Quality Act (CEQA) Guidelines Environmental Checklist Form (California Code of Regulations, Section 15000 et seq.). These are issues that may be evaluated in an Environmental Impact Statement/Environmental Impact Report (EIS/EIR), if they are determined to be relevant to the project. This list is provided only to provide the reader with a general idea of the environmental topics that could be considered for the proposed project. As a joint EIS/EIR is being prepared for the proposed RE Crimson Solar Project, a few topic names listed below may differ to comply with National Environmental Policy Act (NEPA) terminology, but the environmental evaluation will address the CEQA impact significance criteria.

I. AESTHETICS (VISUAL RESOURCES). Would the project:

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Substantially degrade the existing visual character or quality of the site and its surroundings?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

- Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
- Result in the loss of forest land or conversion of forest land to non-forest use?
- Involve other changes in the existing environmental which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- Expose sensitive receptors to substantial pollutant concentrations?
- Create objectionable odors affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES. Would the project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

V. CULTURAL AND PALEONTOLOGICAL RESOURCES. Would the project:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
- Directly or indirectly destroy a unique paleontological resource or site unique geologic feature?
- Disturb any human remains, including those interred outside of formal cemeteries?

VI. GEOLOGY AND SOILS. Would the project:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to the California Division of Mines and Geology Spec. Pub. 42)
    - Strong seismic groundshaking?
    - Seismic-related ground failure, including liquefaction?
    - Landslides?
- Result in substantial soil erosion or the loss of topsoil?
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?

VII. GREENHOUSE GAS EMISSIONS. Would the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

VIII. HAZARDS/HAZARDOUS MATERIALS, WILDLAND FIRE ECOLOGY. Would the project:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

IX. HYDROLOGY AND WATER QUALITY. Would the project:

- Violate any water quality standards or waste discharge requirements?

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount or surface runoff in a manner which would result in flooding on- or off-site?
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- Otherwise substantially degrade water quality?
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
- Inundation by seiche, tsunami, or mudflow?

X. LAND USE AND PLANNING (LANDS AND REALTY). Would the project:

- Physically divide an established community?
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- Conflict with any applicable habitat conservation plan or natural community conservation plan?

XI. MINERAL RESOURCES. Would the project:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

XII. NOISE. Would the project result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

XIII. POPULATION AND HOUSING (SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE). Would the project:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extensions of roads or other infrastructure)?
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

XIV. PUBLIC SERVICES.

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire protection?

- Police Protection?
- Schools?
- Parks?
- Other public facilities?

XV. RECREATION. Would the project:

- Increase the use of existing neighborhood, and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

XVI. TRANSPORTATION AND TRAFFIC (TRANSPORTATION AND PUBLIC ASSESS). Would the project:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

XVII. TRIBAL CULTURAL RESOURCES.

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and

scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

XVIII. UTILITIES AND SERVICES SYSTEMS. Would the project:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- Comply with federal, state, and local statutes and regulations related to solid waste?

IXX. MANDATORY FINDINGS OF SIGNIFICANCE:

- Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

- Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)
- Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

D.3 Scoping Report

PUBLIC SCOPING REPORT

Environmental Impact Statement / Environmental Impact Report Recurrent Energy Crimson Solar Project

Lead Agencies:

Bureau of Land Management
Contact: Miriam Liberatore
1201 Bird Center Drive
Palm Springs, California 92622

California Department of Fish and Wildlife
Contact: Magdalena Rodriguez
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764

MAY 2018

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Acronyms Used in this Report

ACM	asbestos containing material
BLM	Bureau of Land Management
CAISO	California Independent System Operator
CCR	California Code of Regulations
CDCA	California Desert Conservation Area
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CORVA	California Off-Highway Vehicle Association
CWA	Clean Water Act
DFA	Development Focus Area
DRECP	Desert Renewable Energy Conservation Plan
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FESA	Federal Endangered Species Act
FLPMA	Federal Lands Policy and Management Act
LWC	Lands with Wilderness Characteristics
MDAQMD	Mojave Desert Air Quality Management District
NAAQS	National Ambient Air Quality Standards
NECO	Northern and Eastern Colorado Desert Coordinated Management Plan
NEPA	National Environmental Policy Act
NOI	Notice of Intent
NOP	Notice of Preparation
kV	kilovolt
MW	megawatt

PV	photovoltaic
ROW	Right-of-Way
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCE	Southern California Edison
SCS	Sustainable Communities Strategies
SSC	Species of Special Concern
USFWS	U.S. Fish and Wildlife Service

SECTION 1
Overview of NEPA/CEQA Scoping Process

1.1 Introduction

Sonoran West Solar Holdings, LLC, a wholly owned subsidiary of Recurrent Energy, LLC, (the Applicant) has applied to the Bureau of Land Management (BLM) for a right-of-way (ROW) grant on public lands to construct, operate, maintain, and decommission a 350 megawatt (MW) photovoltaic (PV) solar energy generating facility and related infrastructure on approximately 2,500 acres of BLM administered public lands, located approximately 13 miles west of the City of Blythe, California, in unincorporated Riverside County. The Recurrent Energy (RE) Crimson Solar Project (Project) would interconnect to the regional electrical grid at the Southern California Edison (SCE) 220 kilovolt (kV) Colorado River Substation, generate up to 350 megawatts (MW) of renewable energy using PV technology, and include up to 350 MW of integrated energy storage capacity.

If the ROW grant application is approved, an amendment of the California Desert Conservation Area Plan of 1980, as amended (CDCA Plan) would be required to identify the site as appropriate for the proposed use. The ROW grant application and CDCA Plan amendment are subject to review under the National Environmental Policy Act (NEPA). The Project also would require authorization by the California Department of Fish and Wildlife (CDFW) of an Incidental Take Permit and a Lake and Streambed Agreement. These discretionary permitting decisions are subject to review under the California Environmental Quality Act (CEQA). The BLM, as the federal lead agency, and CDFW, as the State lead agency, have agreed to prepare a joint Draft Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) for the Project.

This scoping report documents the joint NEPA/CEQA scoping process and summarizes the scoping comments received for the Project. Specifically, this report describes the scoping events and activities conducted for the Project. It also summarizes the written and oral comments received on the BLM's Notice of Intent (NOI) and CDFW's Notice of Preparation (NOP). This report informs the Lead Agencies' determination of the range of issues and alternatives to be addressed in the EIS/EIR. The Lead Agencies will use the comments received during the scoping period to:

1) Identify key issues to focus the analysis
2) Identify reasonable alternatives to the Project
3) Analyze environmental impacts of the Project and alternatives
4) Identify ways to avoid or reduce environmental impacts
5) Inform the Lead Agencies' decision-making processes.

1.2 Summary of NEPA/CEQA Scoping Process

The NEPA/CEQA scoping process provides government agencies, Tribes, organizations, and members of the public the opportunity to identify environmental issues and alternatives for consideration in the EIS/EIR. The scoping process and results are an initial step in the environmental review process.

To comply with NEPA (40 CFR 1501.7), the U.S. Environmental Protection Agency (EPA) published a NOI in the Federal Register on March 9, 2018, that provided notice of the BLM's intent to prepare an EIS for the Project (77 FR 64824). The NOI serves as the official legal notice that a federal agency is commencing preparation of an EIS. The Federal Register serves as the U.S. Government's official noticing and reporting publication. The NOI initiates the public scoping period for the EIS, provides information about the Project, and serves as an invitation to provide comments on the scope and content of the EIS. The NOI for the Project is included as Appendix A-1.

Newspaper notices were published in the Palo Verde Valley Times, and the Desert Sun announcing the public scoping meetings. The BLM also issued a press release regarding the NOI on March 9, 2018. The NOI and press release, included as Appendix B-1, were made available to agencies and the public on BLM's eplanning website:

https://eplanning.blm.gov

As required by Section 15082 of the CEQA Guidelines (14 CCR 15000 et seq.), CDFW issued an NOP on March 8, 2018, that summarized the Project, stated CDFW's intention to prepare a joint EIS/EIR, and requested comments from interested parties. The NOP is included as Appendix A-2. Twenty public notices were sent to property owners; 15 copies of the NOP were sent to the California State Clearinghouse; 46 public notices were sent to federal, state, and local agencies and organizations; and public notices were sent to 5 local libraries. Public notices also were sent to 30 Native American tribal groups.

During the NOI comment period, the BLM and CDFW held a total of three public scoping meetings. The first scoping meeting took place from 5-8 p.m. on April 3, 2018 in Palm Springs at the BLM's South Coast Field Office (1201 Bird Center Drive). The second meeting took place on April 11, 2018 from 5-8 p.m., at the University of California Riverside campus in Palm Desert, California (75080 Frank Sinatra Dr. B117, Palm Desert, CA 92211). The final public scoping meeting took place on April 12, 2018 at the City of Blythe's City Hall Multipurpose Room from 12-3 p.m. (235 North Broadway, Blythe CA 92225). Comment cards and speaker cards were available to participants. The BLM and CDFW provided a presentation explaining the EIS/EIR processes, the BLM's and the CDFW's roles throughout these processes, and public participation opportunities (the presentation is provided in Appendix C-3).

The scoping meetings provided government agencies and the public with opportunities to receive information about the Project and the NEPA/CEQA process, as well as to provide a forum for receipt of oral and written comments. Sixteen people attended the first scoping meeting in Palm Springs on April 3, 2018; eleven attended the Palm Desert scoping meeting on April 11, 2018;

and 32 attended the final scoping meeting in the City of Blythe on April 12, 2018. The meeting attendees included representatives from local and state agencies, Tribes, organizations, and private citizens.

All materials provided at the scoping meetings are contained within Appendix C and include the following:

1) Comment Cards
2) Speaker Registration Cards
3) Scoping Meeting Presentations

Appendix D includes the sign-in sheets from the scoping meetings. Appendix E includes the transcripts of the April 3, April 11, and April 12 meetings.

The comment period ended on April 27, 2018 for purposes of NEPA and on April 23, 2018 for purposes of CEQA. In total, 31 letters were received: 8 from federal, state, and local agencies; 5 from tribes; and 18 from individuals and organizations (see Table 1-1). These 31 letters and all oral comments have been included in each Lead Agency's administrative record for the Project, are documented in this scoping report, and will be considered in the drafting of the EIS/EIR.

1.3 Agencies, Organizations, and Persons Providing Scoping Comments

Federal, state, and local agencies; Tribes; organizations; and members of the public provided written comments during the scoping period. Written comments received during the scoping meetings and in response to the NOI/NOP are included in Appendix F. Table 1-1 presents the agencies, Tribes, organizations, and individuals that provided written comments during the scoping process in chronological order.

1.4 Scoping Report Organization

This scoping report summarizes the comments and issues identified during the scoping period, including the public scoping meetings. The Lead Agencies will review and consider all of the scoping comments received in preparing the EIS/EIR for the Project.

Section 2 provides summary information on the Applicant's stated Project objectives and a description of the Project.

Section 3 provides a summary of the comments received and issues raised during the Project's scoping periods, including comments received during the public scoping meetings.

Section 4 provides a summary of future steps in the planning process and indicates opportunities for public participation in the environmental review process.

The Appendices that follow Section 4 include notices, scoping meeting notices, scoping comments received, transcripts from the scoping meetings, and other information.

TABLE 1-1
COMMENTS RECEIVED DURING PUBLIC SCOPING PERIOD

Commenter	Date
Governmental Agencies	
California State Clearinghouse (Scott Morgan)	March 9, 2018
Mojave Desert Air Quality Management District (Alan J. De Salvio)	March 13, 2018
California Native American Heritage Commission (Gayle Totten)	March 14, 2018
Riverside County Department of Waste Resources (Jose Merlan)	March 20, 2018
Department of Toxic and Substance Control (Johnson Abraham)	March 20, 2018
Colorado River Board of California (Christopher Harris)	April 9, 2018
The Metropolitan Water District of Southern California (Jennifer Harriger)	April 9, 2018
United States Environmental Protection Agency (EPA) Region IX (Tom Plenys)	April 18, 2018 (email)
Southern California Association of Governments (Ping Chang)	April 23, 2018
Tribes	
San Manuel Band of Mission Indians (Jessica Mauck)	March 21, 2018 (email)
Augustine Band of Cahuilla Indians (Amanda Vance)	April 9, 2018
Colorado River Indian Tribes (Dennis Patch)	April 16, 2018
Morongo Band of Mission Indians (Raymond Huaute)	April 30, 2018 (email)
Organizations and Individuals	
Kathleen Hayden	March 27, 2018 (email)
Defenders of Wildlife California Wilderness Coalition (Jeff Aardahl and Linda Castro)	April 5, 2018
Robert Latunkski	April 7, 2018 (email)
Center for Biological Diversity (Ileene Anderson and Lisa T. Belenky)	April 9, 2018
Michael Kramek	April 10, 2018 (email)
La Cuna de Aztlan Sacred Sites Protection Circle (Alfredo Figueroa)	April 12, 2018 (email)
Kirk Nason	April 14, 2018 (email)
California Native Plant Society and California Wilderness Coalition (Nick Jensen, PhD)	April 16, 2018 (email)
The Wilderness Society (Alex Daue) and California Wilderness Coalition (Linda Castro)	April 18, 2018 (email)
Desert Tortoise Council (Edward LaRue)	April 20, 2018
Basin and Range Watch and Western Watersheds Project (Kevin Emmerich and Laura Cunningham)	April 20, 2018
NextEra Energy Resources (Kenneth Stein)	April 23, 2018 (email)
Wittwer Parkin LLP (Nicholas Whipps), representing Southwest Regional Council of Carpenters	April 23, 2018
Sheila Sannadan	April 25, 2018 (email)
Ryan Carle	April 26, 2018 (email)
Anne Cassell	April 26, 2018 (email)
Emma Kelsey	April 27, 2018 (email)
Tess Taylor	April 27, 2018 (email)

Commenter	Date
Speakers - Public Scoping Meetings	
Unidentified Speaker	April 3, 2018
Unidentified Speaker	April 11, 2018
Andrew Loubert	April 12, 2018
Alfredo Figueroa	April 12, 2018
Linda Otero	April 12, 2018
Matthew Leivas, Sr.	April 12, 2108
Juan Gonzalez	April 12, 2018
Ron Dawson	April 12, 2018

SECTION 2
Summary of the Project

2.1 The BLM's Purpose and Need

The BLM's purpose and need for action will dictate the range of alternatives under NEPA and provide a basis for the rationale for eventual selection of an alternative in a decision. The BLM's purpose and need for the Project is to respond to the Applicant's application under Title V of the Federal Land Policy and Management Act of 1976 (FLPMA) (43 USC §1761(a)(4)) for a ROW grant to construct, operate, maintain, and decommission a solar PV facility on public lands in compliance with FLPMA, BLM ROW regulations, and other applicable federal laws. In accordance with §103(c) of FLPMA, public lands are to be managed for multiple uses that take into account the long-term needs of future generations for renewable and non-renewable resources. The Secretary of the Interior is authorized to grant ROWs on public lands for systems of generation, transmission, and distribution of electric energy (43 USC §1761(a)(4)). Taking into account BLM's multiple use mandate, the BLM will decide whether to approve, approve with modification(s), or deny issuance of a ROW grant to the Applicant for the Project.

The BLM's action also will include consideration of a concurrent land use plan amendment of the CDCA Plan. The CDCA Plan, while recognizing the potential compatibility of solar generation facilities on public lands, requires that all sites associated with power generation or transmission that are not identified in the CDCA Plan be added to it through the land use plan amendment process.

2.2 Applicant's Project Objectives

The BLM and CDFW will consider the Applicant's Project objectives in developing a reasonable range of alternatives to the Project under CEQA and NEPA. The applicant has identified five objectives for the Project:

1) Generate 350 MW of clean electricity to assist the State of California in achieving its 50 percent renewable portfolio standard for 2030 by providing a significant new source of wholesale renewable energy;
2) Assist California utilities in meeting their obligations under the California Public Utilities Commission's (CPUC's) Energy Storage Framework and Design Program, including the procurement target of 1,325 MWs by 2020, by providing up to 350 MW of storage capacity;
3) Facilitate grid interconnection of intermittent and variable PV generation and minimize line losses associated with off-site storage by collocating substantial electrical storage capacity at the PV facility site;

4) Realize economies of scale inherent in constructing a utility-scale solar facility on contiguous lands in the immediate vicinity of a high-voltage interconnection to the California Independent System Operator (CAISO)-controlled grid; and
5) Bring living-wage skilled jobs to Riverside County through Project development, construction, and operation.

2.3 Project Description

The Project consists of a utility-scale solar PV and energy storage project that would be located on up to approximately 2,500 acres of public lands managed by the BLM within the CDCA planning area. The Project would interconnect to the regional electrical grid at the Southern California Edison (SCE) 220 kilovolt (kV) Colorado River Substation, generate up to 350 MW of renewable energy using PV technology, and include up to 350 MW of integrated energy storage capacity.

The Project is comprised of the following components/facilities:

- **Photovoltaic Modules and Support Structures**: the solar facility would include an estimated 2 million solar modules, although the precise module count would depend on the technology ultimately selected at the time of procurement. Module mounting systems that may be installed include either fixed-tilt or tracking technology, depending on the PV modules ultimately selected. Modules would be arranged next to each other in long strings called rows and supported by steel piles.
- **Inverters, Transformers, and Electrical Collection System**: The Project would be designed and laid out primarily in 2 MW increments, which would include an inverter equipment area measuring approximately 40 feet by 25 feet. Each 2 MW increment would include an inverter-transformer station constructed on a concrete pad or steel skid and centrally located within the PV arrays.
- **Project Substations and Gen-Tie Line**: Up to four substations would transform voltage from the 34.5 kV electrical collection cables to 230 kV. The area of each substation and associated equipment would be approximately 30,000 square feet and would include power transformers and footings, control buildings, metering stands, microwave towers up to approximately 100 feet in height, and dead-end structures up to approximately 80 feet in height. The proposed gen-tie would be would be constructed with either monopoles, lattice steel structures, or wooden H-frame poles. A portion of the gen-tie line could be constructed underground to cross under existing transmission lines.
- **Operations and Maintenance Building**: An operations and maintenance (O&M) building would be located near the proposed substations. The O&M building would be approximately 2,000 square feet (approximately 40 feet by 50 feet by 15 feet at its tallest point) and would accommodate O&M staff.

Other features/components of the proposed facility include a supervisory control and data acquisition system, an optional battery or flywheel storage system capable of storing up to 350 MW of electricity, a meteorological data collection system, and telecommunications facilities. If provided, the storage system would consist of up to 3,000 electrical enclosures measuring approximately 40 feet by 8 feet by 8.5 feet high and installed on concrete foundations.

Access to the Project site would be provided from the existing paved Powerline Road to the Colorado River Substation. The Project's on-site roadway system would include a perimeter road, access roads, and internal roads. In the event that the Applicant cannot reach an agreement with the private landowner, two new access road segments along Powerline Road would be constructed in order to avoid two privately-owned parcels through which the existing Powerline Road crosses. Multiple points of ingress/egress would be provided to the site and accessed by site personnel via locked gates. Security fencing would be installed along the perimeter of the proposed site and motion-sensitive, directional security lights would be installed to provide adequate illumination around the substation areas, each inverter cluster, and at the gates. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties.

SECTION 3
Summary of Scoping Comments

This section of the report summarizes the comments raised by agencies, Tribes, organizations, and members of the public during the scoping process. Table 1-1 provides a list of commenters including federal, state, and local agencies as well as Tribes, organizations, and individuals who provided comments. A number of environmental concerns were raised during the scoping process that focused on the Project's potential effects to environmental resources and issue areas. This scoping report summarizes the comments received according to the following major themes:

1) Project description
2) Human environment issues
3) Natural environment issues
4) Indirect and cumulative impacts
5) Project alternatives
6) EIS/EIR administrative and permitting issues.

3.1 Project Description

Several commenters expressed concerns regarding the proposed location of the Project, particularly that it is proposed on relatively undisturbed land designated as Lands with Wilderness Characteristics (LWC). Many commenters also noted that the Project could have significant impacts on cultural resources, biological resources (including habitat connectivity/corridors), as well as visual and water resources due to the location of the site.

The Southwest Regional Carpenters noted that conflicting descriptions of the base acreage for the project were given: BLM estimated the Project will be sited on 2,700 acres of undeveloped land; CDFW stated the Project will consist of 2,500 acres; and the Project site map provided in CDFW's NOP delineated approximately 2,250 acres. The comment requested that the EIS/EIR provide an accurate, stable description of the Project acreage. The comment also requested that if Project features remain uncertain, the agencies should evaluate the worst-case scenario of the potential environmental impacts of the Project.

The Colorado River Indian Tribes suggested that it was unclear whether the energy storage facilities would be "optional" or considered as part of the Project.

Several comments acknowledged that the original Project footprint was modified (reduced) to avoid impacts to sensitive resources. EPA recommended that the Lead Agencies evaluate a low impact development with a reduced amount of grading. Although the Project application was

submitted to the BLM before the Desert Renewable Energy Conservation Plan (DRECP) was finalized and thus is not required to comply with the DERCP, the current Project footprint is within the boundary of the Riverside East Development Focus Area (DFA) with potential for resource impacts.

Several comments including those from Defenders of Wildlife, the California Wilderness Coalition and the Center for Biological Diversity recommended that the BLM include a full consideration of the science used to develop the DRECP, along with other new information, when considering whether to approve the Project and proposed land-use plan amendment, to assure that achievement of the goals of the DRECP would not be compromised if the Project is approved.

Statement of Purpose and Need

The EPA, the Colorado River Indian Tribes, and Basin and Range Watch (along with Western Watersheds Project) submitted comments regarding the Statement of Purpose and Need of the Project.

Basin and Range Watch requested that the Purpose and Need statement be rewritten to emphasize BLM's commitments to protect valuable resources on public lands, specifically the need to protect the resources on this site and in Chuckwalla Valley by examining Distributed Generation and Brownfield alternatives. Basin and Range Watch and Western Watershed stated that the Statement of Purpose and Need should include the need to protect (1) cultural resources, (2) biological, (3) visual, (4) hydrological, (5) air quality of the Project site. The comment also stated that:

> *Any Bureau of Land Management Purpose and Need Statement should not interpret the following orders (EO 13212, DOI 3285A1, MOU AB52, SBX2) to justify the project. Executive Order 13212 mandates transmission of energy in a 'safe and environmentally sound manner'; Secretarial Order 32851A1 establishes development of renewable energy as a (federal) priority; AB52 and SBX2 established goals for CA GHG reduction."*

The comment stated that the orders do not require the renewable energy to come from the proposed site or from public lands in general, that California's goals could be fulfilled with built environment and brownfields alternatives. The comment provided two additional documents. One described the "duck curve" relating to over-generation from solar energy in California, the next provided information regarding avian-solar interactions.

The EPA submitted comments stating the following with regard to the Statement of Purpose and Need:

1) The purpose and need should identify, and describe the underlying problem, deficiency, or opportunity that the action is meant to address. For example, this section should clearly indicate the factors that are used to evaluate the size of the project, in terms or land acreage, in relation to achieving the underlying need.
2) The EIS/EIR should discuss the Project in the context of the larger energy market that the Project would serve;

3) The EIS/EIR should identify potential purchasers of the power produced; and

4) The EIS/EIR should discuss how the Project will assist the State in meeting its renewable energy portfolio standards and goals.

The Colorado River Indian Tribe commented that BLM and CDFW must take care in crafting the project objectives and Purpose and Need to ensure that the EIS/EIR considers an adequate range of alternatives.

3.2 Human Environment Issues

Aesthetics/Visual Resources

Several commenters expressed concern about the visual impact that would occur as a result of the Project and called for visual resource studies to identify the Project's impact to surrounding landscapes and scenic vistas.

Basin and Range Watch stated that the Project would be visible from the Mule Mountains ACEC and the McCoy Mountains Wilderness Area, as well as from residential areas. The comment noted that due to the immense size of the project, impacts to Visual Resource Management (VRM) Class I and II Standards should be analyzed in the EIS.

The Southwest Regional Council of Carpenters noted that the Project could generate light pollution, in addition to other potential impacts.

Cultural Resources

Numerous comments were received that stated the Project would likely have significant impacts to existing cultural and historic resources within and near the proposed site. Cultural resource comments received from the Colorado River Indian Tribes and others who expressed concern about the handling of Native American artifacts during the Project's development requested that the BLM conduct Native American tribal consultation throughout the permitting process.

The Native American Heritage Commission and others submitted comments recommending early consultation and coordination with tribal governments to determine the location of cultural artifacts and minimize the potential damage to these resources.

The Native American Heritage Commission also stated that the Lead Agencies should consider the historic context of proposed projects and research the cultural landscape of the Project site. Additionally, historic properties of religious and cultural significance are to be kept confidential, and if Native American cultural sites and/or Native American burial sites are prevalent at the Project site they should be avoided. The Colorado River Indian Tribes stated that the EIS/EIR must ensure that potential impacts to known and unknown cultural artifacts are analyzed and avoided. Concerns were raised regarding existing sites in the Mule Mountains ACEC and some stated that the current designation is not broad enough to protect all resources. One commenter recommended that expansion of the Mule Mountains ACEC should be considered before the BLM takes action with respect to the Project.

Numerous comments stated that the Project area contains significant cultural and historic resources including archeological sites, historic trails, petroglyphs, and sacred sites. The Colorado River Indian Tribes noted that the proposed site is located within 16 miles of the reservation and that tribal members use public lands for hunting and for other activities of importance to the tribes. Specific concerns were also raised by the Colorado River Indian Tribes regarding the proposed energy storage enclosures, which the comment noted would quadruple the grading required for the Project.

Solid Waste

Comments were received from the Riverside County Department of Waste Resources (RCDWR) expressing concerns regarding the quantity of construction and demolition waste the Project could generate and how this waste would be disposed of. The comments recommended that the EIR/EIS quantitatively analyze the Project's potential solid waste impacts. A projected maximum amount of waste generated from Project build out was recommended using appropriate waste generation factors for the proposed land use. RCDWR provided information regarding the nearest landfill to the project area, the Blythe Landfill (owned by RCDWR) and a link to CalRecycle's waste generation factor tool. Basin and Range Watch with Western Watersheds Project commented that proposed batteries would create a waste/ recycling issue and suggested that BLM should be asking if batteries would be recycled.

Public Health and Safety

The Department of Toxic Substances Control submitted the following comments:

1. The EIS/EIR should identify and determine whether current or historic uses at the site may have resulted in any release of hazardous wastes/substances. A Phase I Environmental Site Assessment may be appropriate to identify any recognized environmental conditions.
2. If there are any recognized environmental conditions in the Project area, then proper investigation, sampling and remedial actions overseen by the appropriate regulatory agencies should be conducted prior to the new development or any construction.
3. If the proposal includes discharging wastewater to a storm drain, an NPDES permit may be required from the Regional Water Quality Control Board (RWQCB).
4. If planned activities include building modifications/demolitions, lead-based paints or products, mercury, and asbestos containing materials (ACMs) should be investigated and mitigated/disposed of in accordance with all applicable and relevant laws and regulations. In addition, evaluate whether polychlorinated biphenyls (PCBs) containing materials is present in onsite buildings and address as necessary to protect human health and the environment.
5. If the site was used for agricultural or related activities, residual pesticides may be present in onsite soil. DTSC recommends investigation and mitigation, as necessary, to address potential impact to human health and environment from residual pesticides.
6. DTSC recommends evaluation, proper investigation and mitigation, if necessary of onsite areas with current or historic PCB-containing transformers.
7. Please evaluate whether the proposed site is located within or in close proximity to the Formerly Used Defense Site (FUDS) based, in part, on the United States Department of

Defense ordnance maps. DTSC recommends assessment and/or investigation be conducted in the Project area to assess potential impacts from the nearby FUDS if necessary.

8. Export & Import of Soil: If soil contamination is suspected or observed in the Project area, then excavated soil should be sampled prior to export/disposal. If the soil is contaminated, it should be disposed of in accordance with all applicable and relevant laws and regulations. In addition, if the Applicant proposes to import soil to backfill the excavated areas, proper evaluation and/or sampling should be conducted to make sure that the imported soil is free of contamination.
9. If during construction/demolition of the Project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the EIS/EIR should identify how any required investigation and/or remediation will be conducted and the appropriate government agency to provide regulatory oversight.

The EPA submitted comments stating that the EIS should address potential direct, indirect, and cumulative impacts of waste including hazardous waste from construction and operation of the solar farm as well as the proposed battery storage facility. The document should identify projected hazardous waste types and volumes, and expected storage, disposal and management. It should address the applicability of state and federal hazardous waste requirements and include measures to mitigate hazardous waste. The EPA also stated that if PV panel trackers will utilize hazardous materials such as refrigerants, discuss and evaluate potential impacts from accidental or unexpected releases on environmental resources. Alternative tracking methods that minimize hazardous materials use should be evaluated. Identify whether any pesticides, including herbicides or rodenticides, would be used at the Project site. The letter included an additional comment regarding the use of weed control measures. The comment stated that soils under PV arrays are often sterilized with pesticides to prevent weed growth, which prevents revegetation of native plants that could minimize erosion and provide wildlife habitat.

Valley Fever: EPA stated that reasonable measures to reduce fugitive dust should be implemented, for the benefit of local receptors such as construction workers and nearby residents, and to reduce potential exposure to *Coccidioides immitis* (Valley Fever). Regarding Valley Fever, the EPA noted that the project site is located in an area that the CDC has classified as suspected endemic for *Coccidioides immitis*, a fungus causing valley fever in humans, and that ground disturbance may result in Coccidioides spore dispersal. A discussion of this potential health and safety risk, as well as measures identified in the EIS be included to prevent or reduce exposure to workers and local residents. La Cuna de Aztlan Sacred Sites Protection Circle noted in their comment letter that the community of Mesa Verde (8 miles west of Blythe) has one of the highest per capita rate(s) of asthma, Valley Fever, bronchitis, and pneumonia, due to the fungus being released when desert soils are disrupted. The comment stated that if more solar projects are constructed, the health for people living in the area surrounding the Palo Verde Valley will become more critical. La Cuna de Aztlan Sacred Sites Protection Circle further noted an increase in Valley Fever among prisoners at Chuckawalla and Iron State Prison.

Electromagnetic field (EMF) generation: The Southwest Regional Council of Carpenters noted in their comment letter potential impacts related to electromagnetic field (EMF) generation, and pollution from spills, among other possible Project impacts.

Environmental Justice

Comments submitted by the EPA state that the EIS/EIR should include an evaluation of environmental justice populations within the geographic scope of the Project. If such populations exist, the EIS/EIR should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the Project's impact on minority and low-income populations should reflect coordination with those affected populations. The EPA also recommends that the EIS/EIR should describe outreach conducted to all other communities that could be affected by the Project, since rural communities may be among the most vulnerable to health risks associated with the Project.

Additional comments pertaining to the need for socioeconomics and environmental justice issues to be addressed in the EIS/EIR were received in a comment letter from Basin and Range Watch/ Western Watersheds Project, that questioned how the project would impact property values and quality of life of adjacent residents in Mesa Verde.

Land Use

The EPA recommends that BLM consider the latest science used to develop the DRECP, as well as any additional recent scientific studies, and consider evaluating an action alternative that would comply with the DRECP Conservation Management Actions (CMA). Specifically, the EPA requests that the EIS include a 'crosswalk' table highlighting how each alternative would meet or not meet the criteria for each CMA.

Basin and Range Watch along with Western Watersheds Project included comments related to the Land Use Plan/CDCA Plan:

> *The lands lie within the California Desert Conservation Area legislated under the Federal Land and Policy Management Act (FLPMA). The region is designated as Class M which is designated for a 'controlled balance between higher intensity use and protection.' A variety of uses are listed in this class and the problem is that designating up to 6 square miles as a Right of Way for ONLY solar energy is inconsistent with Class M (Moderate Use) designation. The solar project would be more appropriate on lands with Class I (Intensive Use) designation – that is "lands managed for concentrated use to meet human needs".*

Basin and Range Watch along with Western Watersheds Project in their comments also noted that the DRECP, approved in 2016, is now under review by the current administration. While the project site is within a Development Focus Area (DFA), the application predates the DRECP. The comment stated that the region is under no requirement to see this development under the DRECP. Additionally, the comments noted that the conservation designations under the Northern

and Eastern Colorado Desert Coordinated Management Plan (NECO) should be reviewed and included in the Project review.

The Wilderness Society with the California Wilderness Coalition (CWC) submitted comments noting that much of the Project site has been designated as Lands with Wilderness Characteristics (LWC). The comment stated that in general energy development is not appropriate in LWC due to the sensitive resources and land values found in LWC. The comment recommended that BLM avoid development in LWC or mitigate for impacts to LWC consistent with Riverside East DFA requirements pursuant to the DRECP. The comment requested that the LWC inventory be current for the Project area, and that potential impacts be analyzed per FLPMA. CWC provided three attachments along with the comment letter, all regarding LWC. The comment specifically recommended the following:

1. BLM must ensure that lands with wilderness characteristics inventory is up to date for Crimson Solar Project area and analyze potential impacts.
    a. LWC inventory requirements
    b. BLM is required to respond to wilderness inventory information submitted by the public.
    c. BLM must analyze impacts to lands with wilderness characteristics as part of the Crimson Solar EIS.
2. BLM is required to consider ways to avoid, minimize, and offset impacts to lands with wilderness characteristics.
    a. BLM should consider ways to avoid and minimize impacts to lands with wilderness characteristics.
    b. BLM and the project developer should commit to compensatory mitigation to offset unavoidable impacts to lands with wilderness characteristics; such mitigation should be focused in the Big Maria Mountains, Palen McCoy Wilderness Area of other designated wilderness area in general proximity to the project and (as an example) could include:
        i. Removal and restoration of approximately 15 miles of unauthorized vehicle routes;
        ii. Conversion of approximately 3 miles of vehicle route into hiking trails, and;
        iii. Installation of vehicle barriers and signing along publicly accessible portions of wilderness boundaries.
3. BLM should develop an alternative that analyzes Crimson Solar under the DRECP.

Defenders of Wildlife and California Wilderness Coalition similarly recommended that the BLM should utilize the existing information in the Programmatic Solar Energy Development Plan (more commonly referred to as the Solar Energy Program, which was established in 2012 through the Record of Decision for the Final Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS)) and the DRECP regarding the proposed site and lands affected by other nearby projects in developing a description of the affected environment, cumulative impacts, and specific measures to avoid minimize and mitigate significant environmental impacts. The comment noted that the information in the Solar PEIS and DRECP comprises some of the best available science, though site specific information including protocol surveys, etc. would also be necessary to complete the analysis under NEPA.

Recreation

The Wilderness Society and CWC noted that LWC areas in the Project area have outstanding opportunities for solitude and primitive recreation, in addition to supplemental values including woodlands habitats that provide a haven for songbirds, as well as an abundance of cultural resources.

La Cuna de Aztlan Sacred Sites Protection Circle noted an abundance of trails in and near the Project area, and stated that the main trail that leads northwest toward Corn Springs (near the Mule Mountains) would be destroyed by Project. The Center for Biological Diversity also noted that many of their 1.6 million members from the western United States and southern California area enjoy visiting, studying, photographing, and hiking in the California Desert Conservation Lands, including areas in and around the Project site.

Transportation and Traffic

The Southern California Association of Governments (SCAG) recommends that the Project's traffic study includes a side-by-side comparison of their nine 2016 Regional Transportation Plan/ Sustainable Communities Strategies (RTP/SCS) Goals with discussions of the consistency, non-consistency, or non-applicability of the policy and supportive analysis in a table format. Suggested format is as follows:

SCAG 2016 RTP/SCS Goals

Goal	Analysis
RTP/SCS G1: Align the plan investments and policies with improving regional economic development and competitiveness.	Consistent: Statement as to why; Not-Consistent: Statement as to why; or Not Applicable: Statement as to why; EIS/EIR page number reference.
RTP/SCS G2: Maximize mobility and accessibility for all people and goods in the region.	Consistent: Statement as to why; Not-Consistent: Statement as to why; or Not Applicable: Statement as to why. EIS/EIR page number reference.
Etc.	Etc.

Additionally, SCAG recommended that the EIS/EIR reflect the most recently adopted SCAG forecasts (2020-2040 RTP/SCS population, household and employment forecasts) and review the SCAG 2016 RTP/SCS Final Program EIR list of Mitigation Measures Appendix for additional traffic impact mitigation guidance.

The Center for Biological Diversity also included comments related to traffic, and recommended that impacts related to construction and operation of the proposed facilities be disclosed, minimized and mitigated. Specific recommendations were provided for (Project-related) mobile sources of greenhouse gas emissions. Additional comments regarding increased traffic were received from the Southwest Regional Council of Carpenters.

3.3 Natural Environment Issues

Biological Resources

Biological issues raised by the public and responsible agencies included potential direct, indirect, and cumulative impacts on the integrity of the ecosystem and special-status species known to occur in the region. Specific comments addressed potential impacts to species including: desert tortoise, burro deer, bighorn sheep, and burrowing owl. Commenters requested that the Project site be surveyed for these species, as well as any other special status species that may exist in the area. Several commenters also expressed concern about the Project's impact on species' habitat corridors, which could potentially cause irreversible harm to the viability of species populations and diversity in the area.

The Southwest Regional Council of Carpenters noted a number of potential impacts to biological resources, including to avian impacts, kit fox, loss of habitat, corridor impacts, fragmentation, fringe effects, and take of desert tortoise and other protected species. Specifically, the commenter expressed concerns regarding desert tortoise critical habitat, noting that the Project site shares an approximate 3.5-mile-long border with this critical habitat area. The commenter recommends that the agencies should proceed under the assumption that the Project would cause significant impacts to and result in the "take" of desert tortoise habitat and individuals.

The Desert Tortoise Council requested that the Draft EIS/EIR include:

1. Current data on and analysis of the presence and densities of special status species, particularly Agassiz's desert tortoise.
2. Habitat quantity and quality in the action area;
3. The functions/viability of the populations in the action area with respect to current conditions and future development scenarios including viability of and connection with adjacent populations, and;
4. Appropriate actions to fully mitigate these effects to population viability, connectivity, and habitat loss/degradation.

Specific concerns over Project siting also were raised, as stated in the comment letter:

> *We are very concerned with the placement of this 2,500-acre solar facility in a relatively narrow, five-to-six-mile-wide corridor located between the Mule Mountains to the south and Interstate 10 to the north. While the footprint of the proposed facility may occupy about half of this corridor that is used by the tortoise and other species of wildlife for connectivity between populations, its placement in the center fragments this corridor and may substantially reduce or destroy its function in the future as a wildlife corridor.*

Basin and Range Watch and Western Watersheds Project identified the Project site as high quality desert tortoise, bighorn sheep, and a critical wildlife linkage habitat for burro deer. Moreover, the comment noted that a consideration of potential impacts for desert kit fox may be needed. A K9 distemper outbreak may have resulted from poor mitigation for another solar development 10 miles west of the Project site.

The EPA also recommended EIS should include assurances that the design of the transmission line would be in compliance with current standards and practices that reduce the potential for raptor fatalities and injuries. The commonly referenced source of such design practices is found within the avian Power Line Interaction Committee documents: Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006 manual and Mitigation Bird Collisions with Power Lines: The State of the Art in 2012. In consultation with the USFWS, determine the need for a Bird and Bat Conservation Strategy to be developed using the 2005 Avian Power Line Interaction Committee and USFWS Avian Protection Plan Guidelines or the need for an Eagle Conservation Plan following the USFWS 2011 Draft Eagle Conservation Plan Guidance. Basin and Range Watch along with Western Watersheds Project also raised concerns regarding avian collisions and migratory bird impacts. The comment letter expressed concerns that the solar panel glare will create a "lake effect" that attracts avian species and recommends that the EIS/EIR include a list of the bird species that could be threatened by collision with the panels.

Comments submitted by the Center for Biological Diversity provided a table that noted a number for rare plants and animals that have a high potential to occur on the Project site. The comment asserted that the EIR/EIS must adequately address impact and propose effective ways to avoid, minimize and mitigate the impacts to the resources through a "robust slate" of alternatives including alternative siting and alternative on-site configurations. The organization also recommended that land acquisition for conservation be included as an avoidance strategy for many of the rare plants and habitat types found on the site, particularly for the large old growth yucca and microphyllous trees/ woodlands.

Center for Biological Diversity also expressed concerns regarding the site location in a sand transport corridor that originates from Joshua Tree National Park, through the Palen and Ford Dry Lake Valleys, across Interstate 10 to the agricultural areas adjacent to Blythe. The sand corridor provides habitat for the Mojave fringe-toed lizard and endemic insects. The organization stated that baseline data should be collected on all these sand-dependent species, as well as avoidance measures through Project design siting to minimize disruption to the sand transport corridor.

The California Native Plant Society along with the California Wilderness Coalition also submitted comments expressing concern regarding rare plants, vegetation, sand transport, corridors, jurisdictional waters, and ecological processes. The comment stated, "given the scale of the Project and existing site conditions, impacts to native plant and plant communities are unavoidable." Defenders of Wildlife also submitted comments with the California Wilderness Coalition expressing concerns regarding the Project's location vis-à-vis habitat corridor linkages.

Comments submitted by Basin and Range Watch included a list of plant and animal species that the organization believes would be affected by the Project and request surveys throughout different times of the year that also would identify wildlife species that may be negatively affected by the Project, including kit fox, burrowing owl, and fringe-toed lizard. They also recommend that the location of the off-site burrowing owl habitat conservation land is determined prior to Project approval and that impacts to the fringe-toed lizard are mitigated.

A comment letter from the Desert Tortoise Council raised concerns about the Project's potential impact on biological resources and suggested there is a lack of available information about the biological resources that currently exist on site. The organization also called for updated biological resource surveys that extend beyond the Project site to evaluate indirect impacts on species that inhabit the areas around the site and requested that the desert tortoise surveys are conducted at a 5-meter interval.

Comments submitted by the EPA state that the EIS/EIR should identify and quantify the species and the critical habitat areas that might be directly, indirectly, or cumulatively affected by each alternative and mitigate impact to these species, with emphasis placed on protecting species based on their status or potential status under the Endangered Species Act. The EPA recommends that the BLM work closely with the USFWS and CDFW to determine potential impacts of the Project on plant and wildlife species, especially species classified rare, threatened, endangered, or special status on federal state or agency lists.

Analysis of impacts and mitigation on covered species should include:

1) Baseline conditions of habitats and populations of the covered species;
2) A clear description of how avoidance, mitigation, and conservation measures will protect and encourage the recovery of the covered species and their habitats in the Project area;
3) Monitoring, reporting, and adaptive management efforts to ensure species and habitat conservation effectiveness;
4) Discuss how and when the BLM intends to meet its obligations under Section 7 of the Endangered Species Act, if applicable;
5) Include the biological assessment by reference or as an appendix, if one is prepared;
6) If a biological opinion is prepared by the USFWS, it should be summarized or included as an appendix in the EIS to demonstrate that the preferred alternative is consistent with the biological opinion.

The EPA states that the EIS/EIR should describe the extent of the construction, installation, and maintenance activities proposed onsite and the associated impacts on habitat and threatened and endangered species. The EPA encourages habitat conservation alternatives that avoid and protect high value habitat and create or preserve linkages between habitat areas to better conserve the covered species. Specific concerns also were raised regarding the width of desert tortoise habitat corridors.

1) The EIS should indicate what measures are recommended to protect important wildlife habitat areas from potential adverse effects of proposed activities. The EPA encourages the BLM to maximize options to protect habitat and minimize habitat loss and habitat fragmentation.
2) The EIS should describe how the corridor width for desert tortoise habitat and connectivity between the project site and the Mule Mountains was determined. The comment notes that a 1.5-mile corridor width for desert tortoise habitat connectivity was prescribed for the Silver State solar project (between the Project boundary and the Lucy Gray Mountains) after a much narrower corridor was initially proposed. The EPA suggests drawing on the experiences from

that project and discussing, in the EIS, how conclusions for this Project may or may not differ, in comparison.

3) The EIS should discuss the impacts associated with an increase of shade and alteration of rainfall deposition patterns on vegetation and/or species in the desert environment.

4) The EIS should provide detailed information on any proposed fencing design and placement, and its potential effects on drainage systems on the Project site. Fencing for the Project should meet appropriate hydrologic, wildlife protection and movement, and security performance standards. Those standards should be described in the EIS. The EPA recommends elimination of fencing altogether in the four primary drainages that transect the Project site to allow for unimpeded flows during precipitation events.

The EPA encourages alternative management practices to limit the use of herbicides, focusing instead on other methods to limit invasive species vegetation and decrease fire risk.

1) The EIS/EIR should describe the invasive management plan used to monitor and control noxious weeds. If herbicides or pesticides could be used to manage vegetation, the EIS/EIR should disclose the projected quantities and types of chemicals. The invasive plant management plan should identify methods that can be used to limit the introduction and spread of invasive species during the post-construction. These measures can include marketing and avoidance of invasives, timing construction activities during periods that would minimize their spread, proper cleaning of equipment and proper disposal of woody material removed from the site.

2) Because construction measures may not be completely effective in controlling the introduction and spread of invasive species, the EIS/EIR should describe post-construction activities such as surveying for invasive species following restoration of the construction site and measures to be taken if infestations are found.

Water Resources

Comments regarding the Project's impact on water resources were received from the Metropolitan Water District, Basin and Range Watch with Western Watersheds Project, the EPA, the Colorado River Board of California, and from the Center for Biological Diversity.

Comments from the Metropolitan Water District expressed concerns about the Project's direct, indirect, and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies. Metropolitan holds an entitlement to imported Colorado River water supplies, allocated pursuant to federal law as managed by the U.S. Department of the Interior, Bureau of Reclamation. The comment noted that in order to lawfully use Colorado River Water, an entitlement would be required. Additionally, the comment noted that no new entitlement for the use of Colorado River Water is available because this water source is already fully apportioned.

Subsequent comments raising the same issue of apportionment were received from the Colorado River Board of California. As the comment noted:

> *(t)he Chuckwalla Valley Groundwater Basin groundwater aquifer beneath the project site is considered by the USGS report to be hydraulically connected to the Colorado River and groundwater withdrawn from lands underlying the*

> *Accounting Surface would be replaced by Colorado River water, in total or in part. This means that if it is determined that any wells on or near the project site intended to supply water for the project are, in fact, pumping groundwater that would be replaced by Colorado River water, a contract with the Secretary of Interior is required before such a use is deemed to be a legally authorized use of this groundwater.*

The comment stated that the EIR/EIS should address and analyze proposed water uses as well as the Project's potential impact to Colorado River water resources.

> *If it is determined that groundwater pumping would yield water that would be replaced by water from the Colorado River, a legally authorized and reliable water supply for the project can be obtained through the project owner contracting with an existing BCPA Section 5 contractor holder- The Metropolitan Water District of Southern California.*

Additionally, the Colorado River Board requested that mitigation for potential impacts to Colorado River Water resources include preparation of a "Colorado River Water Supply Plan" prior to the onset of water consuming construction activities. Such a plan, the comment stated,

> *would identify measures taken to replace water on an acre-foot to acre-foot basis, if the project results in consumption of water from below the Accounting Surface, towards the purpose of ensuring that no allocated water from the Colorado River is consumed without an entitlement to that water.*

The Center for Biological Diversity noted that the Project may impact on-site drainages. The comment stated that the document must clarify impacts to jurisdictional waters of the U.S. and Waters of the State of California, suggested the use of Mapping Episodic Stream Activity (MESA) protocol for delineation to ensure robust analysis, and requested that the Applicant be required to avoid, minimize, and mitigate for impacts. The organization also suggested that the effects of additional groundwater pumping be evaluated in conjunction with other groundwater issues in the basin, such as pumping, nitrate plume, etc.

The EPA submitted comments concerning the Project's impact on water resources and stated that the EIS/EIR should estimate the quantity of water that Project would require (including during construction and operation) and describe the source of this water and potential effects on other water users and natural resources in the Project's area of influence. The EIS/EIR should clearly depict reasonably foreseeable direct, indirect, and cumulative impacts to water resources. If groundwater is to be used, the potentially-affected groundwater basin should be identified and any potential for subsidence and impacts to springs or other open water bodies and biologic resources should be analyzed. The EPA recommends that the EIS/EIR address the following points to identify the Project's water needs and the resulting impacts on water resources:

1. A discussion of the estimated quantity of water required for the proposed PV electrical generation facility (construction and operations), and describe the source of this water, and potential effects on other users.
2. A discussion of availability of groundwater within the basin and impacts to recharge, springs, or other surface water bodies, biologic resources, and the potential for subsidence.

3. If water would be supplied from an off-site source, include an analysis of environmental impacts associated with the transport and storage of such an alternative water supply.
4. A discussion of cumulative impacts to groundwater supply within the hydrographic basin, including impacts from other proposed large-scale developments.
5. An analysis of different types of technology that can be used to minimize or recycle water, including minimizing or eliminating water use for washing PV panels.
6. A description of water reliability for the Project and clarify how the existing and/or proposed sources may be affected by changing precipitation patterns,
7. An alternatives analysis discussion including compared acreages and channel lengths, habitat types, values, and functions of the waters that would be affected.

The EPA strongly advises avoidance of wetlands and water of the U.S. as well as careful micro-siting of Project components to avoid ephemeral drainages or desert washes to the maximum extent possible. The agency notes that desert washes preform a diversity of hydrologic, biochemical, and geochemical functions that directly affect the integrity and functional condition of higher order waters downstream. Ephemeral washes provide wildlife habitat; healthy ephemeral waters with plant communities control rates of sediment deposition and dissipate energy associated with flood flows. The California Native Plant Society also raised concerns regarding maintenance of washes and stream courses, as being essential to hydrologic function of desert ecosystems and sensitive habitats, such as the Blue Palo Verde-Ironwood Woodland.

The EPA noted concerns about the effect on site hydrology due to changes in microtopography and the potential for increased erosion and sedimentation, particularly in light of extensive animal burrow networks on site. The comment notes that as PV technology improves, less land in needed per megawatt generated. The EPA therefore recommends that mitigation measures or permit conditions include a requirement for a phased construction approach to ensure that only the necessary acreage is built upon.

Additionally, the EPA recommends coordination with the U.S. Army Corps of Engineers to obtain a jurisdictional delineation and confirm the presence of Waters of the U.S. in the Project area, in order to determine whether or not a Clean Water Act Section 404 permit is needed. If a permit is needed, the EIS/EIR should demonstrate the Project's compliance with the Section 404(b)(1) Guidelines. The EIS/EIR should describe all Waters of the U.S. that could be affected by the Project alternatives, and include maps that clearly identify all Waters of the U.S. within the Project area. The discussion should include acreages and channel lengths, habitat types, values, and functions of the Waters of the U.S.

If an aquatic feature does not constitute a Water of the U.S. but could be affected by the Project, the EPA recommends that the EIS/EIR characterize the functions of the aquatic feature and discuss potential mitigation measures. To avoid and minimize direct and indirect impacts to desert washes (such as erosion, migration of channels, and local scour), as applicable:

1. Avoid placement of support structures in washes;
2. Utilize existing natural drainage channels on site and more natural features, such as earthen berms or channels, rather than concrete-line channels;

3. Commit to the use of natural washes, in their present location and natural form, and the avoidance of microphyll woodlands;
4. including adequate natural buffers, for flood control to the maximum extent practicable, and applying the recommended buffer distances, as prescribed by the DRECP CMAs, for the four primary drainages that transect the project;
5. Minimize the number of road crossings over washes and designing necessary crossings to provide adequate flow-through during storm events; and
6. Avoid complete clearing and grading of the site by evaluating the mounting of PV panels at sufficient height above ground to minimize natural vegetation and reduce impacts to drainages.

Air Resources

The EPA, Basin and Range Watch, and the Mojave Desert Air Quality Management District (MDAQMD) submitted comments regarding air resource impacts. Many of the comments recommended that the EIS/EIR include studies that explain and quantify the potential air quality impacts throughout each phase of the Project.

The MDAQMD submitted comments recommending that the lead agency require the Project applicant to prepare and submit a dust control plan pursuant to requirements of District Rule 403.2 prior to commencing earth-moving activity that describes all applicable dust control measures that would be implemented. MDAQMD recommends the use of a water truck to maintain most surfaces during visible dust episodes to minimize fugitive dust emissions, or for projects with exposed sand or fine deposits, and, for projects that exposes such soils through earthmoving, chemical stabilization or covering with gravel. Additional Air Quality recommendations from MDAQMD included appropriate signage, perimeter wind fencing (at a minimum of four-feet high), maintenance of access roads to minimize fugitive dust.

The EPA stated that the EIS/EIR should provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS), criteria pollutant nonattainment areas, and potential air quality impacts of the Project, including cumulative and indirect impacts, for each fully evaluated alternative. Estimate criteria pollutant and greenhouse gas emissions for the construction phase, as well as for the operational phase from maintenance activities and ancillary operations.

The EPA and CBD recommended that the EIS/EIR describe and estimate air emissions from potential construction and maintenance activities, as well as, proposed mitigation measures to minimize those emissions. In addition, the EPA recommends that BLM closely coordinate with the MDAQMD and provide an update on such coordination in the EIS.

Climate Change

The EPA and Basin and Range Watch submitted comments regarding climate change impacts. Basin and Range Watch requested that the EIS/EIR include a projection of the Project's carbon footprint and an estimate of much CO_2 sequestration material would be eliminated through

bulldozing during construction. The comment included a link for a recommended CO_2 calculation guidance document.[1]

The EPA stated that the EIS/EIR should consider how climate change could potentially influence the Project, specifically within sensitive areas, and assess how the projected impacts could be exacerbated by climate change. The EIS/EIR also should quantify and disclose the anticipated climate change benefits of solar energy. The EPA suggests quantifying greenhouse gas emissions from different types of generating facilities including solar, geothermal, natural gas, coal-burning, and nuclear and compiling and comparing these values.

California Native Plant Society commented that the deserts of Western North America represent one of the earth's last remaining intact ecosystems, and noted that as these habitats provide a reservoir for biodiversity, ecosystem services, and evolutionary processes. In the face of climate change, the maintenance of the primary roles of desert habitats, the organization noted, is of utmost importance.

Many of the comment letters acknowledged generally beneficial aspect of solar development with respect to decreased greenhouse gas emissions, as compared to other forms of energy development.

3.4 Cumulative Impacts

Many of the comment letters received expressed concern about the cumulative impacts that would occur as a result of the Project being built in conjunction with several other large-scale energy projects in the desert. Commenters who expressed concern about this topic called for a thorough analysis of the cumulative impacts in the EIS/EIR.

The EPA noted that there are currently many solar projects in operation, or being proposed and constructed, on public or private lands in the desert southwest. EPA recommended that impacts from nearby solar projects such as Desert Quartzite, Blythe, McCoy, Palen and Blythe Mesa, and other developments in the region be considered, along with general resource trends. As mentioned, desert washes, ecosystems, and air quality are experiencing cumulative effects from multiple large solar installations in the desert and this is relevant to the assessment of cumulative impacts for the project. The EPA recommended that the BLM use methodology developed jointly by the EPA, the Federal Highway Administration, and the California Department of Transportation as a systematic approach to cumulative impact analysis, which would be applicable to any project.

The Colorado River Indian Tribes asserted that the BLM must take a hard look at cumulative impacts to cultural resources in the region. As explained, the destruction and removal of cultural resources from the Tribes' ancestral lands due to renewable energy projects has already caused tremendous spiritual harm to Tribal members. In addition to triggering extensive cultural resource removal, renewable energy projects have been sited in a way that severs the connectivity between cultural resource sites—a connectivity deemed vital to the traditional value of these cultural

[1] https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf

resources. The CRIT comment also noted that the satellite image used in the NOP showing the Project's location is out of date, and that current satellite imagery shows the same area with multiple large scale solar developments nearby.

The Center for Biological Diversity noted that a number of projects are currently permitted and or proposed in the vicinity, the region and the CDCA, and suggested that the EIS/EIR must evaluate cumulative impacts not only to the zone but also to surrounding resources including the Mule Mountains ACEC, other ACECs, Wildlife Habitat Management Areas (WHMAs), federally-designated Wilderness, Joshua Tree National Park, and to cultural resources across the landscape.

3.5 Project Alternatives

Basin and Range Watch, the EPA, as well as several other individuals and organizations submitted comments regarding Project alternatives. The comments generally requested that the EIS/EIR include an analysis of a range of alternatives to ensure that the full spectrum of alternatives to the Project are fully considered and evaluated.

The EPA recommended that BLM consider the latest science used to develop the DRECP, as well as any additional recent scientific studies, and consider evaluating an action alternative that would comply with the DRECP CMAs. Specifically, the EPA recommends that the EIS include a 'crosswalk' table highlighting how each alternative would meet or not meet the criteria for each CMA. Additionally, EPA suggests that a reduced size alternative would allow the developer greater flexibility to avoid any environmentally sensitive areas and should be considered. Further, the EIS should provide a discussion of the reasons for the elimination of alternatives which are not evaluated in detail.

The Wilderness Society and California Wilderness Coalition stated that although the Project is "grandfathered" and, as such, not required to comply with the DRECP, the two organizations strongly recommend that BLM develop an alternative that analyzes the Project under the DRECP and compares the impacts to resources and values to the impacts under other action alternatives. By developing an alternative that analyzes the Project under the DRECP, BLM could, the organizations suggest, determine whether permitting the Project using DRECP decisions and policies would lead to improved outcomes. The comment recommended that BLM select the proposed alternative as the agency preferred alternative.

Defenders of Wildlife and California Wilderness Coalition commented that the range of alternatives should be based on resource occurrence and sensitivity, with a goal of avoiding or minimizing impacts by modifying the size and location of the project. Similar to the comment letter noted above, this comment also suggested that one of the alternatives should include compliance with the DRECP.

Basin and Range Watch and Western Watersheds Project requested that the range of alternatives comply with NEPA guidelines and include (1) a No Action Alternative; (2) a Brownfields and Degraded Lands Alternative; (3) and a Distributed Generation Alternative. Additionally, the

comment suggested that BLM should examine the feasibility and problems with a plan to integrate 350 megawatts of battery storage at the Project site.

The EPA submitted comments regarding Project alternatives, stating that the EIS/EIR should describe how each alternative was developed, how it addresses each Project objective, and how it would be implemented. The alternatives analysis should include a discussion of a reduced acreage, reduced MW and modified footprint alternatives, as well as alternative sites and generating technologies, including different types of solar technologies, and describe the benefits associated with the proposed technology. The EIS/EIR should clearly describe the rational used to determine whether impacts of an alternative are significant or not. Thresholds of significance should be determined by considering the context and intensity of an action and its effects.

The EPA strongly encouraged the Lead Agencies to pursue the siting of renewable energy projects on disturbed, degraded, and contaminated sites, including fallow or abandoned agricultural lands before considering large tracts of undisturbed public lands. The EIS/EIR should identify and analyze an environmentally preferable alternative. Options such as reducing the footprint of the Project within the Project area or relocating sections/components of the Project to other areas, including private land, to reduce environmental impacts should be examined. The EPA also recommended that the EIS/EIR describe the current condition of the land selected for the Project, discuss whether the land is classified as disturbed, and describe to what extent the land could be used for other purposes in the future.

3.6 EIS/EIR Administrative and Permitting Issues

Agency Permits/Consultation

Several comments were submitted by Basin and Range Watch and the EPA regarding EIS/EIR administrative and permitting issues and needs. The EPA noted, based on the National Wetlands Inventory, there appear to be wetland features in the vicinity of the Project including riverine and fresh water ponds. If avoidance of these water features is not possible, the EPA recommended early consultation with the U.S. Army Corps of Engineers to determine if a Section 404 permit would be required under the Clean Water Act.

The Southwest Carpenters noted in their comment that BLM has not indicated whether it intends to initiate formal Section 7 consultation with U.S. Fish and Wildlife Service. The comment recommended that BLM request preparation of a Biological Assessment and Biological Opinion, as the Project has potential to jeopardize the continued existence of an endangered or threatened species. 16 U.S.C. § 1536.

Basin and Range Watch expressed concern that the Project would be inconsistent with FLPMA Class M (Moderate Use) designation, and suggested the solar project would be more appropriate on lands with a Class I (Intensive Use) designation- that is “for lands managed for concentrated use to meet human needs”.

The Metropolitan Water District submitted comments regarding water entitlements stating that if an exchange of water rights is required for the Project, proponents would have to obtain water

from existing junior priority holder. Such an exchange would require approval from the Metropolitan Water District's Board of Directors.

3.7 Issues Outside the Scope of the EIS/EIR

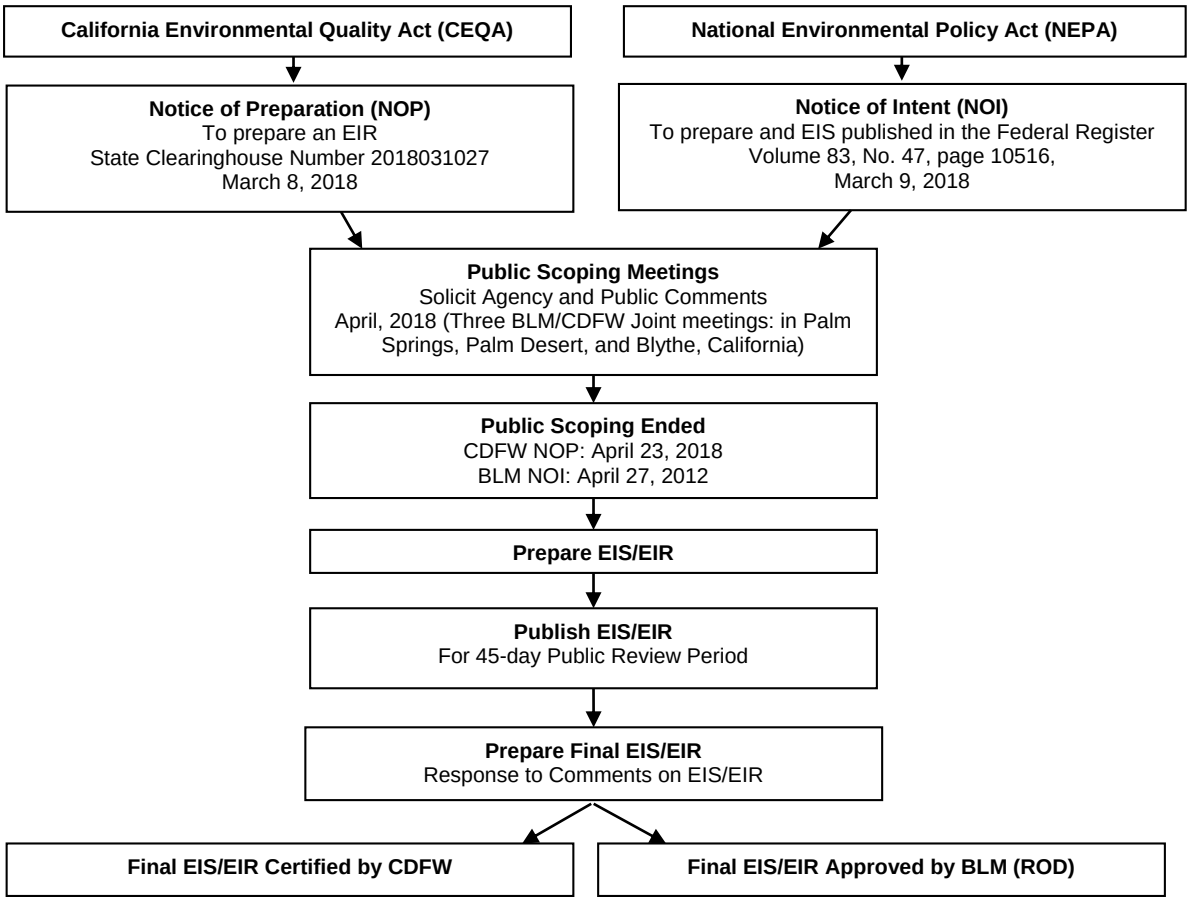
General comments were received that noted support and others that were against the development of the Project. Basin and Range Watch along with Western Watersheds Project suggested that although the East Riverside Solar Energy Zone and DFA have been approved, the Solar PEIS and DRECP analysis was poor; thus, the Project should be reviewed with a full 90-day Environmental Impact Statement. Basin and Range Watch with Western Watersheds Project expressed confusion about the scoping process, noting that different comment deadlines are listed on the BLM website, most likely due to the extension of the comment deadline.

Comments and several attachments were received from Kathleen Hayden regarding the management of public lands under the Wild Horse and Burro Act, and Federal Land Policy and Management Act. The comments were not specifically related to the scope of the DEIS/DEIR.

SECTION 4

Summary of Future Steps in the Planning Process

The EIS/EIR process requires a team of interdisciplinary resource specialists to complete each step. An important part of the environmental planning process is engaging the public and relevant agencies from the earliest stages of and throughout the planning process to address issues, comments, and concerns. The steps of the CEQA and NEPA planning processes and agency authority and decisions to be made are described as follows. Figure 4-1 provides a summary of the EIR (CEQA) and EIS (NEPA) processes.



Crimson Solar Project

Figure 4-1
CEQA/NEPA Process Flowchart

Appendix A
Notices

ESA

Appendix A-1
Notice of Intent (published in the Federal Register on March 9, 2018)

governance funding agreement may include, but are not limited to: Construction, farming, concessions, maintenance, biological program efforts, habitat management, fire management, and implementation of comprehensive conservation planning.

Locations of Refuges and Hatcheries With Close Proximity to Self-Governance Tribes

The Service developed the list below based on the proximity of identified self-governance Tribes to Service facilities that have components that may be suitable for administering through a self-governance funding agreement.

1. Alaska National Wildlife Refuges—Alaska
2. Alchesay National Fish Hatchery—Arizona
3. Humboldt Bay National Wildlife Refuge—California
4. Kootenai National Wildlife Refuge—Idaho
5. Agassiz National Wildlife Refuge—Minnesota
6. Mille Lacs National Wildlife Refuge—Minnesota
7. Rice Lake National Wildlife Refuge—Minnesota
8. National Bison Range—Montana
9. Ninepipe National Wildlife Refuge—Montana
10. Pablo National Wildlife Refuge—Montana
11. Sequoyah National Wildlife Refuge—Oklahoma
12. Tishomingo National Wildlife Refute—Oklahoma
13. Bandon Marsh National Wildlife Refuge—Washington
14. Dungeness National Wildlife Refuge—Washington
15. Makah National Fish Hatchery—Washington
16. Nisqually National Wildlife Refuge—Washington
17. Quinault National Fish Hatchery—Washington
18. San Juan Islands National Wildlife Refuge—Washington
19. Tamarac National Wildlife Refuge—Wisconsin

For questions regarding self-governance, contact Scott Aikin, Fish and Wildlife Service, National Native American Programs Coordinator, 1211 SE Cardinal Court, Suite 100, Vancouver, Washington 98683, telephone (360) 604–2531 or fax (360) 604–2505.

F. Eligible U.S. Geological Survey (USGS) Programs

The mission of the USGS is to collect, analyze, and provide information on biology, geology, hydrology, and geography that contributes to the wise management of the Nation's natural resources and to the health, safety, and well-being of the American people. This information is usually publicly available and includes maps, data bases, and descriptions and analyses of the water, plants, animals, energy, and mineral resources, land surface, underlying geologic structure, and dynamic processes of the earth. The USGS does not manage lands or resources. Self-governance Tribes may potentially assist the USGS in the data acquisition and analysis components of its activities.

For questions regarding self-governance, contact Monique Fordham, Esq., National Tribal Liaison, U.S. Geological Survey, 12201 Sunrise Valley Drive, Reston, Virginia 20192, telephone (703) 648–4437 or fax (703) 648–6683.

G. Eligible Office of the Special Trustee for American Indians (OST) Programs

The Department has responsibility for what may be the largest land trust in the world, approximately 56 million acres. OST oversees the management of Indian trust assets, including income generated from leasing and other commercial activities on Indian trust lands, by maintaining, investing and disbursing Indian trust financial assets, and reporting on these transactions. The mission of the OST is to serve Indian communities by fulfilling Indian fiduciary trust responsibilities. This is to be accomplished through the implementation of a Comprehensive Trust Management Plan (CTM) that is designed to improve trust beneficiary services, ownership information, management of trust fund assets, and self-governance activities.

A Tribe operating under self-governance may include the following programs, services, functions, and activities or portions thereof in a funding agreement:

1. Beneficiary Processes Program (Individual Indian Money Accounting Technical Functions).

2. Appraisal Services Program. Tribes/consortia that currently perform these programs under a self-governance funding agreement with the Office of Self-Governance (OSG) may negotiate a separate memorandum of understanding (MOU) with OST that outlines the roles and responsibilities for management of these programs.

The MOU between the Tribe/consortium and OST outlines the roles and responsibilities for the performance of the OST program by the Tribe/consortium. If those roles and responsibilities are already fully articulated in the existing funding agreement with the OSG, an MOU is not necessary. To the extent that the parties desire specific program standards, an MOU will be negotiated between the Tribe/consortium and OST, which will be binding on both parties and attached and incorporated into the OSG funding agreement.

If a Tribe/consortium decides to assume the operation of an OST program, the new funding for performing that program will come from OST program dollars. A Tribe's newly-assumed operation of the OST program(s) will be reflected in the Tribe's OSG funding agreement.

For questions regarding self-governance, contact Lee Frazier, Program Analyst, Office of External Affairs, Office of the Special Trustee for American Indians (MS 5140—MIB), 1849 C Street NW, Washington, DC 20240–0001, phone: (202) 208–7587, fax: (202) 208–7545.

IV. Programmatic Targets

The programmatic target for Fiscal Year 2018 provides that, upon request of a self-governance Tribe, each non-BIA bureau will negotiate funding agreements for its eligible programs beyond those already negotiated.

V. Public Disclosure

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so.

Dated: February 15, 2018.

Ryan K. Zinke,

Secretary.

[FR Doc. 2018–04743 Filed 3–8–18; 8:45 am]

BILLING CODE 4337–15–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[LLCAD06000 L51010000.ER0000 17XL5017AP LVRWB17B5120 CACA 051967]

Notice of Intent To Prepare a Joint Environmental Impact Statement/Environmental Impact Report and Possible Land Use Plan Amendment for the Proposed RE Crimson Solar Project, Riverside County, CA

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of intent.

SUMMARY: In compliance with the National Environmental Policy Act of 1969, as amended (NEPA), and the Federal Land Policy and Management Act of 1976, as amended (FLPMA), the Bureau of Land Management (BLM)

Palm Springs-South Coast Field Office, Palm Springs, CA, intends to prepare a joint Environmental Impact Statement (EIS)/Environmental Impact Report (EIR), including a potential amendment to the California Desert Conservation Area (CDCA) Plan, and by this Notice is announcing the beginning of the scoping process to solicit public comments and identify issues.

DATES: This Notice initiates the public scoping process for the EIS/EIR and possible plan amendments. Comments on issues may be submitted in writing until April 9, 2018. The date(s) and location(s) of any scoping meetings will be announced at least 15 days in advance through local media, newspapers, and the BLM website at: *https://eplanning.blm.gov/.*

To be included in the Draft EIS/EIR, all comments must be received prior to the close of the 30-day scoping period or 15 days after the last public meeting, whichever is later. The BLM will provide additional opportunities for public participation upon publication of the Draft EIS/EIR.

ADDRESSES: The public may submit comments related to the RE Crimson Solar Project by any of the following methods:

- *Website: https://eplanning.blm.gov/.*
- *Email: blm_ca_crimsonsolar@blm.gov.*
- *Fax:* (541) 618–2400, ATTN: Miriam Liberatore, project manager, RE Crimson Solar.
- *Mail:* ATTN: Miriam Liberatore, project manager, RE Crimson Solar, Bureau of Land Management, 3040 Biddle Road, Medford, OR 97504.

Documents pertinent to this proposal may be examined at the BLM Palm Springs-South Coast Field Office located at 1201 Bird Center Drive, Palm Springs, CA 92262.

FOR FURTHER INFORMATION CONTACT: Miriam Liberatore, project manager, telephone (541) 618–2412; address Bureau of Land Management, 3040 Biddle Road, Medford, OR 97504; email: *mliberat@blm.gov.* Contact Ms. Liberatore to be added to the mailing list. Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service at (800) 877–8339, to contact the above individual during normal business hours. The Service is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. Telephone replies will be returned during normal business hours.

SUPPLEMENTARY INFORMATION: Sonoran West Solar Holdings, LLC, a wholly owned subsidiary of Recurrent Energy LLC, has requested a right-of-way (ROW) authorization to construct, operate, maintain, and decommission a maximum 350 megawatt solar photovoltaic facility and necessary ancillary facilities, including battery storage, project substations, access roads, operations and maintenance buildings, and lay down areas.

The Project site consists of about 2,700-acres of BLM-administered land within the Riverside East Solar Energy Zone (SEZ). The Desert Renewable Energy Conservation Plan (DRECP) Land Use Plan Amendment also designated the area as a Development Focus Area (DFA).

This document provides notice that the BLM Palm Springs-South Coast Field Office and the California Department of Fish and Wildlife intend to jointly prepare an EIS/EIR, which may include a CDCA Plan Amendment, for the Project. It also announces the beginning of the scoping process for this effort and seeks public input on environmental issues and potential planning criteria relevant to the Project and any potential plan amendments. The public scoping process guides the planning process and determines the relevant issues that will influence the scope of the environmental analysis, including alternatives and environmental consequences.

Preliminary issues for the project have been identified by BLM personnel; Federal, State, and local agencies; and other stakeholders. The issues include: Air quality and greenhouse gas emissions; biological resources, including special status wildlife and vegetation species; cultural resources; geology and soils; hazards and hazardous materials; hydrology and water quality; lands and realty; mineral resources; noise; paleontological resources; recreation; socioeconomics and environmental justice; special designations; transportation and travel management; visual resources; wildland fire ecology; and areas with high potential for renewable energy development.

Written comments may be submitted to the BLM at a scoping meeting, or via one of the methods listed in the addresses section above. Input must be received by the close of the 30-day scoping period or within 15 days after the last public meeting, whichever is later.

By this Notice, the BLM is complying with requirements in 43 CFR 1610.2(c) to notify the public of potential amendments to the CDCA Plan, as amended, predicated on the findings in the EIS/EIR.

If one or more land use plan amendments are necessary, the BLM will integrate the land use planning process with the NEPA process for the Project. A preliminary list of the potential planning criteria that will be used to help guide and define the scope of the plan amendment includes:

1. The plan amendments will be completed in compliance with FLPMA, NEPA, and all other relevant Federal laws, executive orders, and BLM policies;

2. Existing valid plan decisions will not be changed and any new plan decisions will not conflict with existing plan decisions; and

3. The plan amendment(s) will recognize valid existing rights.

The public may submit comments to the BLM on issues and planning criteria in writing at any public scoping meeting, or by using one of the methods listed in the **ADDRESSES** section above.

The BLM will use and coordinate the NEPA scoping process to help fulfill the public involvement process under the National Historic Preservation Act (NHPA) (54 U.S.C. 306108 as provided in 36 CFR 800.2(d)(3)). The information about historic and cultural resources within the area potentially affected by the proposed action will assist the BLM in identifying and evaluating impacts to such resources.

The BLM will consult with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies. Tribal concerns, including impacts on Indian trust assets and potential impacts to cultural resources, will be given due consideration. Federal, State, and local agencies, along with tribes and other stakeholders that may be interested in or affected by the proposed action that the BLM is evaluating are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate in the development of the environmental analysis as a cooperating agency.

Before including your address, phone number, email address, or other personal identifying information in your comment, you should be aware that your entire comment—including your personal identifying information—may be made publicly available at any time. While you can ask us in your comment to withhold your personal identifying information from public review, we cannot guarantee that we will be able to do so. The minutes and list of attendees for each scoping meeting will be available to the public and open for 30 days after the meeting to any participant who wishes to clarify the views he or she expressed. With respect to the

potential land use plan amendment, the BLM will evaluate identified issues to be addressed in the plan amendment, and will place them into one of three categories:

1. Issues to be resolved in the plan amendment;

2. Issues to be resolved through policy or administrative action; or

3. Issues beyond the scope of this plan amendment.

The BLM will provide an explanation in the Draft EIS/EIR as to why an issue was placed in category two or three. The public is also encouraged to help identify any management questions and concerns that should be addressed in the EIS/EIR and potential land use plan amendments. The BLM will work collaboratively with interested parties to identify the management decisions that are best suited to local, regional, and national needs and concerns.

The BLM will use an interdisciplinary approach to develop the EIS and potential land use plan amendments in order to consider the variety of resource issues and concerns identified. Specialists with expertise in the following disciplines will be involved in the planning process: Air, minerals and geology, outdoor recreation, archaeology, paleontology, wildlife and botany, lands and realty, hydrology, soils, sociology, and economics.

Authority: 40 CFR 1501.7 and 43 CFR 1610.2.

Danielle Chi,

BLM California Deputy State Director.

[FR Doc. 2018–04691 Filed 3–8–18; 8:45 am]

BILLING CODE 4310–40–P

DEPARTMENT OF THE INTERIOR

Bureau of Land Management

[17XL1109AF LLUTG01100 L13100000.EJ0000]

Notice of Availability of a Draft Environmental Impact Statement for the Greater Chapita Wells Natural Gas Infill Project, Uintah County, Utah

AGENCY: Bureau of Land Management, Interior.

ACTION: Notice of availability.

SUMMARY: In accordance with the National Environmental Policy Act of 1969, as amended, the Bureau of Land Management (BLM) has prepared a Draft Environmental Impact Statement (EIS) for the Greater Chapita Wells Natural Gas Infill Project and by this notice is announcing the opening of the comment period.

DATES: To ensure comments will be considered, the BLM must receive written comments on the Greater Chapita Wells Draft EIS within 45 days following the date the Environmental Protection Agency publishes its NOA in the **Federal Register**. The BLM will announce future meetings or hearings and any other public involvement activities at least 15 days in advance through public notices, media releases, and/or mailings.

ADDRESSES: You may submit comments related to the Greater Chapita Wells project by any of the following methods:

- *Website: http://go.usa.gov/csKAz.*
- *Email: UT_Vernal_Comments@blm.gov.*
- *Fax:* 435–781–4410.
- *Mail:* Bureau of Land Management, Vernal Field Office, 170 South 500 East, Vernal, Utah 84078.

Copies of the Greater Chapita Wells Draft EIS are available in the Vernal Field Office at the above address and website.

FOR FURTHER INFORMATION CONTACT: Stephanie Howard, Project Manager, 435–781–4400; BLM Vernal Field Office, 170 South 500 East, Vernal, UT 84078; *showard@blm.gov.* Persons who use a telecommunications device for the deaf (TDD) may call the Federal Relay Service (FRS) at 1–800–877–8339 to contact the above individual during normal business hours. FRS is available 24 hours a day, 7 days a week, to leave a message or question with the above individual. You will receive a reply during normal business hours.

SUPPLEMENTARY INFORMATION: The BLM published in the September 9, 2009, **Federal Register** a Notice of Intent to prepare an EIS (74 FR 46458). The Greater Chapita EIS Project Area encompasses approximately 43,109 acres located in Township 8 South, Ranges 22 through 24 East; Township 9 South, Ranges 22 and 23 East; and Township 10 South, Range 23 East, Salt Lake Base and Meridian, about 25 miles south of Vernal, Utah. Of the 43,109 acres within the project area, about 76 percent is Federal surface administered by the BLM; 15 percent is tribal trust surface; 5 percent is State of Utah surface administered by the Utah Trust Lands Administration; and 4 percent is private surface. The entire project is within the exterior boundary of the Uintah and Ouray Reservation (Uncompahgre Indian Country).

Oil and gas drilling has been ongoing within the Chapita project area since 1952. As of March 2014, the project area contained 1,247 active gas wells on 960 well pads, approximately 257 miles of roads, and approximately 268 miles of pipelines. Total existing disturbance in the project area is approximately 3,975 acres, with approximately 1,000 acres under interim reclamation.

The Draft EIS analyzes a proposal by EOG Resources Inc (EOG) to further develop natural gas resources on their Federal leases in the project area. EOG's proposal includes drilling up to 2,808 new wells and constructing associated ancillary transportation, transmission, and water disposal facilities within the project area. The proposed life of the project is 55 years, with drilling and development activities to occur within the first 15 years. The new gas wells would be drilled to the Green River, Wasatch, Mesaverde Group (including the Blackhawk), Mancos, and Dakota formations at depths of 6,000 to 15,000 feet.

The Draft EIS describes and analyzes in detail the impacts of the No Action Alternative, and three action alternatives, including EOG's Proposed Action. Seven additional alternatives were considered, but eliminated from detailed analysis. The alternatives considered in detail include a landscape-scale mitigation plan that incorporates applicant-committed measures, design features (including best management practices), and the mitigation hierarchy, including compensatory mitigation as applicable to minimize or eliminate impacts to the resources of concern. In particular, the Draft EIS action alternatives contain an applicant-committed ozone management strategy designed to provide a reasonable assurance that project implementation would not contribute to the ongoing ozone situation in the Uinta Basin. This strategy contains five approaches to managing project emissions, including: Applicant-committed emission reduction measures; audio, visual, olfactory and infrared monitoring; a commitment to no-net increase of volatile organic compound emissions to be tracked via an emissions balance sheet; ozone training for personnel; and an ozone event action plan. The following is a summary of the main components of the various alternatives:

1. *No Action Alternative*—The proposed natural gas development on BLM lands and leases as described in the Proposed Action would not be implemented. However, under this alternative, natural gas exploration and development is assumed to continue on Federal, State, and private lands under previous authorizations. Up to 462 new gas wells would be drilled from 425 new well pads and 37 expanded well pads. This alternative also includes expansion of an existing compressor station, construction of 18 liquids gathering system (LGS) facilities,

Appendix A-2
Notice of Preparation
(posted March 8, 2018)

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Inland Deserts Region (Region 6)
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

Notice of Preparation of a Joint Draft Environmental Impact Statement/Environmental Impact Report and Notice of Public Scoping Meetings

Date: March 8, 2018

To: Responsible/Trustee Agencies and Interested Parties

From: California Department of Fish and Wildlife

Subject: Notice of Preparation (NOP) of a Joint Draft Environmental Impact Statement/Environmental Impact Report for the RE Crimson Solar Project and Notice of Public Scoping Meetings

NOP Public Review Period: March 9 to April 23, 2018

Public Scoping Meetings:

Date: April 11, 2018 (Wednesday) **Location:** University of California, Riverside, Palm Desert, Room B117, 75080 Frank Sinatra Drive, Palm Desert, CA 92211 **Time**: 5:00 to 8:00 p.m.	**Date:** April 12, 2018 (Thursday) **Location:** City of Blythe Multipurpose Room, City Hall, 235 North Broadway, Blythe, CA 92225 **Time:** 12:00 to 3:00 p.m.

A. Introduction

In accordance with Section 15063 of the California Environmental Quality Act (CEQA) Guidelines, the California Department of Fish and Wildlife (CDFW), as the CEQA lead agency, will prepare a Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the RE Crimson Solar Project (proposed project) jointly with the U.S. Department of the Interior Bureau of Land Management (BLM). The project applicant, Recurrent Energy (RE), will need to obtain an Incidental Take Permit (ITP) and Lake and Streambed Agreement (LSAA) from the California Department of Fish and Wildlife and has also filed a Right-of-Way (ROW) Grant application with BLM. CDFW's need to contemplate a ITP and LSAA triggers the need to comply with CEQA and BLM's need to contemplate a right-of-way grant application triggers the need to comply with the National Environmental Policy Act (NEPA). CDFW and BLM have agreed to prepare a joint Draft EIS/EIR for the RE Crimson Solar Project. Therefore, CDFW, as the lead agency under California law, and BLM, as the federal lead agency, will prepare a Draft and Final EIR/EIS to comply with CEQA and NEPA.

As required by CEQA, this Notice of Preparation (NOP) is being sent to the Office of Planning and Research, responsible and trustee agencies and interested members of the public who submitted a request for such notices. The purpose of the NOP is to inform recipients that CDFW is beginning preparation of an EIS/EIR for the proposed project and to solicit comments concerning the scope and content of the environmental information that is germane to your agency's statutory responsibilities in connection with the proposed project. Information that will be most useful at this time would be descriptions of the significant environmental issues and reasonable alternatives and mitigation measures you would like to see explored in the Draft EIS/EIR.

As required by NEPA, the BLM will publish a Notice of Intent (NOI) in the Federal Register for preparation of a joint EIR/EIS for the RE Crimson Solar Project. Similar to this NOP, the intent of the NOI is to initiate the public scoping for the EIR/EIS, provide information about the proposed project, and also serve as an invitation for other federal agencies granted cooperating agency status to provide comments on the scope and content of the EIR/EIS.

This NOP includes background information on the project and the project location (Section B), a description of the proposed project (Section C), a summary of potential project impacts (Section D), time and location of the public scoping meetings (Section E), information on how to provide comments to CDFW (Section F), and where documents are available for public review (Section G).

In accordance with CEQA Guidelines Section 15082(b), there will be a 45-day comment period for this NOP, beginning on March 9, 2018, and ending on April 23, 2018. CDFW welcomes agency and public input during the public review period. In the event that no response or well-justified request for additional time is received from any responsible, federal, or trustee agency by the end of the review period, CDFW may presume that such agencies have no response.

B. Background and Project Location

B.1 Background

Sonoran West Solar Holdings LLC (Applicant), a wholly owned subsidiary of Recurrent Energy LLC, proposes to construct, operate, and decommission the proposed 350 megawatt (MW) utility-scale solar photovoltaic (PV) and would include up to 350 MW energy storage on approximately 2,500 acres of public lands administered by the BLM within the California Desert Conservation Area (CDCA) planning area. The proposed project is also located within the Riverside East Solar Energy Zone (SEZ) and within a Desert Renewable Energy Conservation Plan (DRECP) Development Focus Area (DFA).

The proposed project site was formerly identified for development of the Sonoran West Solar Energy Generating Station as proposed by BrightSource Energy in 2009. The former Sonoran

West project consisted of a 540-megawatt (MW) dual-turbine power tower project on approximately 7,600 acres of a combination of BLM-administered and privately owned land. The current proposed project represents a substantial reduction in land use requirements and associated impacts.

B.2 Project Location

The proposed project site is located in unincorporated eastern Riverside County, approximately 13 miles west of Blythe, north of Mule Mountain, and south of Interstate 10 (I-10), including portions of Sections 1, 2, 11, 12, 13, 24, and 25 within Township 7 South, Range 20 East; and portions of Sections 6, 7, 17, and 18 within Township 7 South, Range 21 East (Figure 1). The proposed project site consists of approximately 2,500 acres of BLM-administered land within the Riverside East SEZ and within a DRECP DFA. The proposed project is not sited within the adjacent Section 368 Federal Energy Corridor pursuant to the Westwide Energy Corridor Final Programmatic EIS, except for a short gen-tie line that would interconnect the utility-scale solar PV facility to the Colorado River Substation.

The proposed project site is situated at the eastern edge of the Chuckwalla Hydrologic Area. The project area supports a broad alluvial fan that includes many braided washes and channels that converge into a primary channel flowing into an intra-state playa lake northwest of the proposed project site.

The proposed project site is surrounded primarily by BLM-managed lands with some private parcels also located in the vicinity. The proposed project site is located at the northern foot of the Mule Mountain Area of Critical Environmental Concern, which is an important cultural resource for local Native American tribes. Southern California Edison (SCE) high-voltage transmission lines and the Colorado River Substation (CRS) are located directly north of the proposed project site, and the I-10 freeway is north of and parallel to those facilities. The proposed First Solar Desert Quartzite project site is located to the east of the proposed project site, and the recently approved Blythe Mesa Solar Project is located northeast of the Desert Quartzite site. Designated critical habitat for desert tortoise is located to the west of the proposed project site as is the Chuckwalla Desert Wildlife Management Area and Critical Habitat Unit.

C. Project Description

The proposed project consists of a utility-scale solar PV and energy storage project that would be located on up to approximately 2,500 acres of public lands managed by the BLM within the CDCA planning area. The proposed project would interconnect to the regional electrical grid at the SCE 230-kilovolt (kV) CRS. The project would generate up to 350 MW of renewable energy using PV technology and would include up to 350 MW of integrated energy storage capacity.

The proposed project is comprised of the following components/facilities:

- **Photovoltaic Modules and Support Structures**: the solar facility would include an estimated 2 million solar modules, although the precise module count would depend on the technology ultimately selected at the time of procurement. Module mounting systems that may be installed include either fixed-tilt or tracking technology, depending on the PV modules ultimately selected. Modules would be arranged next to each other in long strings called rows and supported by steel piles.
- **Inverters, Transformers, and Electrical Collection System**: The proposed project would be designed and laid out primarily in 2 MW increments, which would include an inverter equipment area measuring approximately 40 feet by 25 feet. Each 2 MW increment would include an inverter-transformer station constructed on a concrete pad or steel skid and centrally located within the PV arrays.
- **Project Substations and Gen-Tie Line**: Up to four substations would transform voltage from the 34.5 kV electrical collection cables to 230 kV. The area of each substation and associated equipment would be approximately 30,000 square feet and would include power transformers and footings, control buildings, metering stands, microwave towers up to approximately 100 feet in height, and dead-end structures up to approximately 80 feet in height. The project gen-tie would be would be constructed with either monopoles, lattice steel structures, or wooden H-frame poles. A portion of the gen-tie line may be constructed underground to cross under existing transmission lines.
- **Operations and Maintenance Building**: An operations and maintenance (O&M) building would be located near the project substations. The O&M building would be approximately 2,000 square feet (approximately 40 feet by 50 feet by 15 feet at its tallest point) and would accommodate O&M staff.

Other features/components of the proposed facility include a supervisory control and data acquisition system, an optional battery or flywheel storage system capable of storing up to 350 MW of electricity, a meteorological data collection system, and telecommunications facilities. If provided, the storage system would consist of up to 3,000 electrical enclosures measuring approximately 40 feet by 8 feet by 8.5 feet high and installed on concrete foundations.

Access to the project site would be provided from the existing paved Powerline Road to the CRS. The project's on-site roadway system would include a perimeter road, access roads, and internal roads. In the event that the Applicant cannot reach an agreement with the private landowner, two new access road segments along Powerline Road would be constructed in order to avoid two privately owned parcels through which the existing Powerline Road crosses. Multiple points of ingress/egress would be provided to the site and accessed by site personnel via locked gates. Security fencing would be installed along the perimeter of the proposed project site and motion-sensitive, directional security lights would be installed to provide adequate

illumination around the substation areas, each inverter cluster, and at gates. Other security measures including infrared security cameras may be installed.

D. Potential Environmental Effects

The EIS/EIR will evaluate potential environmental effects of the proposed project. The EIS/EIR will identify reasonable alternatives, compare the environmental impacts of the alternatives to those of the proposed project, and propose mitigation to avoid and/or reduce impacts deemed potentially significant.

Potential issues and impacts to the existing environment to be analyzed in the EIS/EIR include the following environmental topics. Note, topic names in parenthesis below is terminology used in NEPA documentation and will appear in the joint EIR/EIS.

- Aesthetics (Visual Resources)
- Air Quality
- Biological Resources
- Cultural and Paleontological Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards/Hazardous Materials, Wildland Fire Ecology
- Hydrology and Water Quality
- Land Use and Planning (Lands and Realty)
- Mineral Resources
- Noise
- Population and Housing (Socioeconomics and Environmental Justice)
- Recreation
- Tribal Cultural Resources
- Transportation and Traffic (Transportation and Public Access)
- Utilities and Public Services

The EIS/EIR will also address the cumulative environmental consequences of the proposed project in combination with other closely related past, present, and reasonably foreseeable probable future projects in the area. This will serve to satisfy CEQA requirements regarding regional cumulative effect concerns. Pursuant to CEQA Guidelines Section 15063(a), CDFW has elected to proceed directly to the preparation of a Draft EIR rather than preparing an Initial Study.

In compliance with CEQA Guidelines Section 15126.6, the EIS/EIR will describe and evaluate the comparative merits of a reasonable range of alternatives to the proposed project. The EIS/EIR will also identity any alternatives that were considered but rejected by the lead agency as infeasible and briefly explain the reasons why. The EIS/EIR will provide an analysis of the No Project Alternative and will also identify the environmentally superior alternative. The alternatives to be analyzed in the EIS/EIR will be developed during the environmental review process and will consider input received during public scoping.

E. Public Scoping Meeting

CDFW and BLM will hold two public scoping meetings to inform interested parties about the proposed project, and to provide agencies and the public with an opportunity to provide written comments on the scope and content of the joint EIS/EIR. The meeting dates, locations, and times are as follows:

Date: April 11, 2018 (Wednesday) **Location:** University of California, Riverside Palm Desert, Room B117, 75080 Frank Sinatra Drive, Palm Desert, CA 92211 **Time**: 5:00 to 8:00 p.m.	**Date:** April 12, 2018 (Thursday) **Location:** City of Blythe Multipurpose Room, City Hall, 235 North Broadway, Blythe, CA 92225 **Time:** 12:00 to 3:00 p.m.

The meeting space is accessible to persons with disabilities. Individuals needing special assistive devices will be accommodated to the best ability of CDFW. For more information, please contact Magdalena Rodriguez via email at magdalena.rodriguez@wildlife.ca.gov or phone at 909.844.2520 at least 1 week before the meeting.

Everyone is encouraged to attend a meeting to express their concerns about the proposed project and to offer suggestions regarding the project as proposed, including alternatives.

F. Providing Comments

At this time, CDFW is soliciting comments on the NOP regarding your views on how the project may affect the environment. This information will be considered when preparing the Draft EIS/EIR's discussion of environmental topics, significant effects, mitigation measures, and alternatives. Because of time limits mandated by state law, comments should be provided no later than 5:00 p.m. on [April 23, 2018 (45-day comment period).

You may submit comments in a variety of ways: (1) by U.S. mail, (2) by electronic mail (email), or (3) by attending a public scoping meeting and submitting written comments at that time. Comments provided by email should include "**RE Crimson Solar Project NOP Scoping Comments**" in the subject line, and the name and physical address of the commenter should be contained in the body of the email.

Please send all comments to:

California Department of Fish and Wildlife
Attention: Magdalena Rodriguez, Project Manager
Mailing Address: 3602 Inland Empire Boulevard, Suite C220, Ontario, California 91764

OR via email: magdalena.rodriguez@wildlife.ca.gov
(subject line: "**RE Crimson Solar Project NOP Scoping Comments**")

All comments on environmental issues received during the public comment period will be considered and addressed in the Draft EIS/EIR, which is anticipated to be available for public review in late 2018/early 2019.

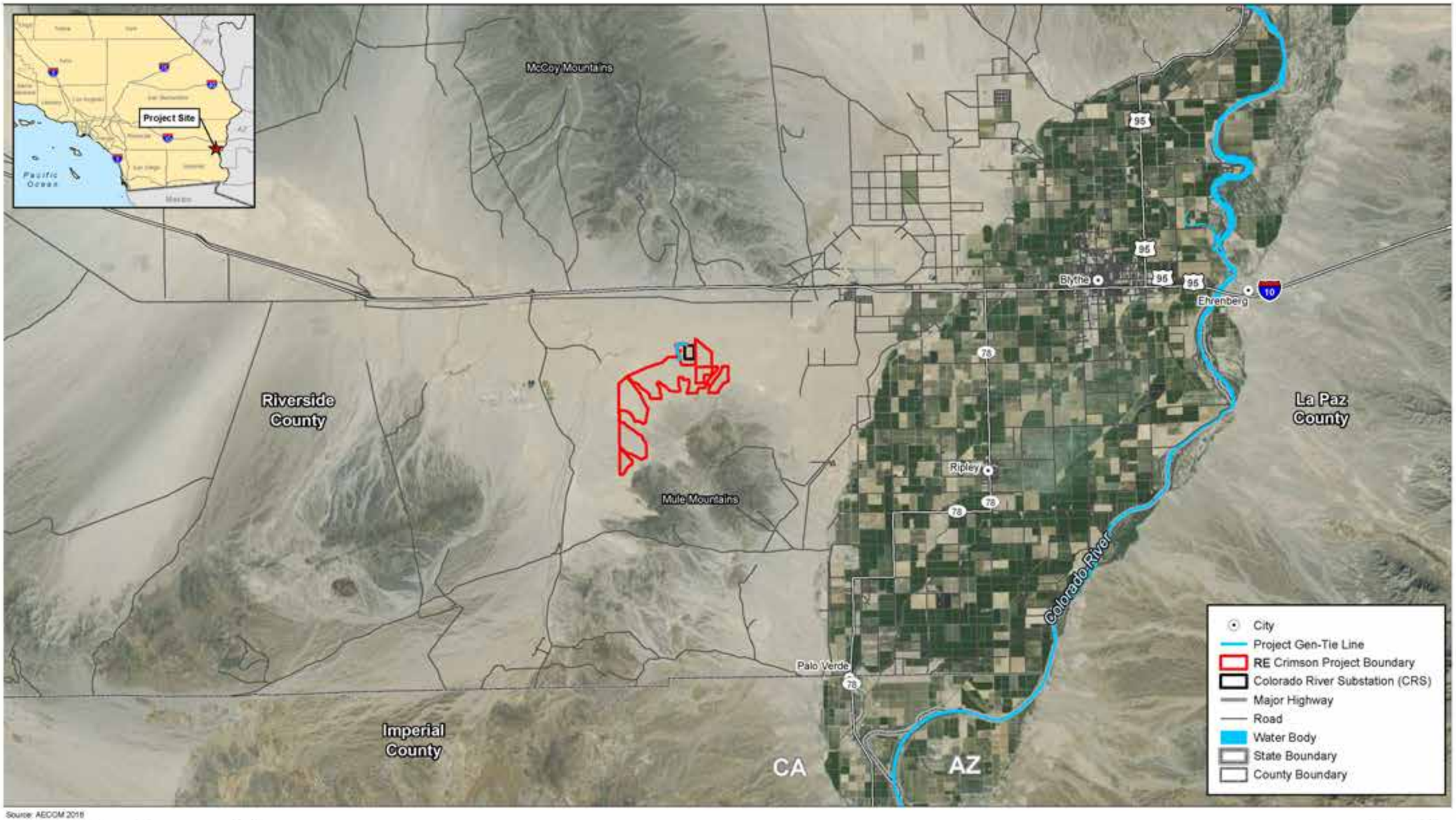
G. Location of Documents Available for Public Review

A hard copy of the NOP is available for review at the locations listed in Table 1.

Table 1
Repository Sites

Site	Address	Telephone
CDFW Blythe Office	17041 South Lovekin Boulevard Blythe, CA 92225	760.922.9189
CDFW Inland Deserts Region Office	3602 Inland Empire Boulevard, Suite C220, Ontario, CA 91764	909.484.0167
BLM Palm Springs-South Coast Field Office	1201 Bird Center Drive, Palm Springs, CA 92262	760.833.7150
Palo Verde Valley District Library	125 West Chanslor Way Blythe, CA 92225	760.922.5371
Lake Tamarisk Public Library	43880 Tamarisk Drive Desert Center, CA 92239	760.227.3273

The NOP and all public review documents for this project will also be available for review online at https://www.wildlife.ca.gov/Notices



Source: AECOM 2018

3 1.5 0 3 Miles

1:190,080 1 inch = 3 miles

Figure 1
Notice of Preparation - Project Location Map

Attachment 1

California Environmental Quality Act Environmental Checklist

Following are the questions included in Appendix G of the California Environmental Quality Act (CEQA) Guidelines Environmental Checklist Form (California Code of Regulations, Section 15000 et seq.). These are issues that may be evaluated in an Environmental Impact Statement/Environmental Impact Report (EIS/EIR), if they are determined to be relevant to the project. This list is provided only to provide the reader with a general idea of the environmental topics that could be considered for the proposed project. As a joint EIS/EIR is being prepared for the proposed RE Crimson Solar Project, a few topic names listed below may differ to comply with National Environmental Policy Act (NEPA) terminology, but the environmental evaluation will address the CEQA impact significance criteria.

I. AESTHETICS (VISUAL RESOURCES). Would the project:

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Substantially degrade the existing visual character or quality of the site and its surroundings?
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

II. AGRICULTURE AND FORESTRY RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

Would the project:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

- Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?
- Result in the loss of forest land or conversion of forest land to non-forest use?
- Involve other changes in the existing environmental which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

III. AIR QUALITY. Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?
- Expose sensitive receptors to substantial pollutant concentrations?
- Create objectionable odors affecting a substantial number of people?

IV. BIOLOGICAL RESOURCES. Would the project:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or US Fish and Wildlife Service?
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites?
- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?
- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

V. CULTURAL AND PALEONTOLOGICAL RESOURCES. Would the project:

- Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?
- Directly or indirectly destroy a unique paleontological resource or site unique geologic feature?
- Disturb any human remains, including those interred outside of formal cemeteries?

VI. GEOLOGY AND SOILS. Would the project:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
    - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? (Refer to the California Division of Mines and Geology Spec. Pub. 42)
    - Strong seismic groundshaking?
    - Seismic-related ground failure, including liquefaction?
    - Landslides?
- Result in substantial soil erosion or the loss of topsoil?
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of wastewater?

VII. GREENHOUSE GAS EMISSIONS. Would the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

VIII. HAZARDS/HAZARDOUS MATERIALS, WILDLAND FIRE ECOLOGY. Would the project:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?
- Emit hazardous emissions or handle hazardous or acutely hazardous material, substances, or waste within one-quarter mile of an existing or proposed school?
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?
- For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?
- Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

IX. HYDROLOGY AND WATER QUALITY. Would the project:

- Violate any water quality standards or waste discharge requirements?

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount or surface runoff in a manner which would result in flooding on- or off-site?
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?
- Otherwise substantially degrade water quality?
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows?
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?
- Inundation by seiche, tsunami, or mudflow?

X. LAND USE AND PLANNING (LANDS AND REALTY). Would the project:

- Physically divide an established community?
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?
- Conflict with any applicable habitat conservation plan or natural community conservation plan?

XI. MINERAL RESOURCES. Would the project:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

XII. NOISE. Would the project result in:

- Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?
- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?
- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?
- For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

XIII. POPULATION AND HOUSING (SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE). Would the project:

- Induce substantial population growth in an area, either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extensions of roads or other infrastructure)?
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

XIV. PUBLIC SERVICES.

- Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
    - Fire protection?

- Police Protection?
- Schools?
- Parks?
- Other public facilities?

XV. RECREATION. Would the project:

- Increase the use of existing neighborhood, and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?
- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

XVI. TRANSPORTATION AND TRAFFIC (TRANSPORTATION AND PUBLIC ASSESS). Would the project:

- Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?
- Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?
- Result in inadequate emergency access?
- Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

XVII. TRIBAL CULTURAL RESOURCES.

- Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and

scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or
- A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resource Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.

XVIII. UTILITIES AND SERVICES SYSTEMS. Would the project:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- Comply with federal, state, and local statutes and regulations related to solid waste?

IXX. MANDATORY FINDINGS OF SIGNIFICANCE:

- Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

- Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)
- Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Appendix B

Public Notice:
Scoping Meeting Announcement

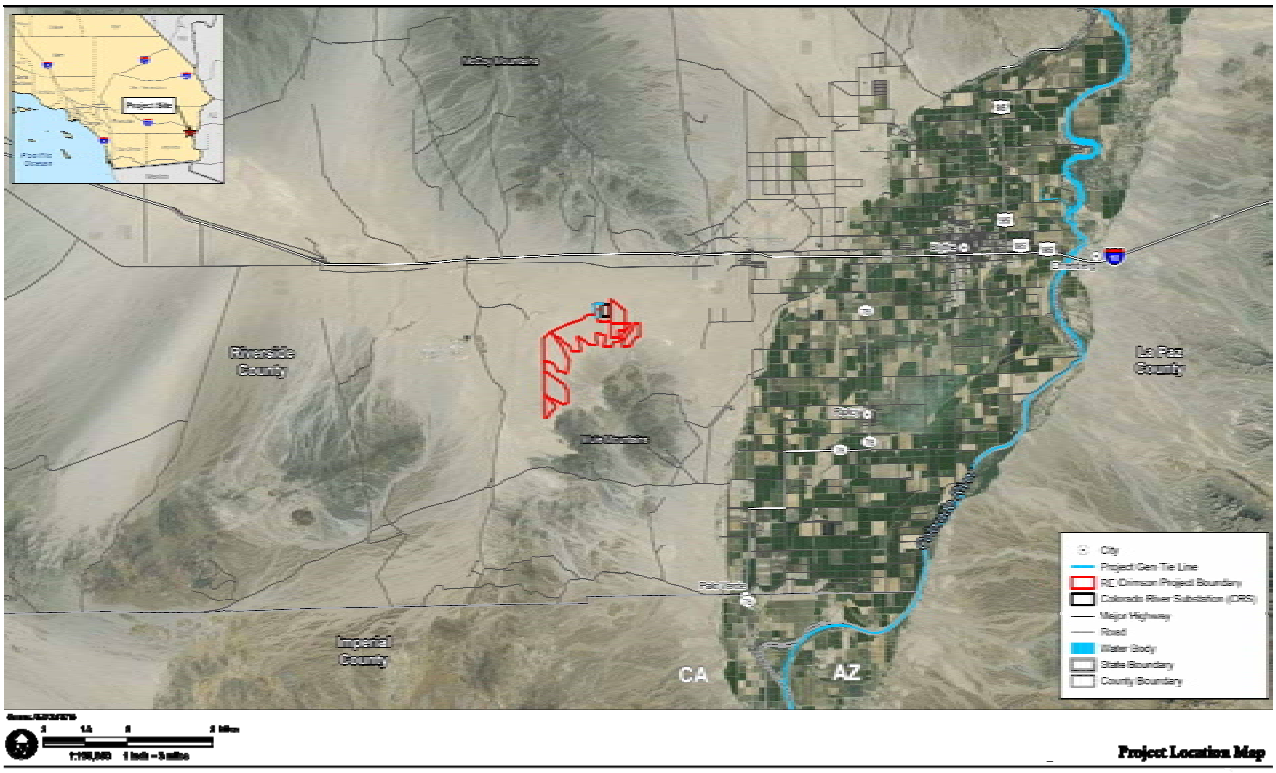
ESA

Public Meetings Announcement

For the RE Crimson Solar Project
Draft Environmental Impact Statement/Environmental Impact Report

The Bureau of Land Management (BLM) and California Department of Fish and Wildlife (CDFW) intend to prepare a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the RE Crimson Solar Project.

Sonoran West Solar Holdings LLC, a wholly owned subsidiary of Recurrent Energy LLC, proposes to construct, operate and decommission the proposed RE Crimson Solar Project. The project involves a 350 megawatt (MW) solar photovoltaic facility with an additional 350 MW energy storage facility on approximately 2,500 acres of public land administered by BLM.



Community participation is a critical part of the environmental review process. Public meetings will be held to aid the public's understanding of this project and to solicit written comments on the potential impacts, alternatives, and mitigation measures that should be considered in the Draft EIS/EIR.

Public Meetings

Tuesday, April 3, 2018
5:00 PM to 8:00 PM
BLM Palm Springs South Coast Field Office
1201 Bird Center Drive,
Palm Springs, CA 92262

Thursday, April 12, 2018
12:00 PM to 3:00 PM
City of Blythe Multi-Purpose Room
235 N. Broadway
Blythe, CA 92225

Wednesday, April 11, 2018
5:00 PM to 8:00 PM
University of California, Riverside, Palm Desert, Room B117
75080 Frank Sinatra Drive
Palm Desert, CA 92211

Written comments will be accepted at the public meetings and may also be mailed or emailed to the following contacts:

BLM Palm Springs-South Coast Field Office
Miriam Liberatore, Project Manager
1201 Bird Center Drive
Palm Springs, CA 92262
Email: blm_ca_crimsonsolar@blm.gov

Or

California Department of Fish and Wildlife
Magdalena Rodriguez, Project Manager
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764
Email: magdalena.rodriguez@wildlife.ca.gov

Further details can be found at the BLM webpage: https://eplanning.blm.gov. For more information, contact Miriam Liberatore, project manager: (541) 618-2412, or email: mliberat@blm.gov.

Public Meetings Announcement

For the RE Crimson Solar Project
Draft Environmental Impact Statement/Environmental Impact Report

Further details can be found at the BLM webpage: https://eplanning.blm.gov. For more information, contact Miriam Liberatore, project manager: (541) 618-2412, or email: mliberat@blm.gov.

Appendix C
Scoping Meeting Materials

ESA

Appendix C-1
Written Comment Forms

Public Comment Card

RE Crimson Solar Project EIS/EIR Scoping Meeting

Commentor Name: _____ Date: _____

Agency/Organization Affiliation: _____

Address: _____

Comment: _____

How to Comment:

Hardcopy: Use the form on the other side of this sheet. Please fold and staple this form and mail to the address below

Email: blm_ca_crimsonsolar@blm.gov Make sure subject line reads “RE Crimson Solar Project”

Place
stamp here

BLM Palm Springs-South Coast Field Office
Miriam Liberatore, Project Manager
1201 Bird Center Drive
Palm Springs, CA 92262

RE Crimson Solar Project

Appendix C-2
Speaker Registration Cards

[redacted] 4/12/18

RE Crimson Solar Project

Bureau of Land Management

BLM

Palm Springs South Coast Field office

Palm Springs, California

Public Meeting

Speaker Registration Card

Please complete and return to staff

Andrew Lorbeer

Name (Print)

Agency/Affiliation

Address City Zip Code

Phone Number Email

[redacted] 4/12/18

RE Crimson Solar Project

Bureau of Land Management

BLM

Palm Springs South Coast Field office

Palm Springs, California

Public Meeting

Speaker Registration Card

Please complete and return to staff

Ron Dawson

Name (Print)

Agency/Affiliation

Address City Zip Code

Phone Number Email

[redacted] 4/12/18

RE Crimson Solar Project

Bureau of Land Management

BLM

Palm Springs South Coast Field office

Palm Springs, California

Public Meeting

Speaker Registration Card

Please complete and return to staff

Alfredo A. Figueroa

Name (Print)

La Cuna de Aztan

Agency/Affiliation

424 N. Carthay Ave Blythe

Address City Zip Code

lacunadeaztan@hotmail.com

Phone Number Email

[redacted] 4/12/18

RE Crimson Solar Project

Bureau of Land Management

BLM

Palm Springs South Coast Field office

Palm Springs, California

Public Meeting

Speaker Registration Card

Please complete and return to staff

LINDA OTERO

Name (Print)

Fort Mojave Indian Tribe

Agency/Affiliation

Needles, CA 92363

Address City Zip Code

928-768-4475

Phone Number

LindaOtero@fortmojave.com

Email

[redacted] 4/12/18

RE Crimson Solar Project

Bureau of Land Management

BLM

Palm Springs South Coast Field office

Palm Springs, California

Public Meeting

Speaker Registration Card

Please complete and return to staff

Juan Gonzalez

Name (Print)

Agency/Affiliation

Address City Zip Code

Phone Number Email

[redacted] 4/12/18

RE Crimson Solar Project

Bureau of Land Management

BLM

Palm Springs South Coast Field office

Palm Springs, California

Public Meeting

Speaker Registration Card

Please complete and return to staff

Matthew Leivas Sr

Name (Print)

Director of Cultural Center

Agency/Affiliation

Address City Zip Code

Phone Number Ema

Appendix C-3
Scoping Meeting Presentations

U.S. Department of the Interior
Bureau of Land Management

Crimson Solar Project

Draft EIS/EIR Public Meeting – April 2018

Meeting Format

- Opening and Introductions
- BLM Presentation – Miriam Liberatore
- CDFW Presentation –Magdalena Rodriguez
- RE Crimson Solar Presentation – Scott Dawson
- Public Comments
- Instructions for the Open House – Miriam Liberatore
- Public Open House
- Meeting Closes at 3:00 p.m.

BLM's Role

- Administration of public lands under Federal Land Policy and Management Act of 1976 (FLPMA)
- Review of the Land Use Plan and processing of an EIS-level Land Use Plan Amendment (PA/EIS)
  - California Desert Conservation Area Plan (1980, as amended) and Desert Renewable Energy Conservation Plan (DRECP)
- Issuance of right-of-way grants for use of federal land
- Lead agency for National Environmental Policy Act (NEPA), National Historic Preservation Act, etc.
- Lead agency for consultation with the U.S. Fish & Wildlife Service under Section 7 of the Endangered Species Act

National Environmental Policy Act

NEPA

- Purpose of this meeting
- Establishes a public, interdisciplinary framework for federal decision-making
- Ensures that agencies take environmental factors into account when considering federal actions
- Required environmental analysis documents include environmental impact statements (EISs) and environmental assessments (EAs)

Processing and Administration

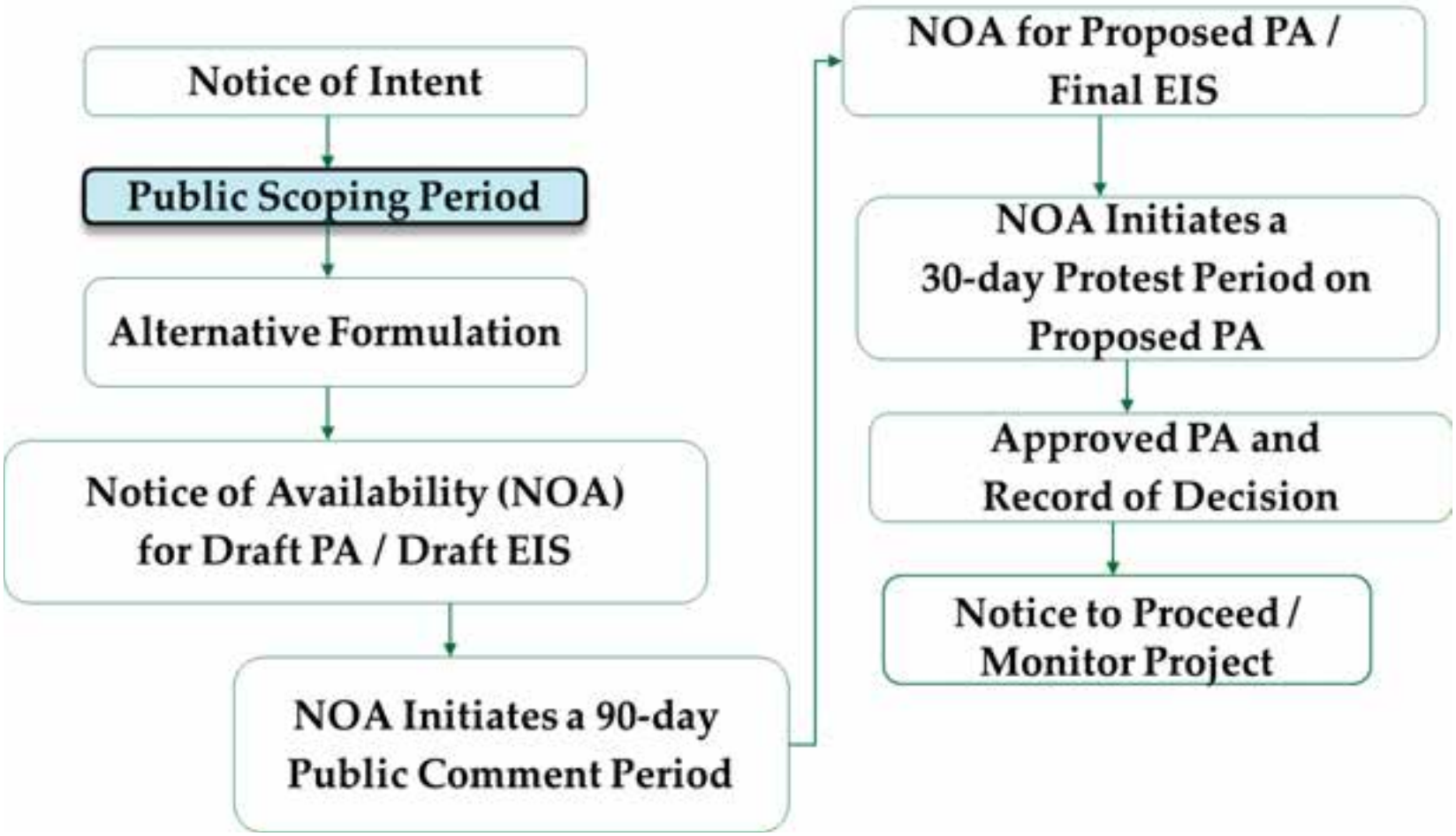
BLM:

- Regulations: 43 CFR 2800
- Right-of-Way Information:
  - General Information https://www.blm.gov/programs/lands-and-realty/right-of-way
  - Obtaining ROW https://www.blm.gov/programs/lands-and-realty/right-of-way/obtaining-right-of-way

Current Status

- 2009 - SF-299 (application) filed for the Sonoran West Solar Energy Generating Station
- June 2015, Feb 2016, Sept 2017 – Pre-application meetings held for RE Crimson Solar Project
- May, Nov 2017 – Updated PODs submitted
- March 9, 2018 – NOI Published
- **Public scoping comments for the joint EIS/EIR must be submitted by <u>April 23, 2018.</u>**

BLM LUP Amendment / NEPA Process (PA / EIS)



Environmental Issue Areas

- Air Resources
- Vegetation
- Wildlife
- Cultural Resources
- Environmental Justice
- Geology and Soils Resources
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Lands and Realty
- Mineral Resources
- Recreation and Public Access
- Social and Economic Effects
- Special Designations and Wilderness
- Transportation and Traffic
- Utilities and Service Systems
- Visual Resources
- Water Resources
- Wildland Fire Ecology

CDFW's Role

- Lead agency for the California Environmental Quality Act (CEQA)
- Fish and Game Code Section 2081 Incidental Take Permit for desert tortoise
- Section 1600 et. Seq. Streambed Alteration Agreement for state jurisdictional streambeds

California Environmental Quality Act (CEQA)

- Requires environmental review of projects that need discretionary approval by local or state agencies
- Focused on analysis of “significant” impacts
- Preparation of an environmental impact report (EIR) is required for projects that could have a significant impact on the environment

EIR Process

- Distribute Notice of Preparation (NOP)
- Prepare Draft EIR
  - Identify and analyze direct, indirect, and cumulative impacts
  - Recommend mitigation measures and alternatives to avoid or reduce potentially significant impacts
- Circulate the Draft EIR for agency and public review
- Respond to comments and prepare the Final EIR
- After completion of the EIR process, decision makers can render a decision on the project

Public Participation Opportunities

- Submit written comments during scoping
- Become a Formal Cooperating Agency with BLM
- Attend public meetings
- Participate in workshops
- Provide written comments on the Draft PA/EIS/EIR

Contact Information

- Miriam Liberatore, BLM Project Manager
- Phone: (541) 618-2412
- e-mail: mliberat@blm.gov

- Magdalena Rodriguez, CDFW Staff Environmental Scientist
- Phone: (909)844-2520
- E-mail: Magdalena.Rodriguez@wildlife.ca.gov

- Scoping comments to:

BLM Palm Springs
South Coast Field Office
Miriam Liberatore, Project Manager
1201 Bird Center Drive
Palm Springs, CA 92262

Email: blm_ca_crimsonsolar@blm.gov

Or

California Department of Fish and Wildlife
Magdalena Rodriguez, Project Manager
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764

Email: magdalena.rodriguez@wildlife.ca.gov

Appendix D
Scoping Meeting Sign-in Sheets

ESA

Appendix D-1
April 3, 2018 BLM Scoping Meeting Sign-in Sheets

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 3. 2018 5:00 pm to 8:00 pm

BLM Palm Springs South Coast Field Office. Palm Springs CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
1. Cristina Gisgert	ESA	750 W.C St San Diego, CA 92117	619 799-8959	Piraino3@yahoo.com
2. Jennifer Guigliano	AECOM	401 West A St. SD, CA 92101 Suite 1200	619 610 7884	jennifer.guigliano@aecom.com
3. Doug Herrema	BLM	1201 Bird Center Dr. Palm Springs, CA	760.833.7100	dherrema@blm.gov
4. Janet Cheek	BLM	" "	760 833-7111	jcheek@blm.gov
5. Miriam Liberatore	BLM	3040 BIDDLE RD, MEDFORD, OR 97504	541-618-2412	Mliberat@blm.giv
6. David Lazerwitz	Farella	235 Montgomery St, SF CA 94104	415-954-4980	dlazerwitz@fbm.com
7. Laura Rutherford	CRpdr	Corona	(909)260-5716	laurasr9266@yahoo.com
8. Carl Lindner	AECOM	1220 Avenida Acaso, Camarillo	(805) 312-6804	carl.lindner@aecom.com
9. Vic NGUYEN	COLORADO RIV. BD.	770 FAIRMONT AVE #100, GLENDALE CA 91203	818-500 1625	THANG.NGUYEN@CRB.CA.GOV
10. Sammy Roth	Desert Sun	750 N Gene Autry Trail Palm Springs CA 92262	(760)219-9679	Samm.roth@desertsun.com

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 3. 2018 5:00 pm to 8:00 pm

BLM Palm Springs South Coast Field Office. Palm Springs CA

Information Open to FOIA

	Name	Organization (if applicable)	Address	Phone Number	Email Address
11.	Vincent James	USFWS	777 E. Tahquitz Canyon Way Ste 208	760.322.2070 x415	Vincent_James@fws.gov
12.	Brandon Anderson	BLM	1201 Bird Center Drive, Palm Springs, CA 92262	760-833-7140	bganderson@blm.gov
13.	ROBERT HOLBROOK	FIRST SOLAR	135 MAIN STREET, 6TH FLOOR San Francisco, Ca 94105	510-329-4486	rholbrook@firstsolar.com
14.	Pattie Garcia-Plotkin	Agua Caliente Historic Preservation	5401 Dinah Shore Dr Office PS CA 92264	760 699 8000	ACBCI-THPO@aguacaliente.net
15.	George Kline	BLM	1201 Bird Ctr Dr PS CA 92262	760 833 7135	gkline@blm.gov
16.	Dani Ortiz	BLM	1201 Bird Center Dr PS, Ca 92262	760-833-7142	ddortiz@blm.gov
17.					
18.					
19.					
20.					

Appendix D-2
April 11, 2018 Scoping Meeting Sign-in Sheets

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 11. 2018 5:00 pm to 8:00 pm

University of California. Riverside. Palm Desert—Palm Desert CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
1. George Kline	BLM PSSCFO	1201 Bird Ctr. Dr. Palm Spgs., CA	760-833-7135	gkline@blm.gov
2. Miriam Liberatare	BLM	3040 BIDDLE RD, MEDFORD OR 97504	541-618-2412	mliberat@blm.gov
3. Cristina Gispert	ESA	750 W C street, San Diego, CA	619-799-8959	CGispert@esassoc.com
4. Janet Cheek	BLM	1201 Bird Ctr. Dr. PS, CA	760-833-7111	jcheek@blm.gov
5. Paris Hays	Recurrent	353 Sacramento St. Fl. 21, SF, CA	415-675-1502	Paris.Hays@Recurrentenergy.com
6. Mayura Patankar	Recurrent	"		mayura.patankar@recurrentenergy.com
7. Jennifer Guigliano	AECOM		619 610 7884	jennifer.guigliano@aecom.com
8. Carl Lindner	AECOM		(805) 312-6804	carl.lindner@aecom.com
9. David Lazeridz	Fluor	" "	415-407-5923	dlazeridz@fluor.com
10. Sarah Lozano	Dudek	605 3RD St. Encinitas CA	760-942-5147	SLozano@dudek.com

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 11, 2018 5:00 pm to 8:00 pm

University of California, Riverside, Palm Desert—Palm Desert CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
11. Rica Nitka	Dudek	605 3rd Street Encinitas, CA 92024	760.479-4294	rnitka@dudek.com
12. Rebecca Forbes	CALTRANS	464 West 4th St. MS 722 San Bernardino CA 9AA 92401	909/383-7139	rebecca.forbes@dot.ca.gov
13.				
14.				
15.				
16.				
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19.				
20.				

Appendix D-3
April 12, 2018 Scoping Meeting Sign-in Sheets

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 12, 2018 12:00 pm to 3:00 pm

City of Blythe Multi-Purpose Room, Blythe CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
1. Cristina Grispet	ESA	750 West C Street, San Diego	619-799-8959	CGrispet@esassoc.com
2. Carl Lindner	AECOM		(805) 312-6804	carl.lindner@aecom.com
3. Janet Cheek	BLM		760-833-7111	jcheek@blm.gov
4. Andrew Lambert	Comm. Reinvestment Solutions	215 E. Rose Ln, Phoenix AZ 85012	602-781-0520	CRSARIZONA@AOL.COM
5. Miriam Liberatore	BLM	3040 Biddle Road, Medford, OR 97504	541-618-2412	mliberat@blm.gov
6. Rita Nitka	Dudek	605 3rd Street Encinitas, CA 92024	760.479.4244	rnitka@dudek.com
7. Paris Hays	Recurrent		415-675-1582	Paris.Hays@recurrentenergy.com
8. Sarah Lozano	Dudek	605 3RD St. Encinitas, CA 92024	760.479.4251	slozano@dudek.com
9. David Donowho	Public	1089 Coconino Blythe, CA	760 333 0714	retrso1101@gmail.com
10. Art Wilson	Public	590 Seville Ln Blythe CA	928-580-2600	OLEGNIC@FRONTIER.COM

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 12, 2018 12:00 pm to 3:00 pm

City of Blythe Multi-Purpose Room, Blythe CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
Ar				
11. Anibal Echard	P.V.I.D	180 WEST 14th AVE	1-760-922-3144	je@pvid.org
12. Shirley Nash	PVID	180 W. 14th ave	760-922-3144	shirley.Nash@PVID.ORG
13. Ned Hyduke	"	"	"	Ned.Hyduke@PVID.ORG
14. Victor Lujan	"	"	"	Victor.Lujan@PVID.ORG
15. RON DAWSON		16275 W Hobsonway	7602183198	GRANDPADY Dawsa [illegible]
16. Brandon Johnson	Ramsey Hacking	190 S Intake	760-922-4161	Brandon@ramseytrk.com
17. Aaron Ehrlich	Burton's MHP	1576 E. Hobsonway	760-922-3814	ajehrlich24@yahoo.com
18. LINDA OTERO	Fort Mojave Indian Tribe	P.O. Box 5990 Mohave Valley, AZ 86440	928-768-4475	LindaOtero@fortmojave.com
19. Gloria Bryant McGee	Quechan Cult. Comm member	Ft Yuma	760 799 1732	
20. Ernestina Noriega	QC.C. Member	Ft. Yuma	(760) 550-1130	

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 12, 2018 12:00 pm to 3:00 pm

City of Blythe Multi-Purpose Room, Blythe CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
21. Henri Kiteen	Quechan Cultural Committee	541 S. 2nd Ave Yuma, AZ. 85364		henrikateen760@gmail.com
22. Juan Gonzalez	cHemhueri	14241 WARMINGTON RIPLEY		
23. Alfredo G. Figueroa	La Luna de Aztlan	424 N. Carlton Ave. Blythe Ca		LALUNADEAZTLAN@AOL.COM
24. MANFRED SCOTT	QUECHAN TRIBE		928-750-2516	SCOTTMANFRED@YAHOO.COM
25. Rena Van Fleet	CRIT	26600 Mohave Road Parker, Az 85344	928-669-5822	rena.vanfleet@crit-nsn.gov
26. Sara Clark	"	"	"	Clark@smwlaw.com
27. Bryan Etsitty	CRIT			~~tes~~ betsitty@crit-nsn.gov
28. Leiloni Wonch				wonchlei@gmail.com
29. Barbarita Kateen	Quechan cultural committee	Yuma, Az.	928 919 4858	
30. George E. Kline	BLM	PSSCFO	760 833 7135	gkline@blm.gov

Public Meeting Sign-in Sheet

RE Crimson Solar Project

April 12, 2018 12:00 pm to 3:00 pm

City of Blythe Multi-Purpose Room. Blythe CA

Information Open to FOIA

Name	Organization (if applicable)	Address	Phone Number	Email Address
Matthew Leivas, Sr	Chemehuevi Tribe	PO. Box 1976 Havasu Lake, CA 92363	(760) 858-4115	culturalcit-nsn.gov
31. Jennifer Guigliano	AECOM		619 610 7884	jennifer.guigliano@aecom.com
32.				
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Appendix E

Transcripts from Scoping Meetings

ESA

Appendix E-1
Scoping Meeting
Transcript April 3, 2018

PUBLIC HEARING OF THE
BUREAU OF LAND MANAGEMENT
CRIMSON SOLAR PROJECT

PALM SPRINGS, CALIFORNIA
TUESDAY, APRIL 3, 2018

Reported by:
LAURA A. RUTHERFORD, RPR
CSR No. 9266

PUBLIC HEARING OF THE
BUREAU OF LAND MANAGEMENT
CRIMSON SOLAR PROJECT

The Public Hearing of the Bureau of Land Management on the Crimson Solar Project was held at 1201 Bird Center Drive, Palm Springs, California, beginning at 5:19 p.m., and ending at 5:36 p.m., on Tuesday, April 3, 2018, before LAURA A. RUTHERFORD, RPR, Certified Shorthand Reporter No. 9266.

PALM SPRINGS, CALIFORNIA; TUESDAY, APRIL 3, 2018
5:19 P.M. - 5:36 P.M.
---oOo---

MR. HERREMA: Good evening. Welcome, everybody. I know we have a fairly thin crowd of members of the public here. I know Sammy is.

Is anybody else a member of the public, not affiliated with the Project?

Okay. Great. Well, good evening, and welcome to the Bureau of Land Management's Palm Spring South Coast field office. My name is Doug Herrema. I'm the field office manager here.

And real quick, before we get started, a little safety and facilities briefing. In the event of any emergency, you can see there's an exit door right here. You can open it just by pushing that bar up. And you can also get out through the front door over there. And we have restrooms, as well as water fountains in the front lobby.

So you're about to hear a presentation on the proposed Crimson Solar Project, and I'd like to thank you for taking time out of your schedules to be here with us this evening. It's really important for us to have public

involvement and engagement in order to have effective scoping processes, and for the BLM's ability to make good decisions on projects such as this.

So we look forward to your engagement and look forward to your comments. And with that, I'll turn it over to our project manager, Miriam Liberatore.

MS. LIBERATORE: And I'm going to stand over here, because I don't like dark corners.

It still works. Did better than the clock.

All right. Well, thank you for being here. I shared Doug's sentiment. I'm glad to see everyone here and glad to be getting input on this project. This is the Crimson Solar Project, and we're here to get public input as we work our way into the EIS process.

This is our agenda for tonight. We're sort of -- we are here. And we will hear a presentation from the Project Applicant, Recurrent. And then we'll take your comments.

And then after that, we'll have an open house, which we kind of just had. But there will be plenty of time to look at posters and to ask questions of those of us that are here representing agencies and the Applicant.

So BLM's role in this Project is that we've received a right-a-way grant application for citing the

Crimson Solar Project on public lands and under the authority of FLPMA, the Federal Land Policy and Management Act of 1976.

We have the obligation and the interest in doing this public process to produce an Environmental Impact Statement for the Project. As part of this Project, we will need to consider an amendment to our Land Use Management Plan to allow the project to be sited at this location.

The Project is in the area of the California Desert Conservation Area Plan of 1980. And there's also a Land Use Plan Amendment on that Plan, the DRECP, the Desert Renewable Energy Conservation Plan, which was implemented in 2016 -- '16.

And then the BLM has the authority to issue the right-of-way for the Project to be located on that site. We're the lead agency for the NEPA planning process on this and for the Section 106 National Historic Preservation Act.

And we are working jointly with the California Department of Fish and Wildlife that is the lead agency for the Project under the CEQA process. We are also consulting with the Fish and Wildlife Service.

So a short rundown on the National Environmental Policy Act and the process that we'll be

following for this, NEPA, Is the reason we're here. We're in the -- this -- sorry.

NEPA is the process under which we engage in an interdisciplinary framework for decisionmaking. And it ensures that we consider environmental factors and disclose them before we take an action.

We'll be producing an Environmental Impact Statement under this, and the State of California will be producing an Environmental Impact Report.

These are the authorities for our right-of-way. The 43 CFR 2800 is the right-of-way regulations for how we receive an application, process an application and make a decision on one. And these -- if you just in these links, they will take you -- we can get them to you. They will take you to the full information.

This is our process here, the flow chart. I'm an engineer. I like graphics. I like flow charts. We are sitting in this portion of the process right now, the public scoping period, where we seek your input and consider your suggestions.

Once we receive that, we'll use them to formulate alternatives for the Project. And then we will analyze them, analyze the impacts of the alternatives projects on the resources in the area and published our findings in a draft EIS right here.

We announce it by publishing a notice of availability in the Federal Register. And then we go into our 90-day comment period, where, for 90 days, it's open to public comment.

And that is the second bite at the apple for the public to tell us whether you see shortcomings in our analysis, whether there are things we should have considered and didn't, what, if any, outstanding issues that we want us to address. And then we also will be considering our plan amendment in that stage.

And it's showing the final Environmental Impact Statement after we close the public comment period and account for all of the comments received.

After we have issued the final EIS, we have a 30-day protest period -- oops. Wrong button. Sorry. Thirty-day protest period. This is our administrative review of our final EIS.

And on the Proposed Plan Amendment and the Proposal for -- actually, on the Proposed Plan Amendment, and then we will issue a decision after we resolve the protests on both the Plan Amendment and the right-of-way.

And then you don't see it on here, but there is a legal -- it's not administrative review, but there's a legal appeal, a right to appeal our decision on the right-of-way grant.

And then we can issue a notice to proceed after we make our decision on the right-of-way grant, even though there is maybe appeals ongoing.

And then once the Project is under construction, we have an obligation to monitor and to enforce the terms and conditions of our right-of-way grant.

Are there any questions on the process before I move on?

(No audible response.)

MS. LIBERATORE: So these are the environmental issues that we consider. There's a list of them here. I'm not going to read it out loud, but it is pretty comprehensive.

And then we don't have CDFW here tonight, but they have that parallel process under the California Environmental Quality Act. And then all I can say -- I don't want to speak for them, but if there are questions about their process, then we ask you to contact the project manager for CDFW. It's very similar to the NEPA process in that it's a system of analysis of impacts and disclosure.

So here's a summary of the public participation opportunities that we have. We will accept written comments during scoping period, which is now. We

also will be transcribing your oral comments tonight, and they will go into our record. You can do that at public meetings. You can do that without attending a public meeting. It's not required. And we have an email address for submission of electronic comments.

These are the contacts for questions and for submitting comments. That's me at the top, with my phone number and email. And then Montelena Rodriguez is the CDFW project manager, and there's her phone number and her email.

We're receiving comments by mail here at the Palm Springs office or by email at this address, and CDFW is receiving comments at their physical address and at this email address. And these are in the notices as well.

The next thing on our agenda is to hear from Recurrent with the details of the project, and speaking will the Scott Dawson.

MR. DAWSON: Great, thank you.

My name is Scott Dawson. I'm the Director of Permitting for Recurrent Energy. And I'm going to give you a brief overview of the Crimson Solar Project, as well as a brief overview of Recurrent.

Recurrent is a solar energy developer. We were founded in 2006. And offices are currently located in San Francisco and Austin. We have about 4 gigawatts of

projects across the U.S.

We're own by a parent company, Canadian Solar, which acquired Recurrent in 2015. They're a global energy developer. They are headquartered in Canada, and they do manufacture their own solar modules across the globe. Currently, we have factories in Canada, China, Indonesia, Vietnam and Brazil.

Just a little overview on the Crimson Solar Project, as it's proposed right now, it's within the East Riverside SEZ, which was part of the Western Solar PEIS, as well as in the DRECP development focused area.

Right now, the size of the Project is a little under 2500 acres. It's 350 megawatts of tracker P.V., with a potential for 350 megawatts of battery storage.

The electricity is going to be delivered to the grid at the Colorado River substation, and the gen-tie is going to be underneath a mile, about three-quarters of a mile.

Currently the energy is uncontracted, so there's not a buyer for it. And during construction, we're looking at approximately 400 construction jobs over two years.

Here's a map of where the current footprint sits. It's about 13 miles west of Blyth, south of the 10,

at the base of the Mule Mountains.

Just a little bit of a history of the Project. It was originally developed by BrightSource Energy as two concentrating solar thermal towers, not unlike the Ivanpah Project.

BrightSource developed that over a number of years, culminating in the CEC or CPUC, Public Utilities Commission, only approving a contract for one of the towers. And at that point, BrightSource determined that it was -- the project was unviable for them, so they went about selling the assets.

Because it was -- the original S.F. 299 was filed in 2009, it's a grandfathered or pending project under the Western Solar Plan and the DRECP. In late 2015, we acquired the project. We converted the technology to P.V., and we've been developing it since then.

We've had three pre-application meetings with various stakeholders, as well as agencies, on this meeting -- or on the Project. We've also submitted two pods changing the technology and changing the footprint. And then in early March of this year, the NOI was published.

This kind of gives you a visual history of the footprint of the Project. Back in 2009, when BrightSource originally filed the S.F. 299, it was going

to be 540 megawatts and 7600 acres.

And through various resource surveys, revisions of technology, we've basically dropped the megawatts by almost 200, but we've reduced the footprint by almost 70 percent.

So the load footprint on the right, the current footprint, its shape, really, is determined by the various resources on the ground. And you can see those back on the two boards back there.

And this goes into a little bit more detail. Originally, the BrightSource project was going to impact almost 2,000 acres of desert tortoise critical habitat. The current Project is out of critical habitat.

A huge amount of lizard habitat is now down to 30 acres, and a huge amount of mycrophyll woodland habitat is down to less than 2 acres, so we've sited and revised the siting of the footprint and shrunk it to avoid a huge amount of impacts that were originally proposed for this Project.

That's it. Anything else?

UNKNOWN SPEAKER: What's the P.O.D. stand for?

MR. DAWSON: Plan Of Development.

MS. LIBERATORE: Thank you, Scott.

So this is the public comment portion of our

meeting tonight. Christina is going to put contact information back up on the screen, but this is where we invite you to come up and make a public comment if you care to, and it will be transcribe and entered into the record.

Is there anyone who would like to speak tonight?

(No audible response.)

MS. LIBERATORE: I'm not hearing anyone. But I do want to have the contact information go back up in case anyone wants to write it down.

And then we will resume in the public -- the open house portion, if there's -- having heard the presentations, if you want to look at the poster boards again, look at the resources, ask any questions of us or of Recurrent, this is an opportunity to do so.

Are there any questions or any -- anything else we want to cover?

(No audible response.)

MS. LIBERATORE: All right, then. Thank you very much for coming, and we appreciate your public participation. Thank you.

(Ending time: 5:36 p.m.)

I, the undersigned, a Certified Shorthand Reporter for the State of California, do hereby certify:

That prior foregoing proceedings were taken before me at the time and place herein set forth; that any witnesses in the foregoing proceedings, prior to testifying, were placed under oath; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction; further, that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney of any of the parties.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated:_____

_____

Laura A. Rutherford, RPR

CSR No. 9266

Appendix E-2
Scoping Meeting Transcript April 11, 2018

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CRIMSON SOLAR PROJECT
DRAFT EIS/EIR PUBLIC MEETING - APRIL 2018
PALM DESERT, CALIFORNIA

TRANSCRIPT OF PROCEEDINGS
WEDNESDAY, APRIL 11, 2018
5:07 P.M.

Reported by: Dawn M. Davila
CSR No. 8383, RPR, CLR, CCRR

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CRIMSON SOLAR PROJECT
DRAFT EIS/EIR PUBLIC MEETING - APRIL 2018
PALM DESERT, CALIFORNIA

TRANSCRIPT OF PROCEEDINGS of the U.S. Department of the Interior Bureau of Land Management Crimson Solar Project EIS/EIR Public Meeting, at 75080 Frank Sinatra Drive, B117, Palm Desert, California, on Wednesday, April 11, 2018, at 5:07 p.m. before Dawn M. Davila, Certified Shorthand Reporter No. 8383.

APPEARANCES OF PRESENTERS:
Janet Cheek, Bureau of Land Management
Assistant Field Manager
Palm Springs South Coast Field Office
Miriam Liberatore, Bureau of Land Management
Project Manager
Medford District Office
Cristina Gispert, ESA
Environmental Contractor
Magdalena Rodriguez, California Department of Fish and Wildlife
Scott Dawson, Recurrent Energy

PALM DESERT, CALIFORNIA; WEDNESDAY, APRIL 11, 2018
5:07 P.M.

MS. CHEEK: Hello. My name is Janet Cheek, and I'm the Assistant Field Manager for the Palm Springs South Coast Bureau of Land Management office. And I wanted to welcome you today to our Crimson Solar Project scoping meeting. It's a joint meeting with BLM and CDFW, California Department of Fish and Wildlife. So I want to give a little bit of housekeeping. Restrooms are right out to the left and around the corner, men's and women. In case of an emergency, just exit straight out the door out into the public area.

To get us started and to give more of the rollout of the meeting, I'm going to introduce our project manager, Miriam Liberatore.

MS. LIBERATORE: Thank you, Janet.

Is that loud enough? Too loud? Okay.

Okay. So thanks again, everybody, for coming. We're -- we're excited to be scoping this project and to be collecting your comments. I guess I didn't prepare myself here.

So, yes, this is the Crimson Solar Project, and I'm Miriam Liberatore. I'm with the BLM. I'm stationed in Medford, Oregon, and I have the privilege of working on this

project. I'll be talking about BLM's role, and then I'll be handing off to my counterpart with CDFW, Magdalena Rodriguez. And -- here, I'm going to move this.

And then Recurrent Energy will give us a presentation of the project itself, and then we'll be -- open up for public comments. You can give comments orally; you can give comments in writing; you can give them tonight; you can give them, you know, by email or hard copy mail. And we'll tell you where to send things. And then we have an open house with some information posters that -- we have people to answer questions, if you have questions, and, you know, give you an idea of some of the project issues. So with that, I'll talk about BLM's role.

So BLM received an application for a right-of-way grant for this project, and that really is the root of BLM's involvement. Under the Federal Land Policy and Management Act or FLPMA, BLM has the authority to issue a right-of-way grant for projects under various conditions, and one of them is energy transmission and generation. So we have the application and an obligation to process it. And then we also have, under NEPA, an obligation to do an environmental review on any federal decision. So with those two requirements, we are conducting an environmental review of the Crimson Solar Project, and we're doing that cooperatively with CDFW. And the end result will be an

environmental impact statement for the BLM under NEPA, and an environmental impact -- environmental impact report for the state of California.

BLM is the lead agency for NEPA, and CDFW is the lead agency for CEQA. And then BLM is also the lead agency for consultation with the U.S. Fish and Wildlife Service.

So the NEPA side of this project is where BLM is involved, and it's the purpose of this meeting. This is the process under which we collect public input on issues, concerns, things that we should be aware of for this project and consider in our environmental review, and that's what we're doing tonight. NEPA was established for that purpose, to give a framework for public input and for federal consideration of environmental impacts of a project and as a decision making foundation for us. And I already mentioned the EIS.

These are the regulations that govern what we're doing, and we can make this -- these links available to you if you want them for later.

The current status of the project is early stage; we're in scoping. So we received an application for the right-of-way in 2009. This project's been around in a couple of different forms, and you'll hear more about that from Recurrent. We have held preapplication meetings in June of 2015, February of 2016, and September of 2017. And

in November of 2017, we received an updated plan of development, which we -- is a requirement for our process. And then in March -- on March 9th, we published our notice of intent to prepare an environmental impact statement. Right now we're in the public scoping period, and that will run -- actually, it says April 23rd, but that will run for at least 15 days beyond the date of the last public meeting.

And this is a graphic of the process for NEPA, and where we are now is in blue right there. We're in the public scoping period. So, you see, we're still at the very beginning. When we get the comments from the public and from our specialists, we will analyze the alternatives -- formulate -- formulate alternatives and then analyze the impacts of those alternatives. And at that point we'll produce a draft EIS and put that out for public comment. And then that's for 90 days. And it's 90 days because -- I didn't mention it, I meant to mention it earlier, but one of the complements of this project for the BLM is that the project site is -- the application for the right-of-way was filed under the California Desert Conservation Act -- Area -- thank you -- which was our resource management plan in effect at the time, and it still is but it's been amended in 2016. And so the site that the project is located on is intended for solar development under the -- under the DRECP amendment but not under the CDCA or at least not identified

as such. So we will be considering an amendment to our CDCA to allow development of this -- of the project on that site. And that gives us to a 90-day public comment period on our draft EIS.

After we incorporate comments from the public on the draft EIS, we'll be putting out a final, and we'll issue a notice of availability for that. And then the NOA initiates a 30-day protest period under the BLM's administrative review processes. And then after we've completed the resolution of any protests, then we are in a position where we can approve -- well, we can decide. We can make a decision on the plan amendment and on the right-of-way grant.

Are there any questions so far?

These are some -- did I miss -- okay.

These are some of the issue areas that we're looking at. It's pretty comprehensive, and I don't want to read the whole slide to you. But you can look at it. I'll leave it up here for a sec. And then these are the -- the resources that we'll be analyzing in the EIS.

And now I would like to introduce my counterpart at CDFW, Magdalena Rodriguez.

MS. RODRIGUEZ: Hi, I'm Magdalena Rodriguez of CDFW. I am the project lead for the state. And so for this particular -- we normally don't -- we normally aren't the

lead agency for most projects, but because this project is entirely on Bureau of Land Management land and there is no state nexus with the county, we took on the lead agency role. And that is because of the -- we have to issue an incidental permit for a tortoise and also a streambed alteration agreement for impacts to the site, so that kicked us into CEQA lead. And then the California Environmental Quality Act, CEQA, it -- it's kind of sister to NEPA, and it requires environmental review of projects that need any kind of discretionary approval, which is your 1600ITP. And it's mainly focused on analysis of significant impacts. It's a little different in some areas than the NEPA.

So we have a preparation of an environmental impact report, and that's required for these projects, any project that could have a significant impact. And for this particular project, we're combining the EIR with the EIS, so you'll just have one document. We already distributed the NOP which went out around the same time as the NOI. And we will prepare the draft EIR/EIS, and we'll analyze the direct, indirect, and cumulative impacts and also recommend mitigation measures and some alternatives.

The draft EIR goes out for agency and public review. Like I said, it will be a joint document. So all the comments and the draft will be together.

And similar to BLM, we're taking any kind of public

comments during scoping. I think on the NOP, my email's on there, or you can give comments today to us. And you can also attend public meetings or workshops, and then any written comments.

And this is all of our contact information: Miriam, myself, Magdalena. And then scoping comments can be sent, either emailed on the bottom or mailed. And then next will be Scott Dawson from Recurrent.

MR. DAWSON: Good afternoon. My name is Scott Dawson. I'm the director of permitting for Recurrent Energy. We're the developer for the RE Crimson Solar Project. I'm going to give you a brief overview of Recurrent and then a little more detailed overview of the project.

Recurrent is one of the top tier U.S. project developers for renewable energy, particularly for solar. We were founded in 2006. We have offices in San Francisco and Austin, Texas, and about a 4-gigawatt project pipeline that we're developing across the U.S. We're a subsidiary of Canadian Solar which acquired Recurrent Energy in 2015. Canadian was founded in 2001 and it's based in Guelph, Canada. And we manufacture our own polysilicon solar panels. We've got manufacturing facilities in Canada, China, Indonesia, Vietnam, Brazil.

So just a brief overview of the -- the Crimson

project as it's currently proposed. It's located in eastern Riverside County. It's within the east Riverside SEZ, as well as DRECP development focus area. Currently, the project site is about 2500 acres, a little less than that, and the proposed output is 350 megawatts with an option for a 350-megawatt battery storage facility onsite. The output of the site will be delivered to the Colorado River substation, which is owned by Southern California Edison, via a very short gen-Tie, which is less than a mile. Currently, the energy for the project is uncontracted. It doesn't have a contract for purchase, but there are various potential customers in California that are interested in the project. And construction would be approximately 400 construction jobs over two years.

Here is a map of where the project sits. It's about 11 miles due west of Blythe at the base of the Mule Mountains. Just a little bit of the project history of the Crimson project. The original SF-299 was filed by BrightSource Energy as a 540-megawatt solar tower project. Basically, something similar to what ISEGS looks like right now. BrightSource developed that over a number of years, and that culminated in going in front of the CPUC to get PPA approval. And the CPUC only approved one of the PPAs for the project. At that point BrightSource decided to stop developing the project and looked to sell its assets. The

project -- because it was -- the original SF-299 was submitted in 2009, it's a pending project under the Western Solar Plan, the solar PEIS, as well as the DRECP. Recurrent acquired the project assets back in 2016, converted the technology to tracking photovoltaic, and we've been developing it since then. There has been three preapplication meetings, two updated pods with the PV technology, and the NOI published in March of this year.

This is kind of the visual depiction of the history of the project back in 2009. The BrightSource footprint in green, 540 megawatts, 7600 acres. Then the Recurrent original proposal back in 2016, a reduction in megawatts and a reduction in acres. And then last year, further refinement down to 350 megawatts and 2500 acres.

A little more detail on some of the impacts of the original project. There is over 1900 acres of desert tortoise critical habitat that would have been impacted by the BrightSource proposal. Through redesign and siting on the landscape, the current proposal doesn't impact any desert tortoise critical habitat. Also, a large reduction for Mojave fringe-toed lizard habitat from 1100 acres down to 30 acres, and microphyll woodland habitat from 1700 acres down to just about 1.2 acres. So that's a very high level overview.

We also have resources mapped on the various

boards, so if anybody wants to look at those, get a little more detail on how the resources are laid out across the site. That's it.

MS. LIBERATORE: So this is when we would be accepting public comment if you have a -- want to give an oral comment. Is there anyone who would like to deliver oral comments today?

I guess not. Then we have our open house. So please make yourselves at home and enjoy the cookies out front and coffee. And if you have any questions about the posters, we're here to help and answer them. And if you would like to leave a written comment, we have cards on the table out front to do that as well. And then, Cristina, I'm going to put this back on the contact. And then if you want to take a picture of the contact information, you can do that too.

UNIDENTIFIED SPEAKER: Is this all on the BLM website under Projects? Because I know the BLM has projects sometimes.

MS. LIBERATORE: Right now at this point the only thing on our E-planning website is a map and the public meeting announcements, but more information will go up as we have it. We really don't have -- I mean -- you mean is the slideshow on it?

UNIDENTIFIED SPEAKER: Yes, the slides or something

like that.

MS. LIBERATORE: The slideshow is not, but the contact information is.

Thank you so much. Thank you so much, everyone, for coming. And we'll be here. So if you have any questions, please ask.

(The proceedings concluded at 5:26 p.m.)

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REPORTER'S CERTIFICATE

The undersigned Certified Shorthand Reporter does hereby declare under penalty of perjury:

THAT the foregoing was taken before me at the time and place therein set forth and was recorded stenographically by me and was thereafter transcribed, said transcript being a true copy of my shorthand notes thereof.

IN WITNESS WHEREOF, I have hereunto subscribed my hand this 16th day of April, 2018.

_____

DAWN M. DAVILA
Certified Shorthand Reporter
Certificate No. 8383

Appendix E-3
Scoping Meeting Transcript April 12, 2018

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CRIMSON SOLAR PROJECT
DRAFT EIS/EIR PUBLIC MEETING - APRIL 2018
BLYTHE, CALIFORNIA

TRANSCRIPT OF PROCEEDINGS
THURSDAY, APRIL 12, 2018
12:03 P.M.

Reported by: Dawn M. Davila
CSR No. 8383, RPR, CLR, CCRR

U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

CRIMSON SOLAR PROJECT
DRAFT EIS/EIR PUBLIC MEETING - APRIL 2018
BLYTHE, CALIFORNIA

TRANSCRIPT OF PROCEEDINGS of the U.S. Department of the Interior Bureau of Land Management Crimson Solar Project EIS/EIR Public Meeting, at 235 North Broadway, Blythe, California, on Thursday, April 12, 2018, at 12:03 p.m. before Dawn M. Davila, Certified Shorthand Reporter No. 8383.

APPEARANCES OF PRESENTERS:
Janet Cheek, Bureau of Land Management
Assistant Field Manager
Palm Springs South Coast Field Office
Miriam Liberatore, Bureau of Land Management
Project Manager
Medford District Office
Cristina Gispert, ESA
Environmental Contractor
Magdalena Rodriguez, California Department of Fish and Wildlife
Scott Dawson, Recurrent Energy

APPEARANCES OF THE PUBLIC FOR COMMENT:
Andrew Loubert
Alfredo Figueroa
Linda Otero
Matthew Leivas
Juan Gonzalez
Ron Dawson

BLYTHE, CALIFORNIA; THURSDAY, APRIL 12, 2018
12:03 P.M.

MS. CHEEK: Good afternoon. I would like to welcome everyone. Please take a seat, and we can get started with the presentation of the information on the Crimson Solar Project.

Hello, my name is Janet Cheek. I'm the Assistant Field Manager with the Palm Springs South Coast field office. And as I mentioned earlier, I would like to welcome you. This is a joint meeting with BLM and California Department of Fish and Wildlife public scoping meeting. Just a few little housekeeping. Restrooms are right out this way and to the left. And in case of an emergency, please exit to the door on the right.

I would like to take this opportunity to introduce Miriam Liberatore, who is the BLM project manager for this project.

MS. LIBERATORE: Thank you, Janet.

Welcome, everybody. We're happy to have you here and looking forward to hearing your comments. We're here for the Crimson Solar Project. And let me grab my -- so we'll start now; we're going through opening and introductions. I'm going to give you a presentation about BLM's role, and then California Department of Fish and

Wildlife is here to talk about their role in the project, and then Recurrent Energy will give a presentation about the details of the project itself, and then we'll be open for public comments. And after that, we'll have an open house, which we kind of already started when you were coming in with the posters of all the resources. And we'll be available to try and answer your questions on the spot if you have any for us or at least take them down and get back to you later with answers. And then we'll stay -- it says 8:00 p.m. We're actually going to stay until 3:00 p.m. today.

MS. GISPERT: Sorry.

MS. LIBERATORE: That's okay.

So BLM's role actually really stems from the fact that we have received a right-of-way grant application for the project to be located on federal lands. And under the FLPMA, the Federal Land Policy and Management Act, BLM has the authority to consider rights-of-way on public lands for a variety of activities, and one of them is energy generation and transmission. So that's the authority under which BLM considers a right-of-way grant for the project. And then under NEPA, we also have the obligation to conduct an environmental review of any projects that we make decisions on. So, therefore, with our authority to issue a right-of-way grant and our obligation to conduct an

environmental review, we have issued a notice of intent to prepare an environmental impact statement for the project.

We are the lead agency for the NEPA on this project. We're partnered with the U.S. -- I'm sorry. We're partnered with California Department of Fish and Wildlife, who is the lead agency for the CEQA side. And then we are also the lead agency for consultation with the Fish and Wildlife Service. And I believe also on the Section 106 -- is that right, George? -- for cultural resource --

MR. KLINE: Yes.

MS. LIBERATORE: -- concerns.

So the purpose of this meeting for the BLM is to -- to initiate our NEPA process, our public input and environmental review. And NEPA, if you're not familiar with it, is the framework under which we collect public comments and frame our issues for a project and then disclose the probable impacts of the project to the public.

These are the regulations that govern what we're doing. If you're interested in checking them later, you can either contact me for the links, you can take a picture of the screen, we can put it back up when we're done. But this would refer you on to sources of information.

This is the current status of the project. So we are -- and I'll show you a graphic in a minute about the overall NEPA process. But this project submitted its

initial right-of-way application back in 2009. The SF-299 is what we call our right-of-way application. And we held preapplication meetings, three of them, in 2015, '16, and '17. There is a gap in time there which Recurrent will address when they give you the history of the project. We received updated plans of development from Recurrent in May and November last year, and then in March of this year we published our notice of intent. And that kicked off our public scoping process, which is what we're doing today, gathering public comment.

It says on here that public comments must be received by April 23rd, but, in fact, we will continue to receive comments for at least 15 days past the date of the last meeting and potentially longer. So please send -- if you have comments, we want them.

This is the graphic of the NEPA process. We are here in the blue, the public scoping. So we're still at the very beginning of this project. Once we close the scoping period, we will take the comments we received and we'll develop alternatives for the project and analyze their impacts on the environment. And then we will publish those in a draft EIS and issue a notice of availability that will go into the Federal Register, the same as the notice of intent did. And then we'll have a 90-day comment period on the draft EIS. And it's 90 days because BLM is considering

a plan amendment for the California Desert Conservation Area plan. This project was submitted to us prior to our adopting the DRECP amendment to the plan, so it falls under the CDCA prior to the DRECP. And we need to amend that plan to allow this project to occupy that specific site. So that gives us a 90-day public comment period for the plan amendment.

After that period we will incorporate comments and address them and issue a final environmental impact statement. And then we will publish that and we'll initiate a 30-day protest period, which is BLM's administrative review process for the final EIS. And then once we've resolved those, we will make a decision on the amendment and on the right-of-way. And then if -- if a right-of-way were granted, there would be a notice to proceed which would follow that and then monitoring of the project construction.

Are there any questions so far?

These are some of the environmental issue areas that we'll be looking at. It's -- I'm not going to read you the list. It's fairly comprehensive, and we have poster boards around the room describing some of the resources. And these are what we see substantive comments on, or any other issues that you're aware of that we need to consider.

And now I'm going to introduce Magdalena Rodriguez from CDFW.

MS. RODRIGUEZ: Hi, I'm Magdalena Rodriguez. I work for California Department of Fish and Wildlife. And we came into this project because they are going to need an incidental take permit and a streambed agreement. Because the project is solely on BLM land, there is no other state nexus. So in order to issue those permits, we are taking the lead agency role for CEQA. And those are the two, 2081 and the 1600 were ITP and the 1600. For CEQA it requires an environmental review of the project similar to NEPA and anything that needs discretionary approval by local or state agencies. And it's mainly focused on analysis of significant impacts.

So we would prepare an environmental impact report; it's required for the projects that could have significant impacts. This project is going to prepare a joint EIR/EIS. We already -- at the same time as the NOI came out, we distributed the NOP. And then we'll prepare the draft EIR/EIS which will identify and analyze the direct, indirect, and cumulative impacts, and then also recommend mitigation measures and alternatives. The draft EIR will be circulated for agency and public review, same as the EIS since it's a joint document, and we will respond to all comments. And then the final EIR/EIS will be prepared, and then a decision will be made on the project.

You can submit written comments during the scoping

period, become a formal cooperating agency with BLM, attend the public meetings like this one, participate in workshops, or provide written comments on the draft.

This is myself and Miriam's contact information. You can send scoping comments to our offices or my direct email, and then the BLM has an email for the project itself.

And then I'm going to introduce Scott Dawson from Recurrent.

(UNIDENTIFIED SPEAKER): I had a question.

MS. RODRIGUEZ: Okay. Sorry. Go ahead.

(UNIDENTIFIED SPEAKER): Okay. Maybe it was in there, maybe I came in late, maybe you talked about it, maybe I missed it. I don't know. But on here anywhere does it say anything about 106 consultations with tribes?

MS. RODRIGUEZ: That's BLM; right?

MS. GISPERT: That's not in the presentation, but we have George Kline here who you can talk with directly about what we've done so far for Section 106.

(UNIDENTIFIED SPEAKER): Okay.

MS. RODRIGUEZ: And then the state also has AB52, which is required, which we've sent all the letters to the tribes from AB52.

MS. GISPERT: You can also make verbal comments. We'll invite you up.

(UNIDENTIFIED SPEAKER): Because, I mean, you know,

you're talking about, you know -- well, you have to go back into the presentation. You're talking about scoping meetings, comment periods, and so forth. But so far I didn't hear anything, you know, about tribal consultation. That's the reason I was saying, where do they fit in on this, you know, with the comment period and so forth? Because if you're talking about 30-days on the 23rd, you know, that's kind of quick. So any plans to have the tribes to have their comments, you know --

MS. LIBERATORE: Would you like me to --

MS. GISPERT: Yeah. Please.

MS. LIBERATORE: George, I would invite you to add if I miss anything. But the question was what about tribal consultation and how does that fit into this process. Tribal consultation -- you're talking about the government-to-government consultations?

(UNIDENTIFIED SPEAKER): Right. Yes.

MS. LIBERATORE: That's a separate process from the public comment solicitations through the NEPA process. That's a different authority and a different process. They run at the same time, more or less, but that's -- you're welcome to make comments through this process, and then we also do the government-to-government consultation with the tribes.

(UNIDENTIFIED SPEAKER): Okay. Because I was just

kind of thinking that, you know, this comment period that's coming up on the 23rd, well, that would be the last comment period that anybody would make.

MS. LIBERATORE: No. No.

(UNIDENTIFIED SPEAKER): Okay. Now that you've clarified. Okay.

MS. LIBERATORE: Okay. Thanks.

MS. GISPERT: Yeah, if you would like to make verbal comments, we're going to invite people to do that. Raise your hand and I'll give you a card, and we'll call you up.

MR. DAWSON: Okay. The good afternoon. My name is Scott Dawson. I'm the director of permitting with Recurrent Energy. And I'm going to give you a brief overview of Recurrent Energy and then a little bit more about the RE Crimson Solar Project.

Recurrent Energy is one of the top tier solar energy developers in the U.S. We were founded in 2006. We're based in San Francisco and Austin, Texas. And we have about a 4-gigawatt project pipeline across the U.S. We're a subsidiary of Canadian Solar, which acquired Recurrent in 2015. Canadian was founded in 2001 and they're -- they actually are a Canadian company. They're based in Canada. They manufacture their own polysilicon solar panels and they manufacture them in Canada, China, Indonesia, Vietnam,

Brazil.

Just for the kind of higher review of the Crimson Solar Project, it is in eastern Riverside County within the east Riverside SEZ as well as DRECP development focus area. The potential right-of-way is approximately 2500 acres. Currently, the project is proposed for 350 megawatts of output -- electrical output with an option for up to 350 megawatts of battery storage. The output from the project will interconnect to the grid via a small gen-tie to the Colorado River side which is directly to the north of the project. The project output, the electricity is currently uncontracted, but there are several customers that are interested in purchasing that electricity. And the construction of the project would be about 400 workers over 200 -- or over two years.

There is a map of the project. It's located approximately, from where we sit right now, maybe 15 miles to the east -- to the west -- I'm sorry -- at the base of the Mule Mountains.

The history of the project, this was originally proposed by a company called BrightSource Energy, and they filed the original applications back in 2009. And it was going to be 540 megawatts with dual concentrating solar towers, so not unlike the Ivanpah ISEGS project that is just south of Vegas off the highway.

So over a period of years, BrightSource developed this project. They executed some PPAs and they went to the CPUC to get approval for those PPAs, and only one was approved out of the two. And at that point BrightSource sought to sell the assets, and so we acquired the assets in late 2015. We've been developing the project since then. We've changed the technology from those power towers to PV, and we've had a number of preapplication meetings, updated plans of development, and then the notice of intent for development of the EIR/EIS was published last month.

This is kind of a visual look at how the project has developed over time. So the original project in 2009 from BrightSource on the left was 540 megawatts and 7600 acres. We acquired it in 2016. We changed the technology. It shrunk down; 450 megawatts and 4,000 acres. And then currently today it's at 350 megawatts and a little under 250 acre -- or 2500 acres. And mostly the development of the project and the way its current boundaries are is to reduce impacts to various resources across the site.

Here is a little bit more on the numbers. Originally as proposed, it had almost 2,000 acres of impact to desert tortoise critical habitat. Now we're completely out of desert tortoise critical habitat. It had over 1100 acres of Mojave fringe-toed lizard dune habitat. We're down to 30 acres of habitat. And 1700 acres of microphyll

woodland, which is a sensitive habitat in the desert, and now we're down to 1.2 acres. There is also -- in the back there is various boards having more detail about the various resource issues. So I encourage you to go look at those. And that's it.

Cristina.

MS. LIBERATORE: I'm going to make one comment for people who have maybe came in a little late or didn't notice it. We have a sign-in sheet here and we'd love it if you would sign in so that we have a record of who attended before you leave. You don't have to do it right now.

MS. GISPERT: Do you want to announce the -- do you want me? Okay.

Okay. So I have two speaker cards here. If there is anyone else who wants to speak, just fill out a card and we'll call you up. The first person we have here is Andrew Loubert.

MR. LOUBERT: Hi.

MS. GISPERT: Hi.

MR. LOUBERT: Is there a time limit?

MS. GISPERT: That's really up to you.

MR. LOUBERT: I'll be brief.

MS. GISPERT: Okay.

MR. LOUBERT: Hi, I'm Andrew Loubert. I'm the owner of 40 acres due west of the proposed project site. My

biggest sort of -- it's not really a concern, but it's something I want to pay attention to is what will this project do to impact future uses of the surrounding acreage and land. There is at least 160 acres of privately held land surrounded by the public lands, my parcel being one of them. And my biggest concern as the project moves forward is what will that project do to the economic or use of that land that the privately owned lands have. So I would talk to other owners, but that is an issue of concern that I will be tracking as the project is discussed going forward. Thank you.

MS. GISPERT: Okay. So for those of you who just arrived, if you would like to make public comments, just fill out these cards right here by the table and pass them to me, and we'll call you up.

So the next person is Alfredo Figueroa. How does five minutes sound?

MR. FIGUEROA: Thank you very much. My name is Alfredo Figueroa. I'm from the La Cuna de Aztlan. This seems like an old, old movie, we've gone so many times. See, the Mule Mountains -- for some of you people who don't understand, the Mule Mountains are Calli. Calli means earth. It's on the Aztec calendar. That's why you're right here in Blythe, California. California. That's the only thing I used to like about Schwarzenegger, he could

pronounce California the way it's supposed to be pronounced, California. So Calli is earth. And for the rest of the tribes that we are -- our relation here, you'll see a different -- a different interpretation, but it's all related to the creation. Right there is where we have the 20. We have -- all relates to the Aztec calendar. That's where we have the pentangles right there in the wash. That's where we have the main trails that lead from the Mule Mountains all the way to Eagle Mountain. That represents the four directions.

So, I mean, it's just -- the first time we protested anything that was going to be built there in the Mule Mountains was Sundesert Nuclear Power Plant. 1975, mind you. We were the first ones in the history of the United States to stop a nuclear power plant from being built. See. Why? Because of the same reason. It's so sacred. It's not just for the natives. No. No. It's everybody. Fortunately, we have a little bit of understanding. And fortunately, we have those codices that we can read and we can direct. But, apparently, the majority of the Anglo-Saxons don't have an interpretation of all this significance. Oh, we have a few now. Quite a good group now. Sierra Clubs and all these environmental groups that are with us now. But we need more. We need to stop these solar power plants. Those two that are made already,

McCoy and Blythe Solar Power, they're right in the most sacred valley of earth, the McCoy Valley. It's where Kokopilli and Cicimitl, El Tosco, the spirit that descends from Tamoanchan Granite Peak straight down to the Mule Mountains. Calli.

So I could talk about it all day, but we have other people here, our relations here to come. And we want everybody to have their interpretations so you don't think, "Oh, it's that same old guy." No, it's not that same old guy. It's us. It's not my interpreting. It's our interpreting. What we say, "clokinowaki," (phonetic); among all, we do all for the benefit of all. Different sizes, different shapes, but all together in the trunk of the human race. We were placed here by the creator to maintain a harmonious balance. Not like we used to play in football: eight men to the left. No, no, no. We've got to be that harmonious balance.

So if you have any other questions, just give us some questions. But I told you the facts. These are facts. I can show you the Aztec calendar. And right now we're going to have our other relations here that are going to tell you why. Calli. No. "Morkaheitay" (phonetic). In the old days they used to call them the upside-down mountains in English. Because we always knew they were the Morkaheitay. Morkaheitay is where you smash chili. But

upside-down were the three peeks.

I'm going to leave you right now because you people are -- it's going to take you a long time for you to understand, because like Steven Lexon (phonetic) said, it's going to take a jolt -- a big jolt for the majority of the Anglo-Saxons to understand why it's so sacred, these places. And you're understanding now a little better. Thank you very much.

MS. GISPERT: Okay. Linda Otero.

MS. OTERO: 25 minutes?

MS. GISPERT: 25 minutes.

MS. OTERO: I heard that.

Good morning, everyone. Or afternoon. My name is Linda Otero. I'm a member of the Fort Mojave Indian Tribe and the director of the Aha Makav Culture Society. I see that this project is progressing to the point of now the development of plans for an EIR/EIS. Years ago Recurrent visited our office and many -- likely visited many other tribal offices as well trying to get a sense of what a project like this would have in terms of tribes' concerns for this vicinity.

We indicated, as well as other tribes, that this project would have a major impact to this river corridor. The river corridor represents a part of our life ways, not just of the river, as described by Aha Makav, meaning

"people of the river," but the manifestations of all things that are a part of the river represent who we are. And so in the vicinity of where we are currently is part of that river corridor. Anything that adds to or impacts this river corridor has a significant change to our way of life. So there is more than just looking at it in the physical sense in terms of cultural manifestations or artifacts. It's about a people. And that's not what's understood in terms of what those major impacts would mean to the people.

So I see that, also, the opportunity to continue consultation, which takes a lot of work and effort as well from tribes, but nonetheless the two-prong process of an EIR and EIS when both are addressing at different levels. Mind you, too, that the resource management plan is going to be changed only because it's a pre-DRECP. So if that's the case, this place is also known, at least for management purposes, of an area of critical environmental concern. So in the sense of now representing the tribe and comments for -- for this stage of the game, we say no to this project. But if you don't -- no to any more solar in this vicinity as well. Because if you're going to look at the resource management plan, then management should look at it and support it by its state as well that the ACECB expanded to cover the sensitivity of this area. It's much larger than what is noted in the books right now.

So I don't think enough information has been brought forward to really investigate that, but it should be part of this process as well. Because if the research management plan is going to be changed based on this project, then the research management plan should also look into the processes of an ICEC expansion as well. My comments for right now.

MS. GISPERT: Okay. Is there anyone else who would like to speak at this time? We have -- okay. Make sure you say your name clearly for the transcriptionist.

MR. LEIVAS: Sure.

Good afternoon. Ahalrayo (phonetic), my language, How are you? (Unintelligible) -- language, Chemehuevi. My name is Matthew Leivas, Senior. I'm the director of the cultural center for Chemehuevi Tribe. And comments are ditto compared to everybody else. And what Alfredo spoke about is very sacred, sacred grounds and the sacred stories that he's shared with you, the years and years of accumulation of knowledge. And as far as our -- as far as my journey goes, with the peace and dignity journeys, you know, that journey started back in 1992, October 12th, when that commemorated the 500 years of the rebirth of new knowledge and our sun started shining again. (NonEnglish spoken).

But at any rate, I want to talk about the sacred

land. And I brought along a book. I want to share the title with you. It's called "29" written by a friend named Mary Sojourner. And she spoke about all these things. It's a novel. But she spoke about all these things that are happening in the desert right now. And I just want to share that with you because you've got to read what she has to say in there. It's based on facts. It's like Alfredo says; it's based on facts, not fiction. We're all part of this desert.

And I'm a cofounder of an organization called the Salt Song Project. It was to revive our sacred songs of the Chemehuevi, the Salt Songs that travels all this area along around the Colorado River and went through this near Blythe all the way up to Riverside Mountain and across the river and went back to its point of origin at a cave called Avi-Nava, Bill Williams. But at any rate, back a couple years ago, President Obama dedicated the Mojave Trails National Moment. And in that, he -- that proclamation, he identified the Chemehuevis as occupying the Mojave desert as well as other tribes. But he also identified the Salt Song Trail that traversed this whole sacred area and the songs that make our connection with Mother Earth and the cosmos and the healing. So that's what we bring back is the healing.

Now, my friend wrote this book because of issues

that are going on out in the desert. And if you read this book, it will be like opening up the Holy Grail here, and you'll find out what she's talking about. I can't explain it any more better than what she says in that book.

But we're all connected to this land and this river. Not too many people are talking about water sources and where water is going to come from for these projects. I'm assuming it's coming from the Colorado River. Don't you? Who does? Yeah, eventually you will. Possibly. But that's another fight. That's another issue. But we're on top of that too, because we have rights. All the river tribes have rights: Fort Mojave, Chemehuevi, Colorado River, Brighton, Cocopah. And those rights are being taken care of by the tribes to the best of their ability, and we're protecting those rights. But we're protecting the land, and that's the statement as to the songs and the connectedness of our people to that land. So I want to submit the paper to you just for your records and to identify what I'm talking about and share it with the public. So thank you very much. Love and respect to everybody here. And when we do ceremony, we don't do just ceremony for our people. We do ceremony for everybody. It's a healing process. Healing. That's what this place is all about. It's sacred. Don't disrupt it. Thank you.

MS. GISPERT: Is there anyone else who would like

to make comments?

Well, we invite you to stick around and look at the poster boards and ask questions. We'll be here.

Oh, sure. Make sure you say your name so the transcriptionist can hear you.

MR. GONZALEZ: Thank you.

Hello, everyone. My name is Juan Gonzalez. I'm son of Juan Gonzalez and Bertha Gonzalez from Ripley, California. I have nothing against solar projects. I mean, the land is already disturbed. Fine. It's perfectly fine. But that area right there holds many memories. Because when my father used to take us camping on Easter break or winter break -- I mean, you're going to take those memories away. Basically wipe them clean. I would -- I mean, like they were saying, that land is sacred to us. There is a lot of indigenous and cultural memorabilia or artifacts out there. And I just would hate to see that go.

So, I mean, solar projects on the roofs of houses or any other parts of the land, we're -- we're for that. But we're against this, destroying our culture and our memories. Thank you.

MS. GISPERT: Is there anyone else who would like to speak?

MR. RON DAWSON: Yeah, my name is Ron Dawson. And I have 120 acres just west of where this is supposed to be

going. And my dad's dream was to farm it. And I bought a bunch of equipment to clear the ground to do that. I want to raise ostriches too with a friend of mine, a highway patrolman. So I'm just curious what the impact's going to be to that. Contact me -- I wrote my name down -- and let me know what's going on. Thank you.

MS. GISPERT: Is there anyone else who would like to speak?

Okay. Well, you're welcome to stick around and check out the poster boards, and we're here to answer questions. Thank you.

(The proceedings concluded at 12:38 p.m.)

-oOo-

REPORTER'S CERTIFICATE

The undersigned Certified Shorthand Reporter does hereby declare under penalty of perjury:

THAT the foregoing was taken before me at the time and place therein set forth and was recorded stenographically by me and was thereafter transcribed, said transcript being a true copy of my shorthand notes thereof.

IN WITNESS WHEREOF, I have hereunto subscribed my hand this 16th day of April, 2018.

_____

DAWN M. DAVILA
Certified Shorthand Reporter
Certificate No. 8383

Appendix F

Written Comments Received During Scoping Period

ESA

STATE OF CALIFORNIA

GOVERNOR'S OFFICE *of* PLANNING AND RESEARCH

STATE CLEARINGHOUSE AND PLANNING UNIT

EDMUND G. BROWN JR.
GOVERNOR

KEN ALEX
DIRECTOR

Notice of Preparation

March 9, 2018

To: Reviewing Agencies

Re: RE Crimson Solar Project
SCH# 2018031027

Attached for your review and comment is the Notice of Preparation (NOP) for the RE Crimson Solar Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Magdalena Rodriguez
California Department of Fish and Wildlife, Region 6
3602 Inland Empire Blvd., Suite C-220
Ontario, CA 91764

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Attachments
cc: Lead Agency

Document Details Report
State Clearinghouse Data Base

SCH# 2018031027
Project Title RE Crimson Solar Project
Lead Agency Fish & Wildlife #6

Type NOP Notice of Preparation

Description Note: Review per Lead

The proposed project consists of a utility-scale polar PV and energy storage project that would be located on approximately 2,500 acres of public lands managed by the Bureau of Land Management within the California Desert Conservation Area planning area. The proposed project would interconnect to the regional electrical grid at the Southern California Edison (SCE) 230-kilovolt (kV) Colorado River Substation. The project would generate up to 350 megawatts (MW) of renewable energy using photovoltaic (PV) technology and would include up to 350 MW of integrated energy storage capacity. The proposed project site is located in unincorporated eastern Riverside County, approximately 13 miles west of Blythe, north of Mule Mountain, and south of Interstate 10 (I-10)

Lead Agency Contact

Name Magdalena Rodriguez
Agency California Department of Fish and Wildlife, Region 6
Phone 909 484-2520 **Fax**
email
Address 3602 Inland Empire Blvd., Suite C-220
City Ontario **State** CA **Zip** 91764

Project Location

County Riverside
City Blythe
Region
Cross Streets Powerline Rd
Lat / Long
Parcel No. multiple
Township 7S **Range** 20/21 **Section** **Base** SB

Proximity to:

Highways I-10
Airports
Railways
Waterways
Schools
Land Use Open space, Zoning: Open Space Rural; Palo Verde Valley Area Plan, Land Use Plan.

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Wildlife; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; Colorado River Board; Department of Conservation; Cal Fire; Office of Historic Preservation; Department of Parks and Recreation; Office of Emergency Services, California; California Energy Commission; Native American Heritage Commission; Public Utilities Commission; Caltrans, District 8; Air Resources Board, Major Industrial Projects; Resources, Recycling and Recovery; Department of Toxic Substances Control; Regional Water Quality Control Board, Region 7; Coachella Valley Mountains Conservancy

Note: Blanks in data fields result from insufficient information provided by lead agency.

Document Details Report
State Clearinghouse Data Base

Date Received 03/09/2018 ***Start of Review*** 03/09/2018 ***End of Review*** 04/23/2018

Note: Blanks in data fields result from insufficient information provided by lead agency.

Appendix C

Notice of Completion & Environmental Document Transmittal

Mail to State Clearinghouse, PO Box 3044, Sacramento, CA 95812-3044 916/445-0613
For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH # 2018031027

Project Title: RE Crimson Solar Project
Lead Agency: California Department of Fish and Wildlife (CDFW) Contact Person: Magdalena Rodriguez
Street Address Region 6-Inland Deserts, 3602 Inland Empire Blvd. Ste C220 Phone: 909-844-2520
City: Ontario Zip: 91764 County: Riverside

Project Location:
County: Riverside County City/Nearest Community: City of Blythe, Community of Wileys Well
Cross Streets: Powerline Road Zip Code: 92225 Total Acres: approximately 2,500 acres
Assessor's Parcel No. Multiple Section: Multiple Twp: 7 South Range: 20 / 21 Base: San Bernardino
Within 2 Miles State Hwy.# I-10 Waterways: N/A Airports: N/A Railways: N/A Schools: N/A

Document Type:
CEQA: ☒ NOP ☐ Supplement/Subsequent EIR (Prior SCH No.) ☐ Early Cons ☐ Other ☐ Neg Dec ☐ Draft EIR
NEPA: ☐ NOI ☐ EA ☐ Draft EIS ☐ FONSI
Other: ☐ Joint Document ☐ Final Document ☐ Other

Local Action Type:
☐ General Plan Update ☐ Specific Plan ☐ Rezone ☐ Annexation
☐ General Plan Amendment ☐ Master Plan ☐ Prezone ☐ Redevelopment
☐ General Plan Element ☐ Planned Unit Development ☐ Use Permit ☐ Coastal Permit
☐ Community Plan ☐ Site Plan ☐ Land Division (Subdivision, etc.) ☒ Other: Utility-Scale Solar Project

Governor's Office of Planning & Research
MAR 09 2018
STATE CLEARINGHOUSE

Development Type:
☐ Residential: *Units* *Acres*
☐ Office: *Sq.ft.* *Acres* *Employees*
☐ Commercial: *Sq.ft.* Acres *Employees*
☐ Industrial: *Sq.ft.* *Acres* *Employees*
☐ Educational:
☐ Recreational:
☐ Water Facilities: *Type* *MDG*
☐ Transportation: *Type*
☐ Mining: *Mineral*
☒ Power: *Type* Solar (350 MW renewable/350 MW storage capacity)
☐ Waste Treatment: *Type*
☐ Hazardous Waste *Type*
☐ Other:

Funding (approx.): Federal $ To be Determined State $ To be Determined Total $ To be Determined

Project Issues Discussed in Document:
☒ Aesthetic/visual ☒ Flood Plain/Flooding ☐ Schools/Universities ☒ Water Quality
☒ Agricultural Land ☒ Forest Land/Fire Hazard ☐ Septic Systems ☒ Water Supply/Groundwater
☒ Air Quality ☒ Geologic/Seismic ☐ Sewer Capacity ☒ Wetland/Riparian
☒ Archeological/Historical ☒ Minerals ☒ Soil Erosion/Compaction/Grading ☒ Wildlife
☐ Coastal Zone ☒ Noise ☒ Solid Waste ☒ Growth Inducing
☒ Drainage/Absorption ☒ Population/Housing Balance ☒ Toxic/Hazardous ☒ Land Use
☐ Economic/Jobs ☒ Public Services/Facilities ☒ Traffic/Circulation ☒ Cumulative Effects
☐ Fiscal ☒ Recreation/Parks ☒ Vegetation ☒ Other Greenhouse Gas Emissions

Present Land Use/Zoning/General Plan Designation:
Present Land Use: Open Space
Zoning: Open Space Rural
General Plan Designation: Open Space Rural (Palo Verde Valley Area Plan, Land Use Plan)

Project Description: The proposed project consists of a utility-scale solar PV and energy storage project that would be located on approximately 2,500 acres of public lands managed by the Bureau of Land Management within the California Desert Conservation Area planning area. The proposed project would interconnect to the regional electrical grid at the Southern California Edison (SCE) 230-kilovolt (kV) Colorado River Substation. The project would generate up to 350 megawatts (MW) of renewable energy using photovoltaic (PV) technology and would include up to 350 MW of integrated energy storage capacity. The proposed project site is located in unincorporated eastern Riverside County, approximately 13 miles west of Blythe, north of Mule Mountain, and south of Interstate 10 (I-10).

NOP Distribution List

County: Riverside co **SCH#** 2016031027

Resources Agency

- [■] **Resources Agency**
  Nadell Gayou
- [ ] **Dept. of Boating & Waterways**
  Denise Peterson
- [ ] **California Coastal Commission**
  Allyson Hitt
- [■] **Colorado River Board**
  Lisa Johansen
- [■] **Dept. of Conservation**
  Crina Chan
- [■] **Cal Fire**
  Dan Foster
- [ ] **Central Valley Flood Protection Board**
  James Herota
- [■] **Office of Historic Preservation**
  Ron Parsons
- [■] **Dept of Parks & Recreation**
  Environmental Stewardship Section
- [ ] **S.F. Bay Conservation & Dev't. Comm.**
  Steve Goldbeck
- [ ] **Dept. of Water Resources**
  Resources Agency
  Nadell Gayou

Fish and Game

- [ ] **Depart. of Fish & Wildlife**
  Scott Flint
  Environmental Services Division
- [ ] **Fish & Wildlife Region 1**
  Curt Babcock
- [ ] **Fish & Wildlife Region 1E**
  Laurie Harnsberger
- [ ] **Fish & Wildlife Region 2**
  Jeff Drongesen
- [ ] **Fish & Wildlife Region 3**
  Craig Weightman
- [ ] **Fish & Wildlife Region 4**
  Julie Vance
- [ ] **Fish & Wildlife Region 5**
  Leslie Newton-Reed
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6**
  Tiffany Ellis
  Habitat Conservation Program
- [ ] **Fish & Wildlife Region 6 I/M**
  Heidi Calvert
  Inyo/Mono, Habitat Conservation Program
- [ ] **Dept. of Fish & Wildlife M**
  William Paznokas
  Marine Region

Other Departments

- [ ] **California Department of Education**
  Lesley Taylor
- [■] **OES (Office of Emergency Services)**
  Monique Wilber
- [ ] **Food & Agriculture**
  Sandra Schubert
  Dept. of Food and Agriculture
- [ ] **Dept. of General Services**
  Cathy Buck
  Environmental Services Section
- [ ] **Housing & Comm. Dev.**
  CEQA Coordinator
  Housing Policy Division

Independent Commissions,Boards

- [ ] **Delta Protection Commission**
  Erik Vink
- [ ] **Delta Stewardship Council**
  Anthony Navasero
- [■] **California Energy Commission**
  Eric Knight
- [■] **Native American Heritage Comm.**
  Debbie Treadway
- [■] **Public Utilities Commission**
  Supervisor
- [ ] **Santa Monica Bay Restoration**
  Guangyu Wang
- [ ] **State Lands Commission**
  Jennifer Deleong
- [ ] **Tahoe Regional Planning Agency (TRPA)**
  Cherry Jacques

Cal State Transportation Agency CalSTA

- [ ] **Caltrans - Division of Aeronautics**
  Philip Crimmins
- [ ] **Caltrans – Planning HQ LD-IGR**
  Christian Bushong
- [ ] **California Highway Patrol**
  Suzann Ikeuchi
  Office of Special Projects

Dept. of Transportation

- [ ] **Caltrans, District 1**
  Rex Jackman
- [ ] **Caltrans, District 2**
  Marcelino Gonzalez
- [ ] **Caltrans, District 3**
  Susan Zanchi - North
- [ ] **Caltrans, District 4**
  Patricia Maurice
- [ ] **Caltrans, District 5**
  Larry Newland
- [ ] **Caltrans, District 6**
  Michael Navarro
- [ ] **Caltrans, District 7**
  Dianna Watson
- [■] **Caltrans, District 8**
  Mark Roberts
- [ ] **Caltrans, District 9**
  Gayle Rosander
- [ ] **Caltrans, District 10**
  Tom Dumas
- [ ] **Caltrans, District 11**
  Jacob Armstrong
- [ ] **Caltrans, District 12**
  Maureen El Harake

Cal EPA

Air Resources Board

- [ ] **Airport & Freight**
  Jack Wursten
  - [ ] **Transportation Projects**
    Nesamani Kalandiyur
  - [■] **Industrial/Energy Projects**
    Mike Tollstrup
- [■] **California Department of Resources, Recycling & Recovery**
  Sue O'Leary
- [ ] **State Water Resources Control Board**
  Regional Programs Unit
  Division of Financial Assistance
- [ ] **State Water Resources Control Board**
  Cindy Forbes – Asst Deputy
  Division of Drinking Water
- [ ] **State Water Resources Control Board**
  Div. Drinking Water #_____
- [ ] **State Water Resources Control Board**
  Student Intern, 401 Water Quality Certification Unit
  Division of Water Quality
- [ ] **State Water Resouces Control Board**
  Phil Crader
  Division of Water Rights
- [■] **Dept. of Toxic Substances Control Reg. #_____**
  CEQA Tracking Center
- [ ] **Department of Pesticide Regulation**
  CEQA Coordinator

Regional Water Quality Control Board (RWQCB)

- [ ] **RWQCB 1**
  Cathleen Hudson
  North Coast Region (1)
- [ ] **RWQCB 2**
  Environmental Document Coordinator
  San Francisco Bay Region (2)
- [ ] **RWQCB 3**
  Central Coast Region (3)
- [ ] **RWQCB 4**
  Teresa Rodgers
  Los Angeles Region (4)
- [ ] **RWQCB 5S**
  Central Valley Region (5)
  - [ ] **RWQCB 5F**
    Central Valley Region (5)
    Fresno Branch Office
  - [ ] **RWQCB 5R**
    Central Valley Region (5)
    Redding Branch Office
- [ ] **RWQCB 6**
  Lahontan Region (6)
  - [ ] **RWQCB 6V**
    Lahontan Region (6)
    Victorville Branch Office
- [■] **RWQCB 7**
  Colorado River Basin Region (7
- [ ] **RWQCB 8**
  Santa Ana Region (8)
- [ ] **RWQCB 9**
  San Diego Region (9)

- [ ] **Other** _____

_____

_____

- [■] Coachella Valley Conservancy

Last Updated 2/01/18

Mojave Desert Air Quality Management District
14306 Park Avenue, Victorville, CA 92392-2310
760.245.1661 • fax 760.245.2699
Visit our web site: http://www.mdaqmd.ca.gov
Brad Poiriez, Executive Director

RECEIVED
MAR 19 2018
BY:

March 13, 2018

Magdalena Rodriguez, Project manager
California Department of Fish and Wildlife
3602 Inland Empire Blvd., Suite C220
Ontario, California 91764

Subject: Notice of Preparation (NOP) of a Joint Draft Environmental Impact Statement/Environmental Impact Report for the RE Solar Project and Notice of Public Scoping Meetings

Dear Ms. Rodriguez:

The Mojave Desert Air Quality Management District (District) has received the request for comments for the Joint Draft Environmental Impact Statement/Environmental Impact Report for the RE Crimson Solar Project and Notice of Public Scoping Meetings. This project proposes to construct, operate, and decommission of a 350 megawatt (MW) utility-scale solar photovoltaic and would include up to 350 MW energy storage on approximately 2,500 acres of public lands administered by the Bureau of Land Management within the California Desert Conservation Area (CDCA) planning area.

The District has reviewed the NOP and concurs with the scope of analysis proposed in the CEQA checklist for Air Quality. MDAQMD Designations and Classifications are available at http://mdaqmd.ca.gov/home/showdocument?id=538. The District also recommends that the following dust mitigation measures be required for the construction of the solar photovoltaic project (enforceable by the District AND by the land use agency):

- Prepare and submit to the MDAQMD, prior to commencing earth-moving activity, a dust control plan that describes all applicable dust control measures that will be implemented at the project;
- The following signage shall be erected not later than the commencement of construction: A minimum 48 inch high by 96 inch wide sign containing the following shall be located within 50 feet of each project site entrance, meeting the specified minimum text height, black text on white background, on one inch A/C laminated plywood board, with the lower edge between six and seven feet above grade, with the contact name of a responsible official for the site and a local or toll-free number that is accessible 24 hours per day:

"[Site Name] {four inch text}
[Project Name/Project Number] {four inch text}
IF YOU SEE DUST COMING FROM {four inch text}
THIS PROJECT CALL: {four inch text}
[Contact Name], PHONE NUMBER XXX-XXXX {six inch text}
If you do not receive a response, Please Call {three inch text}
The MDAQMD at 1-800-635-4617 {three inch text}"

- Use a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes to minimize visible fugitive dust emissions. For projects with exposed sand or fines deposits (and for projects that expose such soils through earthmoving), chemical stabilization or covering with a stabilizing layer of gravel will be required to eliminate visible dust/sand from sand/fines deposits.

- All perimeter fencing shall be wind fencing or the equivalent, to a minimum of four feet of height or the top of all perimeter fencing. The owner/operator shall maintain the wind fencing as needed to keep it intact and remove windblown dropout. This wind fencing requirement may be superseded by local ordinance, rule or project-specific biological mitigation prohibiting wind fencing.

- All maintenance and access vehicular roads and parking areas shall be stabilized with chemical, gravel or asphaltic pavement sufficient to eliminate visible fugitive dust from vehicular travel and wind erosion. Take actions to prevent project-related trackout onto paved surfaces, and clean any project-related trackout within 24 hours. All other earthen surfaces within the project area shall be stabilized by natural or irrigated vegetation, compaction, chemical or other means sufficient to prohibit visible fugitive dust from wind erosion.

The District supports the development of renewable energy sources; such development is expected to produce cumulative and regional environmental benefits.

Thank you for the opportunity to review this planning document. If you have any questions regarding this letter, please contact me at (760) 245-1661, extension 6726, or Tracy Walters at extension 6122.

Sincerely,

Alan J. De Salvio
Deputy Director – Mojave Desert Operations

AJD/tw RE Crimson Solar Project

STATE OF CALIFORNIA
NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710

March 14, 2018

Magdalena Rodriquez
California Department of Fish and Wildlife, Region 6
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764

Sent via e-mail: Magdalena.rodriguez@wildlife.ca.gov

RE: SCH# 2018031027; Crimson Solar Project, City of Blythe and Community of Wileys Well; Riverside County, California

Dear Ms. Rodriguez:

The Native American Heritage Commission has received the Notice of Preparation (NOP) for Draft Environmental Impact Report for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code § 21000 et seq.), specifically Public Resources Code section 21084.1, states that a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, § 15064.5 (b) (CEQA Guidelines Section 15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an environmental impact report (EIR) shall be prepared. (Pub. Resources Code § 21080 (d); Cal. Code Regs., tit. 14, § 15064 subd. (a)(1) (CEQA Guidelines § 15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources with the area of project effect (APE).

CEQA was amended significantly in 2014. Assembly Bill 52 (Gatto, Chapter 532, Statutes of 2014) (AB 52) amended CEQA to create a **separate category of cultural resources**, "tribal cultural resources" (Pub. Resources Code § 21074) and provides that a project with an effect that may cause a substantial adverse change in the significance of a tribal cultural resource is a project that may have a significant effect on the environment (Pub. Resources Code § 21084.2). Please reference California Natural Resources Agency (2016) "Final Text for tribal cultural resources update to Appendix G: Environmental Checklist Form," http://resources.ca.gov/ceqa/docs/ab52/Clean-final-AB-52-App-G-text-Submitted.pdf. Public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource. (Pub. Resources Code § 21084.3 (a)). **AB 52 applies to any project for which a notice of preparation or a notice of negative declaration or mitigated negative declaration is filed on or after July 1, 2015.** If your project involves the adoption of or amendment to a general plan or a specific plan, or the designation or proposed designation of open space, on or after March 1, 2005, it may also be subject to Senate Bill 18 (Burton, Chapter 905, Statutes of 2004) (SB 18). **Both SB 18 and AB 52 have tribal consultation requirements**. If your project is also subject to the federal National Environmental Policy Act (42 U.S.C. § 4321 et seq.) (NEPA), the tribal consultation requirements of Section 106 of the National Historic Preservation Act of 1966 (154 U.S.C. 300101, 36 C.F.R. § 800 et seq.) may also apply.

The NAHC recommends **lead agencies consult with all California Native American tribes** that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments. **Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws**.

AB 52

AB 52 has added to CEQA the additional requirements listed below, along with many other requirements:

1. Fourteen Day Period to Provide Notice of Completion of an Application/Decision to Undertake a Project: Within fourteen (14) days of determining that an application for a project is complete or of a decision by a public agency to undertake a project, a **lead agency** shall provide formal notification to a designated contact of, or tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, to be accomplished by at least one written notice that includes:
   a. A brief description of the project.
   b. The lead agency contact information.
   c. Notification that the California Native American tribe has 30 days to request consultation. (Pub. Resources Code § 21080.3.1 (d)).
   d. A "California Native American tribe" is defined as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of Statutes of 2004 (SB 18). (Pub. Resources Code § 21073).

2. Begin Consultation Within 30 Days of Receiving a Tribe's Request for Consultation and Before Releasing a Negative Declaration, Mitigated Negative Declaration, or Environmental Impact Report: A **lead agency** shall begin the consultation process within 30 days of receiving a request for consultation from a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project. (Pub. Resources Code § 21080.3.1, subds. (d) and (e)) and prior to the release of a negative declaration, mitigated negative declaration or environmental impact report. (Pub. Resources Code § 21080.3.1(b)).
   a. For purposes of AB 52, "consultation shall have the same meaning as provided in Gov. Code § 65352.4 (SB 18). (Pub. Resources Code § 21080.3.1 (b)).

3. Mandatory Topics of Consultation If Requested by a Tribe: The following topics of consultation, if a tribe requests to discuss them, are mandatory topics of consultation:
   a. Alternatives to the project.
   b. Recommended mitigation measures.
   c. Significant effects. (Pub. Resources Code § 21080.3.2 (a)).

4. Discretionary Topics of Consultation: The following topics are discretionary topics of consultation:
   a. Type of environmental review necessary.
   b. Significance of the tribal cultural resources.
   c. Significance of the project's impacts on tribal cultural resources.
   d. If necessary, project alternatives or appropriate measures for preservation or mitigation that the tribe may recommend to the lead agency. (Pub. Resources Code § 21080.3.2 (a)).

5. Confidentiality of Information Submitted by a Tribe During the Environmental Review Process: With some exceptions, any information, including but not limited to, the location, description, and use of tribal cultural resources submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with Government Code sections 6254 (r) and 6254.10. Any information submitted by a California Native American tribe during the consultation or environmental review process shall be published in a confidential appendix to the environmental document unless the tribe that provided the information consents, in writing, to the disclosure of some or all of the information to the public. (Pub. Resources Code § 21082.3 (c)(1)).

6. Discussion of Impacts to Tribal Cultural Resources in the Environmental Document: If a project may have a significant impact on a tribal cultural resource, the lead agency's environmental document shall discuss both of the following:
   a. Whether the proposed project has a significant impact on an identified tribal cultural resource.
   b. Whether feasible alternatives or mitigation measures, including those measures that may be agreed to pursuant to Public Resources Code section 21082.3, subdivision (a), avoid or substantially lessen the impact on the identified tribal cultural resource. (Pub. Resources Code § 21082.3 (b)).

7. Conclusion of Consultation: Consultation with a tribe shall be considered concluded when either of the following occurs:
    a. The parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or
    b. A party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached. (Pub. Resources Code § 21080.3.2 (b)).

8. Recommending Mitigation Measures Agreed Upon in Consultation in the Environmental Document: Any mitigation measures agreed upon in the consultation conducted pursuant to Public Resources Code section 21080.3.2 shall be recommended for inclusion in the environmental document and in an adopted mitigation monitoring and reporting program, if determined to avoid or lessen the impact pursuant to Public Resources Code section 21082.3, subdivision (b), paragraph 2, and shall be fully enforceable. (Pub. Resources Code § 21082.3 (a)).

9. Required Consideration of Feasible Mitigation: If mitigation measures recommended by the staff of the lead agency as a result of the consultation process are not included in the environmental document or if there are no agreed upon mitigation measures at the conclusion of consultation, or if consultation does not occur, and if substantial evidence demonstrates that a project will cause a significant effect to a tribal cultural resource, the lead agency shall consider feasible mitigation pursuant to Public Resources Code section 21084.3 (b). (Pub. Resources Code § 21082.3 (e)).

10. Examples of Mitigation Measures That, If Feasible, May Be Considered to Avoid or Minimize Significant Adverse Impacts to Tribal Cultural Resources:
    a. Avoidance and preservation of the resources in place, including, but not limited to:
        i. Planning and construction to avoid the resources and protect the cultural and natural context.
        ii. Planning greenspace, parks, or other open space, to incorporate the resources with culturally appropriate protection and management criteria.
    b. Treating the resource with culturally appropriate dignity, taking into account the tribal cultural values and meaning of the resource, including, but not limited to, the following:
        i. Protecting the cultural character and integrity of the resource.
        ii. Protecting the traditional use of the resource.
        iii. Protecting the confidentiality of the resource.
    c. Permanent conservation easements or other interests in real property, with culturally appropriate management criteria for the purposes of preserving or utilizing the resources or places.
    d. Protecting the resource. (Pub. Resource Code § 21084.3 (b)).
    e. Please note that a federally recognized California Native American tribe or a nonfederally recognized California Native American tribe that is on the contact list maintained by the NAHC to protect a California prehistoric, archaeological, cultural, spiritual, or ceremonial place may acquire and hold conservation easements if the conservation easement is voluntarily conveyed. (Civ. Code § 815.3 (c)).
    f. Please note that it is the policy of the state that Native American remains and associated grave artifacts shall be repatriated. (Pub. Resources Code § 5097.991).

11. Prerequisites for Certifying an Environmental Impact Report or Adopting a Mitigated Negative Declaration or Negative Declaration with a Significant Impact on an Identified Tribal Cultural Resource: An environmental impact report may not be certified, nor may a mitigated negative declaration or a negative declaration be adopted unless one of the following occurs:
    a. The consultation process between the tribes and the lead agency has occurred as provided in Public Resources Code sections 21080.3.1 and 21080.3.2 and concluded pursuant to Public Resources Code section 21080.3.2.
    b. The tribe that requested consultation failed to provide comments to the lead agency or otherwise failed to engage in the consultation process.
    c. The lead agency provided notice of the project to the tribe in compliance with Public Resources Code section 21080.3.1 (d) and the tribe failed to request consultation within 30 days. (Pub. Resources Code § 21082.3 (d)).

    This process should be documented in the Cultural Resources section of your environmental document.

The NAHC's PowerPoint presentation titled, "Tribal Consultation Under AB 52: Requirements and Best Practices" may be found online at: http://nahc.ca.gov/wp-content/uploads/2015/10/AB52TribalConsultation_CalEPAPDF.pdf

SB 18

SB 18 applies to local governments and requires **local governments** to contact, provide notice to, refer plans to, and consult with tribes prior to the adoption or amendment of a general plan or a specific plan, or the designation of open space. (Gov. Code § 65352.3). Local governments should consult the Governor's Office of Planning and Research's "Tribal Consultation Guidelines," which can be found online at: https://www.opr.ca.gov/docs/09_14_05_Updated_Guidelines_922.pdf

Some of SB 18's provisions include:

1. Tribal Consultation: If a local government considers a proposal to adopt or amend a general plan or a specific plan, or to designate open space it is required to contact the appropriate tribes identified by the NAHC by requesting a "Tribal Consultation List." If a tribe, once contacted, requests consultation the local government must consult with the tribe on the plan proposal. **A tribe has 90 days from the date of receipt of notification to request consultation unless a shorter timeframe has been agreed to by the tribe.** (Gov. Code § 65352.3 (a)(2)).
2. No Statutory Time Limit on SB 18 Tribal Consultation. There is no statutory time limit on SB 18 tribal consultation.
3. Confidentiality: Consistent with the guidelines developed and adopted by the Office of Planning and Research pursuant to Gov. Code section 65040.2, the city or county shall protect the confidentiality of the information concerning the specific identity, location, character, and use of places, features and objects described in Public Resources Code sections 5097.9 and 5097.993 that are within the city's or county's jurisdiction. (Gov. Code § 65352.3 (b)).
4. Conclusion of SB 18 Tribal Consultation: Consultation should be concluded at the point in which:
    a. The parties to the consultation come to a mutual agreement concerning the appropriate measures for preservation or mitigation; or
    b. Either the local government or the tribe, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached concerning the appropriate measures of preservation or mitigation. (Tribal Consultation Guidelines, Governor's Office of Planning and Research (2005) at p. 18).

Agencies should be aware that neither AB 52 nor SB 18 precludes agencies from initiating tribal consultation with tribes that are traditionally and culturally affiliated with their jurisdictions before the timeframes provided in AB 52 and SB 18. For that reason, we urge you to continue to request Native American Tribal Contact Lists and "Sacred Lands File" searches from the NAHC. The request forms can be found online at: http://nahc.ca.gov/resources/forms/

NAHC Recommendations for Cultural Resources Assessments

To adequately assess the existence and significance of tribal cultural resources and plan for avoidance, preservation in place, or barring both, mitigation of project-related impacts to tribal cultural resources, the NAHC recommends the following actions:

1. Contact the appropriate regional California Historical Research Information System (CHRIS) Center (http://ohp.parks.ca.gov/?page_id=1068) for an archaeological records search. The records search will determine:
    a. If part or all of the APE has been previously surveyed for cultural resources.
    b. If any known cultural resources have been already been recorded on or adjacent to the APE.
    c. If the probability is low, moderate, or high that cultural resources are located in the APE.
    d. If a survey is required to determine whether previously unrecorded cultural resources are present.

2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.

b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

3. Contact the NAHC for:
   a. A Sacred Lands File search. Remember that tribes do not always record their sacred sites in the Sacred Lands File, nor are they required to do so. A Sacred Lands File search is not a substitute for consultation with tribes that are traditionally and culturally affiliated with the geographic area of the project's APE.
   b. A Native American Tribal Consultation List of appropriate tribes for consultation concerning the project site and to assist in planning for avoidance, preservation in place, or, failing both, mitigation measures.

4. Remember that the lack of surface evidence of archaeological resources (including tribal cultural resources) does not preclude their subsurface existence.
   a. Lead agencies should include in their mitigation and monitoring reporting program plan provisions for the identification and evaluation of inadvertently discovered archaeological resources per Cal. Code Regs., tit. 14, section 15064.5(f) (CEQA Guidelines section 15064.5(f)). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American with knowledge of cultural resources should monitor all ground-disturbing activities.
   b. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the disposition of recovered cultural items that are not burial associated in consultation with culturally affiliated Native Americans.
   c. Lead agencies should include in their mitigation and monitoring reporting program plans provisions for the treatment and disposition of inadvertently discovered Native American human remains. Health and Safety Code section 7050.5, Public Resources Code section 5097.98, and Cal. Code Regs., tit. 14, section 15064.5, subdivisions (d) and (e) (CEQA Guidelines section 15064.5, subds. (d) and (e)) address the processes to be followed in the event of an inadvertent discovery of any Native American human remains and associated grave goods in a location other than a dedicated cemetery.

Please contact me if you need any additional information at gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

cc: State Clearinghouse

Department of Toxic Substances Control

Matthew Rodriquez
Secretary for
Environmental Protection

Barbara A. Lee, Director
5796 Corporate Avenue
Cypress, California 90630

Edmund G. Brown Jr.
Governor

March 20, 2018

Ms. Magdalena Rodriguez
Project Manager
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764
Magdalena.Rodriguez@wildlife.ca.gov

NOTICE OF PREPARATION (NOP) OF A JOINT DRAFT ENVIRONMENTAL IMPACT STATEMENT/ENVIRONMENTAL IMPACT REPORT (EIS/EIR) FOR THE RE CRIMSON SOLAR PROJECT (SCH# 2018031027)

Dear Ms. Rodriguez:

The Department of Toxic Substances Control (DTSC) has reviewed the subject NOP. The following project description is stated in the NOP: "The proposed project consists of a utility-scale solar PY and energy storage project that would be located on up to approximately 2,500 acres of public lands managed by the BLM within the CDCA planning area. The proposed project would interconnect to the regional electrical grid at the SCE 230-kilovolt (kV) CRS. The project would generate up to 350 MW of renewable energy using PY technology and would include up to 350 MW of integrated energy storage capacity."

Based on the review of the submitted document, DTSC has the following comments:

1. The EIS/EIR should identify and determine whether current or historic uses at the project site may have resulted in any release of hazardous wastes/substances. A Phase I Environmental Site Assessment may be appropriate to identify any recognized environmental conditions.

2. If there are any recognized environmental conditions in the project area, then proper investigation, sampling and remedial actions overseen by the appropriate regulatory agencies should be conducted prior to the new development or any construction.

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3. If the project plans include discharging wastewater to a storm drain, you may be required to obtain an NPDES permit from the overseeing Regional Water Quality Control Board (RWQCB).

4. If planned activities include building modifications/demolitions, lead-based paints or products, mercury, and asbestos containing materials (ACMs) should be investigated and mitigated/disposed of in accordance with all applicable and relevant laws and regulations. In addition, evaluate whether polychlorinated biphenyls (PCBs) containing materials is present in onsite buildings and address as necessary to protect human health and the environment.

5. If the site was used for agricultural or related activities, residual pesticides may be present in onsite soil. DTSC recommends investigation and mitigation, as necessary, to address potential impact to human health and environment from residual pesticides.

6. DTSC recommends evaluation, proper investigation and mitigation, if necessary, of onsite areas with current or historic PCB-containing transformers.

7. Please evaluate whether the proposed project is located within or in close proximity to the Formerly Used Defense Site (FUDS) based, in part, on the United States Department of Defense ordnance maps. DTSC recommends assessment and/or investigation be conducted in the project area to assess potential impacts from the nearby FUDS if necessary.

8. Export & Import of Soil: If soil contamination is suspected or observed in the project area, then excavated soil should be sampled prior to export/disposal. If the soil is contaminated, it should be disposed of properly in accordance with all applicable and relevant laws and regulations. In addition, if the project proposes to import soil to backfill the excavated areas, proper evaluation and/or sampling should be conducted to make sure that the imported soil is free of contamination.

9. If during construction/demolition of the project, soil and/or groundwater contamination is suspected, construction/demolition in the area should cease and appropriate health and safety procedures should be implemented. If it is determined that contaminated soil and/or groundwater exist, the EIS/EIR should identify how any required investigation and/or remediation will be conducted and the appropriate government agency to provide regulatory oversight.

If you have any questions regarding this letter, please contact me at (714) 484-5380 or by email at Johnson.Abraham@dtsc.ca.gov.

Sincerely,

Johnson P. Abraham
Project Manager
Brownfields Restoration and School Evaluation Branch
Site Mitigation and Restoration Program – Cypress

kl/sh/ja

cc: Governor's Office of Planning and Research (via e-mail)
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044
State.clearinghouse@opr.ca.gov

Mr. Dave Kereazis (via e-mail)
Office of Planning & Environmental Analysis
Department of Toxic Substances Control
Dave.Kereazis@dtsc.ca.gov

Mr. Shahir Haddad, Chief (via e-mail)
Brownfields Restoration and School Evaluation Branch
Site Mitigation and Restoration Program - Cypress
Shahir.Haddad@dtsc.ca.gov

CEQA# 2018031027

CEQA - 2018 - 0060 - R6

RIVERSIDE COUNTY
DEPARTMENT OF
WASTE RESOURCES
Hans W. Kernkamp, General Manager-Chief Engineer

March 20, 2018

Ms. Magdalena Rodriguez
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C220
Ontario, CA 91764

RE: Notice of Preparation (NOP) of a Joint Draft Environmental Impact Report (DEIR)/Draft Environmental Impact Statement (DEIS) for the Recurrent Energy (RE) Crimson Solar Project.

Dear Ms. Rodriguez:

The Riverside County Department of Waste Resources (RCDWR) has reviewed the NOP for a DEIR/DEIS for the RE Crimson Solar Project (Project). The Project is located in unincorporated eastern Riverside County, approximately 13 miles west of Blythe, north of Mule Mountain, and south of Interstate 10.

1. The RCDWR is concerned about the quantity of construction and demolition (C&D) waste that could be generated by the project and how the waste will be disposed of. This includes initial construction as well as the decommissioning and closure of the Project. Should a large quantity of the projects' C&D waste be brought to a county landfill for disposal, it could exceed the landfill's daily permitted capacity, thus a violation of State regulations and an impact to County landfill operation. The DEIR/DEIS should quantitatively analyze this potential solid waste impact.

2. Build-out of the Project may have the potential to increase the amount of waste that might adversely affect solid waste facilities. To assess waste impacts, the DEIR/DEIS will need to include the projected maximum amount of waste generated from build-out of the Project, using appropriate waste generation factors for the proposed land use. Note: Consult the CalRecycle website to determine waste generation factors at:

   https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates

3. The following information can be useful in the analysis of solid waste impacts:

   a) CR&R is the franchise waste hauler for the project area. This hauler operates under a waste delivery agreement (WDA) which stipulates that any waste generated within the franchise area, including solid waste generated from the Project area, will be disposed of at the Blythe Landfill. The Blythe Landfill is described below:

      Blythe Landfill

      The Blythe Landfill is located at 1000 Midland Road, Blythe CA 92225. The landfill is owned and operated by the RCDWR. The landfill property encompasses approximately

365-acres, of which 78.1 acres are permitted for waste disposal. The landfill is currently permitted to receive a maximum of 400 tons per day of refuse, and as of January 1, 2018, had a remaining capacity of approximately 1.6 million tons. It is estimated that the remaining disposal capacity will last until approximately 2047. During 2017, the Blythe Landfill accepted a daily average volume of 85 tons, for a period total of approximately 22,843 tons.

b) In order to preserve landfill capacity and support efforts to recycle, reuse, and/or reduce the amount of recyclable material going to the landfill, the Project will be conditioned to implement the following measures:

- **Prior to issuance of a grading and/or building permit:** A Waste Recycling Plan (WRP) shall be submitted to the Riverside County Department of Waste Resources for approval. At a minimum, the WRP must identify the materials (i.e., solar panels, cardboard, concrete, asphalt, wood, etc.) that will be generated by construction and development, the projected amounts, the measures/methods that will be taken to recycle, reuse, and/or reduce the amount of materials, the facilities and/or haulers that will be utilized, and the targeted recycling or reduction rate. During project construction, the project site shall have, at a minimum, two (2) bins: one for waste disposal and the other for the recycling of Construction and Demolition (C&D) materials. Additional bins are encouraged to be used for further source separation of C&D recyclable materials. Accurate record keeping (receipts) for recycling of C&D recyclable materials and solid waste disposal must be kept. Arrangements can be made through the franchise hauler.

- **Prior to final building inspection:** Evidence (i.e., receipts or other type of verification) to demonstrate project compliance with the approved WRP shall be presented by the project proponent to the Planning Division of the Riverside County Department of Waste Resources. Receipts must clearly identify the amount of waste disposed and Construction and Demolition (C&D) materials recycled.

- **Prior to County Approval of the Decommissioning and Closure Plan:** A Waste Recycling Plan (WRP) shall be submitted to the Riverside County Department of Waste Resources for approval. At a minimum, the WRP must identify the materials (i.e., solar panels, cardboard, concrete, asphalt, wood, etc.) that will be generated by the decommissioning and closure of the facility, the projected amounts, the measures/methods that will be taken to recycle, reuse, and/or reduce the amount of materials, the facilities and/or haulers that will be utilized, and the targeted recycling or reduction rate. During the decommissioning and closure, the project site shall have, at a minimum, two (2) bins: one for waste disposal and the other for the recycling of Construction and Demolition (C&D) materials. Additional bins are encouraged to be used for further source separation of C&D recyclable materials. Accurate record keeping (receipts) for recycling of C&D recyclable materials and solid waste disposal must be kept. Arrangements can be made through the franchise hauler.

4. Hazardous materials are not accepted at Riverside County landfills. In compliance with federal, state, and local regulations and ordinances, any hazardous waste generated in association with the project shall be disposed of at a permitted Hazardous Waste disposal facility. Hazardous waste materials include, but are not limited to, paint,

batteries, oil, asbestos, and solvents. For further information regarding the determination, transport, and disposal of hazardous waste, please contact the Riverside County Department of Environmental Health, Environmental Protection and Oversight Division, at 1.888.722.4234.

5. Consider xeriscaping and using drought tolerant/low maintenance vegetation in all landscaped areas of the project.

Thank you for allowing us the opportunity to comment on the NOP. We would appreciate a copy of the Draft EIS/EIR on CD for review and comment when available. Please continue to include the RCDWR in future transmittals. Please call me at (951) 486-3200 if you have any questions regarding the above comments.

Sincerely,

Jose Merlan
Urban/Regional Planner III

PD# 222155v2

From: Jessica Mauck [mailto:JMauck@sanmanuel-nsn.gov]
Sent: Wednesday, March 21, 2018 12:33 PM
To: Rodriguez, Magdalena@Wildlife <Magdalena.Rodriguez@wildlife.ca.gov>
Subject: Crimson Solar Project - DEIS and DEIR

Hello Magdalena,

Thank you for contacting the San Manuel Band of Mission Indians (SMBMI) regarding the above referenced project. SMBMI appreciates the opportunity to review the project documentation, which was received by our Cultural Resources Management Department on 16 March 2018. The proposed project area is located outside of Serrano ancestral territory and, as such, SMBMI will not be requesting consulting party status with the lead agency or requesting to participate in the scoping, development, and/or review of documents created pursuant to these legal and regulatory mandates.

Regards,

Jessica Mauck
CULTURAL RESOURCES ANALYST
O: (909) 864-8933 x3249
M: (909) 725-9054
26569 Community Center Drive, Highland California 92346
SAN MANUEL
BAND OF MISSION INDIANS

THIS MESSAGE IS INTENDED ONLY FOR THE USE OF THE INDIVIDUAL OR ENTITY TO WHICH IT IS ADDRESSED AND MAY CONTAIN INFORMATION THAT IS PRIVILEGED, CONFIDENTIAL AND EXEMPT FROM DISCLOSURE UNDER APPLICABLE LAW. If the reader of this message is not the intended recipient or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination or copying of this communication is strictly prohibited. If you have received this electronic transmission in error, please delete it from your system without copying it and notify the sender by reply e-mail so that the email address record can be corrected. Thank You

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:36 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Fwd: Response to Questions

Attachments: BLM Tom Pogacnik restoration of herd to 1971 ranges.docx; Trudy summation and follow up.docx; Born of Horses Missionaries Indigenous Vaquesros.pdf; State Park deeds Senator Joel Anderson - Hayden.msg

---

---------- Forwarded message ----------
From: **Kathleen Hayden** <kats27735@gmail.com>
Date: Tue, Mar 27, 2018 at 3:00 PM
Subject: [EXTERNAL] Fwd: Response to Questions
To: blm_ca_crimsonsolar@blm.gov

fyi

---------- Forwarded message ----------
From: **Kathleen Hayden** <kats27735@gmail.com>
Date: Tue, Mar 27, 2018 at 2:58 PM
Subject: Re: Response to Questions
To: "Neibergs, Alexander" <aneiberg@blm.gov>
Cc: "Bauldwin, Doug" <doug.bauldwin@mail.house.gov>

Alex,

Thanks for the docs. Two more are attached are for your re-view. Still I am requesting the documents and deeds that established the Coyote Canyon Herd Area in compliance with the 1971 Free Roaming Wild Horse and Burro Act. Was FLPMA applicable? **The Federal Land Policy and Management Act of 1976** *www.wildhorserange.org/the-federal-land-policy-and-management-act-of-1976.html* Governs the way in which the public *lands* administered by the Bureau of *Land* Management are managed by creating a single, unified statutory scheme for management. Recognized the value of the public *lands*, declaring that these *lands* would remain in federal ownership.

When the Anza Borrego State Park acquired land from BLM, the Coyote Canyon horses had already occupied the area since the Garra Revolt of 1850 and the treaty of Hidalgo.

You indicated that in 1993, the BLM land was transferred to the State Park and eliminated any use of public lands by these wild horses. Yet in 1995 statement signed by signed by State Park Director of Parks and Recreation Donald Murphy "*The herd of 25-40 wild horse in upper Coyote Canyon is causing observed impact on natural and cultural resources. These animals are protected under the federal Wild Horse and Burro Protection Act thereby limiting our management activities.*" Tim Salts

subsequent unsubstantiated assumptions and allegations are refuted (see attached Trudy summation from Senator Morrow.

Does BLM possess the 1993 deeds of transfer of the Coyote Canyon herd area to state parks? If so why would Parks claim that the wild horses (not feral) *are protected under the federal Wild Horse and Burro Protection Act thereby limiting our management activities?*

In the attached letters Tom Pogacnik states" Unfortunately, when BLM began revisiting the Coyote Canyon horse situation, I also worked with the Solicitor's Office about the NPS animals as there were strong parallels. The Solicitor (*the same one who said BLM erred in relinquishing control of the Coyote Canyon animals to State Parks*) said The Desert Protection Act pretty much gave control of the land and all resources to NPS. " Isn't NPS still responsible for FLPMA compliance?

Please provide me with a copy of the Solicitors letters pertaining to the Coyote Canyon herd area, and the wild horses.

Tom also says "The decision to not manage for a herd area is NEPA document which is subject to change should new, prevailing data become available. As such through NEPA."

Please explain how CDCA complied with pre existing reservations requisites of NEPA/ FLPMA with the official action taken to eliminate and entire protected federal resource.

In 2010 Tom Pogacnik subsequently writes "If the public has quantifiable data which shows there may be an error, they need to provide those data to petition BLM to reconsider the decision."

Extinction of protected resource by a management plan must be documented as a significant environmental impact. The data as requested by BLM are the voluminous documents previously provided to BLM of new and/or prevailing evidence. Amendments are necessary and imperative to restore a Coyote Canyon Herd area, and the animals that BLM delivered to our CCCDA non profit for the purpose of historic and genetic preservation.

The CDCA land use plan provides the public with an opportunity to correct the accumulative deficiencies caused by the intentional elimination of a protected natural and historic resource. Amendments will be effective ONLY IF DOI/BLM are responsive to citizens that draw attention to oversights in previous plans that extinguished rights granted through the mandates of the National Historic Preservation Act, SHPO programmic agreements., NEPA, CESA, FLPMA, Free Roaming wild horse and burro Act, et al.

As James B. Ruch California State Director Bureau of Land Management stated: " Managing the public lands in the California Desert in a spirit of service, productivity, and concern for the public interest is the foundation upon which the implementation of the Desert Plan is based. To do this, the dedicated professional men and women of the Bureau of Land Management are committed to work for you and with you, the owners of the public lands in the California Desert Conservation Area."

(Excerpt) : INTENT OF THE PLAN: " Based upon these principles and concepts, the intent of the CDCA Plan is to ensure as nearly as humanly possible that the recognition brought by Congress and the people into law—that the California Desert is not a wasteland but a precious public resource—is effectively guaranteed in its management, *that the uses of today do not preclude the users of tomorrow, and that* we preserve and develop these assets wisely with full regard for their social and environmental as well as economic values*."*

In reference to Solicitor_Memo_1977.pdf see also From: Miner, Karen@Wildlife... - Coyote Canyon Heritage Herd *https://www.facebook.com/permalink.php?story_fbid=1061061357280881&id..*.

Much more of the CA historic herds' habitats are documented in "*Born of Horses*:" Missionaries, Indigenous Vaqueros, and Ecological Expansion during the Spanish Colonization of California by *Paul Albert Lacson* (http://www.sandiegohistory.org/node/58209)

Alex, please forward this information to the authorized officers: California State Director of the Bureau of Land Management, the California Desert District Manager, or any other BLM official so

delegated in accordance with Bureau Order 701 and amendments thereto.

Sincere thanks to you for your patience and kind assistance and interest over the years.

Kathleen

Cc: Congressman Duncan Hunter Jr.

On Thu, Mar 22, 2018 at 9:49 AM, Neibergs, Alexander <aneiberg@blm.gov> wrote:

> Hi Kat,
>
> How are you?
>
> The attached map is what is on our GIS file and considered to be the accurate HA boundary (almost, if not identical to to your map)
>
> Herd Areas are not federal withdrawn lands for the purpose of wild horse preservation. They are areas recognized as having a population of wild horses at the time the WHB Act was passed and evaluated in land use plans to either manage the population or remove them. Some herd areas have been identified as wild horse ranges where the primary management is for wild horses.
>
> The California Desert Conservation Area Plan (1980) identified Coyote Canyon as an HMA for 20 horses, however, a 1985 amendment to the CDCA plan removed the status of an HMA to a herd area not to be managed for wild horses - see attached amendment.
>
> The California Desert District Manager (Tim Salt) addressed the status of the horses in 2000 that were within Anza-Borrego State Park based on a solicitors report for ownership of horses where lands were transferred from BLM to the U.S. Fish and Wildlife Service (see attached Solicitor Memo).

If you should have more questions, I would be available to try and answer them or forward them onto Kevin.

Alex

On Sun, Mar 11, 2018 at 3:52 PM, Kathleen Hayden <kats27735@gmail.com> wrote:

> Alex, please can you confirm that the attached map defines the federal designation of the Coyote Canyon Herd Area, and, if a HMA was ever established?
>
> Are herd areas a federal withdrawal of public lands for the purpose of wild horse preservation?
>
> How did State Parks create a culture preserve out of a Federal Herd Area after the 1995 statement signed by signed by State Park Director of Parks and Recreation Donald Murphy "***The herd of 25-40 wild horse in upper Coyote Canyon is causing observed impact on natural and cultural resources. These animals are protected under the federal Wild Horse and Burro Protection Act thereby limiting our management activities.***" ?

--

Alex Neibergs

Wild Horse and Burro Specialist

BLM - Ridgecrest Field Office

300 S. Richmond Rd.

Ridgecrest, CA. 93555

Office Phone: 760-384-5796

From: Brown, Lori
Sent: Thursday, December 3, 2015 5:32 PM
To: CCCDA@znet.com
Subject: From Senator Joel Anderson - Hayden
Attachments: BLM 11 1937 1092770.pdf; BLM 1933 1084149.pdf; BLM 1936--03-06-1944--1116901.pdf; BLM 1938 1100418.pdf; BLM 1948 1123664.pdf; BLM CAstate land patent1225249.pdf; dpr 1933 1084149.pdf; dpr 1933 1092770.pdf; dpr 1933 1100418.pdf; dpr 1964 1235736.pdf

---

Hi Kathleen, I received a response from your inquiry regarding: BLM patent to Anza Borrego Desert State Parks. Please see below.

If you have any further questions, please do not hesitate to contact our office.

Thank you.

Lori Brown
619/596-3136
Constituent Affairs Specialist for
Senator Joel Anderson

RESPONSE FROM STATE PARKS:

Ms. Brown,

I have reviewed the emails I received November 30.

One specific request by Kathleen Hayden was the Senator obtain a copy of the Land Patents transferring the property from BLM to the State of California. I have attached those land patents to this email. These patents are public record and can be obtained at the County Recorder's office.

The other direct questions Kathleen Hayden asks are in reference to the 1971 wild horse and burro act, and to the BLM programmatic agreement from 2012.

The land patents from BLM to the State of California all predate these requirements and the land was already in State ownership at the time of their enactment. Therefore the patents could not contain any restrictions for wild horses or burros as the land was not in

BLM's ownership.

Acquisition and Real Property Services Division – State Parks

List No. 2.

Patent No. 1092770

STATE PARK SELECTION

Act of March 3, 1933
(47 Stat. 1487).

Los Angeles Land District.

California.

1092770

List No.2. 4—1043-B

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range four east,

The Section thirty-six.

Township nine south of Range five east,

The fractional Sections two, four, and six, the Sections eight, ten, twelve, and fourteen, the fractional Section eighteen, and the Section twenty.

Township nine south of Range six east,

The fractional Sections two, four, and six, the Sections eight, ten, twelve, fourteen, and sixteen, the fractional Section eighteen, the Sections twenty and twenty-two, the southwest quarter of Section twenty-four, the Sections twenty-six and twenty-eight, the Lot one, the north half of the Lot two, the Lots three and four, the east half of the northwest quarter, and the east half of Section thirty, and the Sections thirty-two and thirty-four.

Township nine south of Range seven east,

The fractional north half of Section one and the fractional Sections two, three, and four.

Township nine south of Range eight east,

The Sections twenty, twenty-two, twenty-four, twenty-six, and twenty-eight, the fractional Section thirty, and the Sections thirty-two, thirty-four, and thirty-six.

CORD OF PATENTS: Patent Number 1092770

List No.2.

Township ten south of Range five east,

The Sections twenty-four, twenty-six, twenty-eight, twenty-nine, thirty-two, thirty-three, and thirty-four, the west half of the northwest quarter and the southwest quarter of the southwest quarter of Section thirty-six.

Township ten south of Range six east,

The fractional Section two, the fractional northeast quarter of Section four, the Lot seven of Section six, the east half of Section ten, the Section twelve, the northwest quarter of Section fourteen, the south half of the Lot two of the northwest quarter, the Lot two of the southwest quarter, the northwest quarter of the northeast quarter, the south half of the northeast quarter, and the southeast quarter of Section eighteen, and the south half of the Lot two of the northwest quarter, the Lot two of the southwest quarter, and the southeast quarter of the northwest quarter of Section thirty.

Township ten south of Range seven east,

The fractional Section two, the fractional north half of Section four, the fractional Section six, the southeast quarter of Section eight, the Sections ten, twelve, and fourteen, the fractional west half of Section eighteen, and the Section twenty.

Township twelve south of Range six east,

The fractional Section six, the northeast quarter and the fractional northwest quarter of Section seven, the north half of Section eight, the north half, the north half of the southeast quarter, and the northeast quarter of the southwest quarter of Section nine, the north half and the north half of the south half of Section ten, the north half, the southeast quarter, the north half of the southwest quarter, and the southeast quarter of the southwest quarter of Section eleven, the north half, the north half of the southwest quarter, and the southwest quarter of the southwest quarter of Section twelve, the south half of the north half and the south half of Section thirteen, the south half of the north half and the south half of Section fourteen, the south half of the north half and the south half of Section fifteen, the Section seventeen, and the fractional Section eighteen.

1092770

List No.2.

Township twelve south of Range five east,

The northeast quarter, the north half of the northwest quarter, the northeast quarter of the southeast quarter, and the south half of the southwest quarter of Section eleven, the north half and the north half of the southwest quarter of Section twelve, the east half of the northeast quarter, the southwest quarter of the northeast quarter, and the south half of Section thirteen, the north half of the northeast quarter, the west half, the northeast quarter of the southeast quarter, and the south half of the southeast quarter of Section fourteen, the Sections fifteen and seventeen, the fractional Section eighteen, the Lots one, two, and three, the east half of the northeast quarter, and the northwest quarter of the northeast quarter of Section nineteen, the fractional Section twenty, the Section twenty-one, the north half, the northwest quarter of the southeast quarter, and the southwest quarter of Section twenty-two, the fractional Sections one and two, the Lots one, two, three, and four, the south half of the north half, the southeast quarter, and the north half of the southwest quarter of Section three, the Lots one, two, three, and four and the south half of the southwest quarter of Section five, the Lots one, four, five, six, and seven, the south half of the southeast quarter, and the east half of the southwest quarter of Section six, the Section eight, the southeast quarter of the northeast quarter, the east half of the southeast quarter, and the southwest quarter of Section nine, and the south half of the northwest quarter and the south half of Section ten.

Township eleven south of Range eight east,

The fractional Sections four and six and the Section fourteen.

Township eleven south of Range six east,

The fractional Section six, the fractional northwest quarter of Section nineteen, the southwest quarter of Section twenty, the east half of the northeast quarter, the southeast quarter of the southeast quarter, and the northwest quarter of the southwest quarter of Section twenty-four, the west half and the southeast quarter of Section twenty-nine, the fractional Sections thirty and thirty-one, the Section thirty-two, the west

half and the southeast quarter of Section thirty-three, and the west half of Section thirty-four.

Township eleven south of Range seven east,

The south half of Section two and the fractional Section four.

Township twelve south of Range five east,

The east half, the northwest quarter, the east half of the southwest quarter, and the southwest quarter of the southwest quarter of Section twenty-three, the Sections twenty-four and twenty-five, the east half, the northwest quarter, the north half of the southwest quarter, and the southeast quarter of the southwest quarter of Section twenty-six, the Lot one, the east half of the northeast quarter, the north half of the northwest quarter, and the northeast quarter of the southeast quarter of Section twenty-seven, the Lots one, two, three, and four, the north half of the northeast quarter, and the north half of the northwest quarter of Section twenty-eight, the fractional Sections twenty-nine, thirty-one, and thirty-two, the Lots two, three, and four, the southeast quarter of the northeast quarter, and the south half of the southeast quarter of Section thirty-three, the southwest quarter of the northwest quarter of Section thirty-four, and the northeast quarter, the east half of the northwest quarter, and the north half of the southeast quarter of Section thirty-five.

Township twelve south of Range six east,

The fractional Sections two, three, four, and five, the Sections twenty-eight and twenty-nine, the fractional Sections thirty and thirty-one, and the Sections thirty-two, thirty-three, thirty-four, and thirty-five.

Township twelve south of Range seven east,

The fractional Section two and the fractional northwest quarter and the west half of the southwest quarter of Section four.

Township nine south of Range five east,

The southwest quarter of Section sixteen.

Township eleven south of Range five east,

The Lot four of Section thirty-one.

1092770

List No.2.

Township twelve south of Range five east,

The south half of the southwest quarter of Section three, the southwest quarter of the northeast quarter, the south half of the northwest quarter, the northwest quarter of the southeast quarter, and the north half of the southwest quarter of Section five, the southeast quarter of the northeast quarter and the north half of the southeast quarter of Section six, the fractional Section seven, the north half of the north half of Section nine, the northeast quarter and the north half of the northwest quarter of Section ten, the south half of the northwest quarter, the northwest quarter of the southeast quarter, the south half of the southeast quarter, and the north half of the southwest quarter of Section eleven, and the southeast quarter and the south half of the southwest quarter of Section twelve.

Township twelve south of Range six east,

The north half of the southeast quarter and the southwest quarter of of the southeast quarter of Section seven, the southeast quarter and the northeast quarter of the southwest quarter of Section eight, the south half of the southeast quarter, the northwest quarter of the southwest quarter, and the southeast quarter of the southwest quarter of Section nine, the south half of the south half of Section ten, the southwest quarter of the southwest quarter of Section eleven, the southeast quarter and the southeast quarter of the southwest quarter of Section twelve, the north half of the north half of Section thirteen, the north half of the north half of Section fourteen, and the north half of the north half of Section fifteen.

Township nine south of Range seven east,

The fractional Section five.

Township twelve south of Range seven east,

The north half of Section eight, the south half of the north half and the north half of the south half of Section ten, the southwest quarter of the southwest quarter of Section twelve, and the northeast quarter of the northeast quarter of Section fourteen, containing in the aggregate, seventy-six thousand five hundred ninety-six acres and fifty

1092770

hundredths of an acre, as shown by the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe. Reserving unto the United States, its permittee or licensee, the right to enter upon, occupy and use, any part or all of that portion of Lot four of said Section thirty-one in Township eleven south of Range five east, the south half of the southwest quarter of said Section three, the southwest quarter of the northeast quarter, the south half of the northwest quarter, the northeast quarter of the southwest quarter, and the northwest quarter of the southeast quarter of said Section five, the southeast quarter of the northeast quarter of said Section six, the north half of the north half of said Section nine, the north half of the northwest quarter and the northeast quarter of said Section ten, the southwest quarter of the northwest quarter, the north half of the southwest quarter, the north half of the southeast quarter, and the southeast quarter of the southeast quarter of said Section eleven, and the south half of the southwest quarter and the southeast quarter of said Section twelve in Township twelve south of Range five east, the north half of the southeast quarter of said Section seven, the northeast quarter of the southwest quarter and the north half of the southeast quarter of said Section eight, the northwest quarter of the southwest quarter and the southeast quarter of the southwest quarter of said Section nine, the southeast quarter and the southeast quarter of the southwest quarter of said Section twelve, the north half of the north-

west quarter and the northwest quarter of the northeast quarter of said Section thirteen, the north half of the north half of said Section fourteen, and the north half of the north half of said Section fifteen in Township twelve south of Range six east, and the north half of the northwest quarter, the southwest quarter of the northwest quarter, and the northeast quarter of said Section eight, the south half of the northwest quarter, the south half of the northeast quarter, and the north half of the southeast quarter of said Section ten, and the southwest quarter of the southwest quarter of said Section twelve in Township twelve south of Range seven east, lying within 25 feet of the center line of the telephone line right of way of the Southern Sierras Power Company, and that portion of the north half of the southwest quarter and the northwest quarter of the southeast quarter of said Section five, the southeast quarter of the northeast quarter and the north half of the southeast quarter of said Section six, the north half of the north half of said Section nine, the northwest quarter of the northeast quarter, the south half of the northeast quarter, the north half of the northwest quarter of said Section ten, the southwest quarter of the northwest quarter, the north half of the southwest quarter, the northwest quarter of the southeast quarter, and the south half of the southeast quarter of said Section eleven, and the south half of the south half of said Section twelve in Township twelve south of Range five east, the southwest quarter of the southeast quarter of said Section seven, the northeast quarter of the southwest quarter, the northwest quarter of the southeast quarter, and the south half of the southeast quarter of said Section eight, the south half of the southeast quarter and the southeast quarter of the southwest quarter of said Section nine, the south half of the south half of said Section ten, the southwest quarter of the southwest quarter of said Section eleven, the southeast quarter of the southeast quarter of said Section twelve, the north half of the north half of said Section thirteen, the north half of the north half of said Section fourteen, and the north half of the northeast quarter of said Section fifteen in Township twelve south of Range six east, and the south half of the north half of said Section eight, the north half of the

List No.2.

A- 1013-(c)

south half of said Section ten, and the northeast quarter of the northeast quarter of said Section fourteen in Township twelve south of Range seven east, lying within 50 feet of the center line of the transmission line right of way of the Southern Sierras Power Company for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063), and subject to the conditions and limitations of Section 24 of said Act, as amended by the Act of August 26, 1935 (49 Stat. 846), and included in power project No.544.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, I, **Franklin D. Roosevelt,**

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the TWENTY-SEVENTH

(SEAL) day of SEPTEMBER in the year of our Lord one thousand

nine hundred and THIRTY-SEVEN and of the Independence of the

United States the one hundred and SIXTY-SECOND.

By the President: Franklin D. Roosevelt

By Joanne Kavanagh, Secretary.

Evelyn S. Adams

Recorder of the General Land Office.

RECORD OF PATENTS: Patent Number 1092770

6—2186

GOVERNMENT PRINTING OFFICE

List No. 1.

Patent No. 1084149

STATE PARK SELECTION

Act of March 3, 1933
(47 Stat. 1487).

Los Angeles Land District.

California.

List No. 1.

4—1043-R

The United States of America,

To all to whom these presents shall come, Greeting:

WHERREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range four east,

The Lots one, two, three, and four, the south half of the northeast quarter, the southeast quarter, the southeast quarter of the northwest quarter, the south half of the southwest quarter, and the northeast quarter of the southwest quarter of Section two, the Sections four and six, the Lots one, two, three, and four of Section seven, the Sections eight, ten, twelve, fourteen, and sixteen, the west half and the south half of the southeast quarter of Section seventeen, the Section eighteen, the north half of the northeast quarter, the southeast quarter of the northeast quarter, the southeast quarter, the northeast quarter of the northwest quarter, the east half of the southwest quarter, and the Lots one and three of Section nineteen, the Sections twenty, twenty-one, twenty-two, twenty-three, twenty-four, and twenty-six, the east half, the north half of the northwest quarter, the southeast quarter of the northwest quarter, the east half of the southwest quarter, the east half of the northwest quarter of the southwest quarter, and the northeast quarter of the southwest quarter of the southwest quarter of Section twenty-seven, the northeast quarter, the south half of the northwest quarter, the northeast quarter of the northwest quarter, the south half, and the south half of the

RECORD OF PATENTS: Patent Number 1084149

northwest quarter of the northwest quarter of Section thirty-four, and the Section thirty-five.

Township nine south of Range five east,

The Sections twenty-four, twenty-six, and twenty-eight, the southeast quarter of the northeast quarter and the west half of the southeast quarter of Section twenty-nine, and the Sections thirty, thirty-two, thirty-four, and thirty-six.

Township ten south of Range five east,

The Sections two, four, eight, ten, twelve, fourteen, twenty, and twenty-two.

Township eleven south of Range five east,

The Sections two, three, and four, the Lots one, two, three, and four, the south half of the north half, the southeast quarter, and the north half of the southwest quarter of Section five, the northeast quarter, the southeast quarter, and the southeast quarter of the southwest quarter of Section eight, the Section nine, the north half, the southeast quarter, the north half of the southwest quarter, and the southeast quarter of the southwest quarter of Section ten, the west half and the southeast quarter of Section eleven, the Section twelve, the west half of Section thirteen, the Section fourteen, the north half of Section fifteen, the northeast quarter, the southeast quarter of the northwest quarter, the northeast quarter of the southwest quarter, and the north half of the southeast quarter of Section seventeen, the west half of the northeast quarter, the east half of the west half, and the southeast quarter of Section twenty-one, the south half of Section twenty-two, the Section twenty-three, the west half and the southeast quarter of Section twenty-four, the Sections twenty-five, twenty-six, and twenty-seven, the east half and the east half of the west half of Section twenty-eight, the west half of the west half of Section twenty-nine, the east half, the southeast quarter of the northwest quarter, and the northeast quarter of the southwest quarter of Section thirty, the south half of the northeast quarter,

the southeast quarter of the northwest quarter, the southeast quarter, the east half of the southwest quarter, and the Lot three of Section thirty-one, the east half, the southwest quarter, the south half of the northwest quarter, and the northeast quarter of the northwest quarter of Section thirty-two, and the Sections thirty-three, thirty-four, and thirty-five.

Township twelve south of Range six east,

The Sections nineteen, twenty, twenty-one, twenty-two, twenty-three, twenty-four, twenty-five, twenty-six, and twenty-seven.

Township nine south of Range seven east,

The Sections six, seven, eight, nine, and ten, the north half and the southwest quarter of Section eleven, the Section twelve, the west half and the southeast quarter of Section thirteen, the Sections fourteen, fifteen, sixteen, seventeen, eighteen, twenty, twenty-two, twenty-four, and twenty-six, the east half and the northwest quarter of Section twenty-eight, the northeast quarter of Section thirty, the south half of Section thirty-two, and the Section thirty-four.

Township ten south of Range seven east,

The Sections twenty-two, twenty-four, twenty-six, twenty-eight, thirty-two, and thirty-four.

Township twelve south of Range seven east,

The Section six, the south half of Section eight, the north half of the north half and the south half of the south half of Section ten, the north half, the north half of the southwest quarter, the southeast quarter of the southwest quarter, and the south half of the southeast quarter of Section twelve, the northwest quarter, the northwest quarter of the northeast quarter, the south half of the northeast quarter, and the south half of Section fourteen, the west half and the southeast quarter of Section seventeen, the Sections eighteen, nineteen, twenty, twenty-one, and twenty-two, the Lots seven, eight, nine, and ten of Section twenty-three, the Section twenty-four, the south half of Section twenty-five, and the Sections twenty-six, twenty-seven,

twenty-eight, twenty-nine, thirty, thirty-one, thirty-two, thirty-three, thirty-four, and thirty-five.

Township nine south of Range eight east,

The Sections two, four, six, eight, ten, twelve, fourteen, sixteen, and eighteen.

Township ten south of Range eight east,

The Sections two, four, six, eight, ten, twelve, and fourteen, the northwest quarter of the northeast quarter, the south half of the northeast quarter, the southwest quarter of the southwest quarter, the southeast quarter, and the northwest quarter of Section sixteen, and the Sections eighteen, twenty, twenty-two, twenty-four, twenty-six, twenty-eight, thirty, thirty-two, thirty-four, and thirty-six, containing in the aggregate, eighty-nine thousand two hundred three acres and ten hundredths of an acre, as shown by the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park pur-

List No.1.

4—1044-R

poses, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, I, Franklin D. Roosevelt,

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the TWELFTH

(SEAL) day of JUNE in the year of our Lord one thousand nine hundred and THIRTY-SIX and of the Independence of the United States the one hundred and SIXTIETH.

By the President: Franklin D. Roosevelt,

By Louise Polk Wilson, Secretary.

Evelyn S. Adams,

Recorder of the General Land Office.

RECORD OF PATENTS: Patent Number 1084149

6—2186 GOVERNMENT PRINTING OFFICE

List No. 1

Patent No. 1116901

STATE PARK SELECTION

Act of June 29, 1936
(49 Stat., 2026).

Los Angeles Land District.

California.

13-1

Los Angeles 053350, 053351,
053352, 053353, 053356, 053357,
053358, 053359, 053360, 053361,
053362, 053363, 053364, 053365,
053366.
List No. 1.

4—1043-R

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the provisions of the Act of Congress of June 29, 1936 (49 Stat., 2026), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township thirteen south of Range four east,

The Section twenty-five; the Lots three and four, the east half of the southeast quarter and the northeast quarter of Section twenty-six; the Lots one, two and three of Section thirty-five and the north half, the southeast quarter, the east half of the southwest quarter and the northwest quarter of the southwest quarter of Section thirty-six.

Township thirteen south of Range five east,

The Lots one, two, three and four, the southeast quarter of the northwest quarter and the southeast quarter of Section one; the Lots two, three and four, the southwest quarter of the northeast quarter, the south half of the northwest quarter, the southeast quarter of the southeast quarter, the west half of the southeast quarter and the southwest quarter of Section three; the Lots one, two, three and four, the south half of the north half, the southeast quarter, the east half of the southwest quarter and the southwest quarter of the southwest quarter of Section four; the Lots one, two, three and four, the northwest quarter of the southwest quarter and the south half of the south

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ORD OF PATENTS: Patent Number 1116961

—2188

GOVERNMENT PRINTING OFFICE

half of Section five; the Lots five and six, the southeast quarter of the southeast quarter, the west half of the southeast quarter and the east half of the southwest quarter of Section six; the Sections seven, eight, nine and ten; the southwest quarter of the northwest quarter, the northwest quarter of the southwest quarter, the south half of the southwest quarter and the southeast quarter of Section eleven; the northeast quarter and the south half of Section twelve; the Sections thirteen, fourteen, fifteen and seventeen; the northeast quarter of the northwest quarter and the east half of Section eighteen; the Lots two, three and four, the east half of the west half and the east half of Section nineteen; the west half, the northeast quarter, the north half of the southeast quarter and the southwest quarter of the southeast quarter of Section twenty; the north half, the southeast quarter, the east half of the southwest quarter and the northwest quarter of the southwest quarter of Section twenty-one; the Sections twenty-two, twenty-three, twenty-four, twenty-five and twenty-six; the east half and the northwest quarter of Section twenty-seven; the northeast quarter and the northwest quarter of the southeast quarter of Section twenty-eight; the north half of the northwest quarter, the southwest quarter of the northwest quarter, the southwest quarter, the west half of the southeast quarter and the southeast quarter of the southeast quarter of Section twenty-nine; the Section thirty; the Lots one, two, three and four, the east half of the west half, the northeast quarter and the southeast quarter of Section thirty-one; the Section thirty-two; the south half of the southwest quarter of Section thirty-three; the northeast quarter of Section thirty-four and the north half, the northeast quarter of the southwest quarter and the southeast quarter of Section thirty-five;

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1116901

Township thirteen south of Range six east,

The Lots one and two and the east half of the southwest quarter of Section eighteen; the east half of the northeast quarter, the west half of the northwest quarter and the south half of Section twenty; the Section twenty-one; the west half of Section twenty-two; the west half of Section twenty-five; the Sections twenty-six, twenty-seven, twenty-eight and twenty-nine; the Lots three and four, the east half and the east half of the west half of Section thirty; the Lots one, two, three and four, the east half of the west half and the east half of Section thirty-one and the north half, the northwest quarter of the southwest quarter and the south half of the south half of Section thirty-two;

Township fourteen south of Range six east,

The Section twenty-four;

Township fourteen south of Range seven east,

The Sections six and seven; the south half of Section eight; the south half of Section thirteen; the south half of Section fourteen; the south half of Section fifteen; the Section seventeen; the north half, the southeast quarter and the Lot four of Section eighteen; the Sections nineteen, twenty, twenty-one, twenty-two, twenty-three and twenty-four; the east half, the northwest quarter, the north half of the southwest quarter and the southwest quarter of the southwest quarter of Section twenty-five; and the Sections twenty-six, twenty-seven, twenty-eight, twenty-nine, thirty and thirty-five;

Township fourteen south of Range eight east,

The Section thirty-one;

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Los Angeles 053350 et el.

List No. 1.

Township fifteen south of Range six east,

The southeast quarter of Section thirteen; the southeast quarter of Section twenty-three; the east half, the southwest quarter, the southwest quarter of the northwest quarter, the southeast quarter of the northwest quarter and the northeast quarter of the northwest quarter of Section twenty-four; the Section twenty-five and the east half of Section twenty-six;

Township fifteen south of Range seven east,

The Section one; the south half, the south half of the north half and the Lot one of Section two; the Sections eleven and twelve; the north half, the southeast quarter and the northeast quarter of the southwest quarter of Section thirteen; the north half and the west half of the southwest quarter of Section fourteen; the Sections fifteen, nineteen, twenty, twenty-one and twenty-two; the west half, the west half of the northeast quarter and the southeast quarter of Section twenty-three; the south half, the east half of the northwest quarter and the northeast quarter of Section twenty-four and the Sections twenty-six, twenty-seven, twenty-eight, twenty-nine and thirty;

Township fifteen south of Range eight east,

The south half of Section three; the Sections four, five, six, seven, eight, nine and ten; the north half of the north half, the southeast quarter of the northeast quarter, the southwest quarter of the northwest quarter, the northwest quarter of the southwest quarter and the south half of the southwest quarter of Section twelve; the south half of the northeast quarter, the southeast quarter and the west half of Section thirteen and the Sections eighteen, twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, thirty-one,

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1116901

thirty-two, thirty-three, thirty-four and thirty-five;

Township fifteen south of Range nine east,

The east half and the Lots five, six, seven, eight, nine, ten, eleven, thirteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, thirty, thirty-one and thirty-two of Section seven and the east half and the Lots five, six, seven, eight, nine, ten, eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, twenty-one, twenty-two, twenty-three, twenty-four, twenty-five, twenty-six, twenty-seven, twenty-eight, twenty-nine, thirty and thirty-one of Section eighteen;

Township sixteen south of Range seven east,

The Sections one, twelve, thirteen and twenty-four;

Township sixteen south of Range eight east,

The Sections one, two, three, four, five, six, seven and eight; containing in the aggregate, seventy-four thousand two hundred eighty-eight acres and nineteen hundredths of an acre, according to the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITES STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained

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1116961

in said lands, together with the right to prospect for, mine and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes, the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, I, Franklin D. Roosevelt, President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the TWENTIETH day of MAY in the year of our Lord one thousand nine hundred and FORTY-THREE and of the Independence of the United States the one hundred and SIXTY-SEVENTH

(SEAL)

By the President: Franklin D. Roosevelt

By Ruth W. Talley, Secretary.

R S Clintosh

Recorder of the General Land Office.

RECORD OF PATENTS: Patent Number 1116901

Chief, Patents Division

205655 U. S. GOVERNMENT PRINTING OFFICE

List No.4. 4—1043-R

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range five east,

The north half of the northeast quarter, the southeast quarter of the northeast quarter, the northwest quarter of the southwest quarter, and the south half of the south half of Section twenty-two.

Township nine south of Range seven east,

The northeast quarter of the southwest quarter of Section twenty-eight and the southeast quarter of Section thirty.

Township ten south of Range five east,

The south half of the northeast quarter, the northeast quarter of the southwest quarter, and the southeast quarter of Section thirty-six.

Township ten south of Range six east,

The Lots three and four, the south half of the northwest quarter, and the south half of Section four, the north half of Section eight, the southeast quarter of Section nine, the west half of Section ten, the northeast quarter of Section twenty-two, the north half of Section twenty-three, the northwest quarter, the north half of the southwest quarter, and the southwest quarter of the southwest quarter of Section twenty-five, the northwest quarter of Section thirty-two, and the west half of the northwest quarter of Section thirty-four.

Township ten south of Range seven east,

The south half of Section four, the northeast quarter of Section

1100418

ORD OF PATENTS: Patent Number

eight, the southeast quarter of Section eighteen, and the east half of Section thirty.

Township eleven south of Range six east,

The west half of the northeast quarter of Section eight, the southeast quarter of the southeast quarter of Section eleven, the northwest quarter and the north half of the southwest quarter of Section thirteen, the south half of the northeast quarter of Section fourteen, the Lots one and two of the southwest quarter and the southeast quarter of Section nineteen, the southwest quarter of Section twenty-six, and the Section twenty-eight.

Township eleven south of Range seven east,

The southeast quarter of Section seven, the northeast quarter of Section eight, the southeast quarter of Section ten, the Sections twelve and fourteen, the Lots one and two of the northwest quarter, the northeast quarter, and the south half of the southeast quarter of Section eighteen, the northeast quarter of the southwest quarter, the north half of the southeast quarter, and the southeast quarter of the southeast quarter of Section twenty, the Sections twenty-two, twenty-four, twenty-six, and twenty-eight, the Lot two of the southwest quarter and the east half of the southeast quarter of Section thirty, and the Sections thirty-two and thirty-four.

Township eleven south of Range eight east,

The Section two, the north half, the southwest quarter, and the southeast quarter of Section eight, the Sections ten, twelve, eighteen, twenty, twenty-two, and twenty-four, the west half of Section twenty-six, the east half and the east half of the west half of Section twenty-eight, the Sections thirty and thirty-two, and the north half and the north half of the south half of Section thirty-four.

Township twelve south of Range seven east,

The Lots one and two of the northeast quarter of Section four and the north half of the southeast quarter of Section twelve.

Township twelve south of Range five east,

The Lots one, two, three, and four, the southeast quarter of the

northwest quarter, the south half of the northeast quarter, the northeast quarter of the southwest quarter, the north half of the southeast quarter, and the south half of the south half of Section four, the southeast quarter of the northeast quarter of Section five, and the southwest quarter of the northeast quarter and the west half of the southeast quarter of Section nine.

Township twelve south of Range eight east,

The Lot two of the northwest quarter, the Lot two of the northeast quarter, the south half of the north half, and the southeast quarter of Section two, the Lots one and two of the northwest quarter and the east half of the southwest quarter of Section four, the Lots one and two of the northwest quarter of Section six, the west half of Section twelve, the Section fourteen, the Lots one and two and the east half of the northwest quarter of Section eighteen, the south half of the northwest quarter, the north half of the northwest quarter, and the south half of Section twenty, the north half of Section twenty-four, the west half and the southeast quarter of Section twenty-eight, the Section thirty, the Lots three and four and the east half of the southwest quarter of Section thirty-one, and the Sections thirty-two and thirty-four, containing in the aggregate, twenty-six thousand thirteen acres and fifty-eight hundredths of an acre, as shown by the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times

List No.4.

4—1944-C

and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States. Reserving unto the United States, its permittee or licensee, the right to enter upon, occupy and use, any part or all of that portion of the south half of the south half of said Section four in Township twelve south of Range five east and the Lot two of the northwest quarter of said Section eighteen in Township twelve south of Range eight east of the San Bernardino Meridian, lying within 25 feet of the center line of the telephone line right of way of the Southern Sierras Power Company, and as to any part or all of that portion of the southwest quarter of the southwest quarter and the south half of the southeast quarter of said Section four in Township twelve south of Range five east and the Lot two of the northwest quarter of said Section eighteen and the north half of the northwest quarter of said Section twenty in Township twelve south of Range eight east of the San Bernardino Meridian, lying within 50 feet of the center line of the transmission line right of way of the Southern Sierras Power Company for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063), and subject to the conditions and limitations of Section 24 of said Act, as amended by the Act of August 26, 1935 (49 Stat. 846).

IN TESTIMONY WHEREOF, I, **Franklin D. Roosevelt,**

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the SEVENTH

(SEAL) day of DECEMBER in the year of our Lord one thousand nine hundred and THIRTY-EIGHT and of the Independence of the United States the one hundred and SIXTY-THIRD.

By the President: Franklin D. Roosevelt

By Jeanne Kavanagh, Secretary.

R. D. Clinton

Acting *Recorder of the General Land Office.*

RECORD OF PATENTS: Patent Number 1100418

5—2186 GOVERNMENT PRINTING OFFICE

Los Angeles 070299 4—1043-R

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There is now deposited in the Bureau of Land Management of the United States, an Order of the Secretary of the Interior, directing that, in exchange for certain other lands situated in the Anza Desert State Park, a patent issue to the State of California, under the provisions of the Act of March 3, 1933 (47 Stat. 1487), entitled "An Act to provide for the selection of certain lands in the State of California for the use of the California State Park System," as amended by the Act of June 5, 1936 (49 Stat. 1482), for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range six east.

The Sections one, three, eleven, thirteen fifteen, twenty-one, twenty-three and twenty-five; the east half of Section five; and the east half of Section nine;

Township nine south of Range seven east.

The Sections nineteen, twenty-one, twenty-three, twenty-five, twenty-seven, twenty-nine and thirty-five;

Township nine south of Range eight east.

The Sections one, three, five, seven, nine, eleven, thirteen, fifteen, seventeen, nineteen, twenty-one, twenty-three, twenty-five, twenty-seven, twenty-nine, thirty-one, thirty-three and thirty-five;

Township ten south of Range seven east.

The Sections one, eleven and thirteen;

RECORD OF PATENTS: Patent Number 1123664

Los Angeles 070299

Township ten south of Range eight east.

The Sections one, three, five, seven, nine, eleven, thirteen, fifteen, seventeen, nineteen, twenty-one, twenty-three, twenty-seven, twenty-nine, thirty-three and thirty-five; and the north half and the southeast quarter of Section thirty-one;

Township eleven south of Range eight east.

The Section one, containing in the aggregate, thirty-four thousand five hundred ninety-three acres and eighty hundredths of an acre, according to the Official Plats of the Surveys of the said Lands, on file in the Bureau of Land Management;

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California, the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State Park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State Park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby

Los Angeles 070299

4—1044-B

granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

Excepting and reserving, also, to the United States, pursuant to the provisions of the Act of August 1, 1946 (60 Stat. 755), all uranium, thorium or any other material which is or may be determined to be peculiarly essential to the production of fissionable materials, whether or not of commercial value, together with the right of the United States through its authorized agents or representatives at any time to enter upon the land and prospect for, mine, and remove the same.

IN TESTIMONY WHEREOF, I, Harry S. Truman, President of the United States of America, have caused these letters to be made Patent, and the Seal of the ~~General Land Office~~ Bureau of Land Management to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the TWENTY-EIGHTH day of ~~MAY~~ in the year of our Lord one thousand nine hundred and FORTY-EIGHT and of the Independence of the United States the one hundred and SEVENTY-SECOND

(SEAL)

By the President: Harry S. Truman

By Fred W. Kelley, Secretary.

Jas. [illegible]

Chief, Patents Section,
Bureau of Land Management.

RECORD OF PATENTS: Patent Number 1123664

[illegible] U. S. GOVERNMENT PRINTING OFFICE

4—1043

Los Angeles 0106793

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, under the provisions of Section 8 of the Act of June 28, 1934 (48 Stat. 1269), entitled "An Act to stop injury to the public grazing lands by preventing overgrazing and soil deterioration, to provide for their orderly use, improvement, and development, to stabilize the livestock industry dependent upon the public range, and for other purposes," as amended by Section 3 of the Act of June 26, 1936 (49 Stat. 1976), the State of California, in exchange for certain other lands situated in said State, has selected the following described tracts of land:

San Bernardino Meridian, California.

T. 9 S., R. 11 E.,
Sec. 12, All;
T. 9 S., R. 12 E.,
Sec. 28, W½NW¼, NE¼NW¼;
T. 9 S., R. 13 E.,
Sec. 30, N½NE¼, Lots 3, 4, 5 and 6, Lot 1 of NW¼;
T. 10 S., R. 9 E.,
Sec. 4, All;
Sec. 6, All;
Sec. 8, All;
Sec. 10, All;
Sec. 12, All;
Sec. 14, All;
Sec. 18, All;
Sec. 20, All;
Sec. 22, All;
Sec. 24, NW¼, W½SW¼;
Sec. 26, All;
Sec. 28, All;
Sec. 30, All;
Sec. 32, All;
Sec. 34, All;
T. 11 S., R. 9 E.,
Sec. 8, All;
Sec. 18, All;
Sec. 20, All;
Sec. 28, All;
Sec. 30, All;
Sec. 32, All;
Sec. 34, All.

The areas described aggregate 14,818.81 acres, according to the Official Plats of the Surveys of the said Lands, on file in the Bureau of Land Management:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, and in conformity with the said Acts of Congress, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT unto the said State of California, in fee simple, the tracts of Land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said State of California, and to its assigns forever; subject to any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts; and there is reserved from the lands hereby granted, a right-of-way thereon for ditches or canals constructed by the authority of the United States.

Patent Number 1225249

U. S. GOVERNMENT PRINTING OFFICE 16—57247-2

Los Angeles 0106793

Lot 3, N½ of Lot 1 of NW¼ and SE¼NW¼NE¼ sec. 30, T. 9 S., R. 13 E., are subject to such rights for telephone and telegraph line purposes as the Southern California Telephone Company may have under the Act of March 4, 1911 (36 Stat. 1253), as amended (43 U.S.C. sec. 961).

Lots 1, 3 and 4 (NW¼) sec. 30, T. 9 S., R. 13 E., are subject to such rights for a cable line right-of-way as the Postal Telegraph Cable Company may have under the Act of March 4, 1911 (36 Stat. 1253), as amended (43 U.S.C. sec. 961).

As to Lots 1, 3 and 4 (NW¼) sec. 30, T. 9 S., R. 13 E., and W½, SW¼SE¼ sec. 12, T. 10 S., R. 9 E., there is also reserved a right-of-way for a Federal Aid Highway under the Act of November 9, 1921 (42 Stat. 212).

Lots 1 and 3 (NW¼) sec. 30, T. 9 S., R. 13 E., and S½N½, NW¼NW¼, NE¼SE¼ sec. 12, T. 9 S., R. 11 E., are subject to such rights for gas pipeline purposes as the Southern Pacific Pipelines Inc., may have under Section 28 of the Act of February 25, 1920 (41 Stat. 437), as amended by the Act of August 21, 1935 (49 Stat. 674).

Reserving unto the United States, its permittee or licensee, the right to enter upon, occupy and use, any part or all of that portion of the N½NE¼ and N½ of Lot 1 of NW¼ sec. 30, T. 9 S., R. 13 E., lying within 50 feet of the center line of the transmission line right-of-way of the Southern Sierras Power Company, Power Site Reserve No. 530, for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063), and subject to the conditions and limitations of Section 24 of said Act, as amended by the Act of August 26, 1935 (49 Stat. 846).

Reserving unto the United States, its permittee or licensee, the right to enter upon, occupy and use, any part or all of that portion of the N½NE¼ and N½ of Lot 1 of NW¼ sec. 30, T. 9 S., R. 13 E., lying within 25 feet of the center line of the transmission line right-of-way of the Nevada-California Electric Corporation, Federal Power Project No. 1397, for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063), and subject to the conditions and limitations of Section 24 of said Act, as amended by the Act of August 26, 1935 (49 Stat. 846).

IN TESTIMONY WHEREOF, the undersigned officer of the Bureau of Land Management, in accordance with section 1 of the act of June 17, 1948 (62 Stat., 476, 43 U. S. C. sec. 15), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

(SEAL)

GIVEN under my hand, in the District of Columbia, the **FIFTH** day of **FEBRUARY** in the year of our Lord one thousand nine hundred and **SIXTY-TWO** and of the Independence of the United States the one hundred and **EIGHTY-SIXTH.**

For the Director, Bureau of Land Management.

By Ruth W. Talley
Chief, Patents Section.

RECORD OF PATENTS: Patent Number 1225249

U. S. GOVERNMENT PRINTING OFFICE 16—28206-2

List No. 1.

Patent No. 1084149

STATE PARK SELECTION

Act of March 3, 1933
(47 Stat. 1487).

Los Angeles Land District.

California.

List No. 1.

4—1043-R

The United States of America,

To all to whom these presents shall come, Greeting:

WHERREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range four east,

The Lots one, two, three, and four, the south half of the northeast quarter, the southeast quarter, the southeast quarter of the northwest quarter, the south half of the southwest quarter, and the northeast quarter of the southwest quarter of Section two, the Sections four and six, the Lots one, two, three, and four of Section seven, the Sections eight, ten, twelve, fourteen, and sixteen, the west half and the south half of the southeast quarter of Section seventeen, the Section eighteen, the north half of the northeast quarter, the southeast quarter of the northeast quarter, the southeast quarter, the northeast quarter of the northwest quarter, the east half of the southwest quarter, and the Lots one and three of Section nineteen, the Sections twenty, twenty-one, twenty-two, twenty-three, twenty-four, and twenty-six, the east half, the north half of the northwest quarter, the southeast quarter of the northwest quarter, the east half of the southwest quarter, the east half of the northwest quarter of the southwest quarter, and the northeast quarter of the southwest quarter of the southwest quarter of Section twenty-seven, the northeast quarter, the south half of the northwest quarter, the northeast quarter of the northwest quarter, the south half, and the south half of the

RECORD OF PATENTS: Patent Number 1084149

northwest quarter of the northwest quarter of Section thirty-four, and the Section thirty-five.

Township nine south of Range five east,

The Sections twenty-four, twenty-six, and twenty-eight, the southeast quarter of the northeast quarter and the west half of the southeast quarter of Section twenty-nine, and the Sections thirty, thirty-two, thirty-four, and thirty-six.

Township ten south of Range five east,

The Sections two, four, eight, ten, twelve, fourteen, twenty, and twenty-two.

Township eleven south of Range five east,

The Sections two, three, and four, the Lots one, two, three, and four, the south half of the north half, the southeast quarter, and the north half of the southwest quarter of Section five, the northeast quarter, the southeast quarter, and the southeast quarter of the southwest quarter of Section eight, the Section nine, the north half, the southeast quarter, the north half of the southwest quarter, and the southeast quarter of the southwest quarter of Section ten, the west half and the southeast quarter of Section eleven, the Section twelve, the west half of Section thirteen, the Section fourteen, the north half of Section fifteen, the northeast quarter, the southeast quarter of the northwest quarter, the northeast quarter of the southwest quarter, and the north half of the southeast quarter of Section seventeen, the west half of the northeast quarter, the east half of the west half, and the southeast quarter of Section twenty-one, the south half of Section twenty-two, the Section twenty-three, the west half and the southeast quarter of Section twenty-four, the Sections twenty-five, twenty-six, and twenty-seven, the east half and the east half of the west half of Section twenty-eight, the west half of the west half of Section twenty-nine, the east half, the southeast quarter of the northwest quarter, and the northeast quarter of the southwest quarter of Section thirty, the south half of the northeast quarter,

the southeast quarter of the northwest quarter, the southeast quarter, the east half of the southwest quarter, and the Lot three of Section thirty-one, the east half, the southwest quarter, the south half of the northwest quarter, and the northeast quarter of the northwest quarter of Section thirty-two, and the Sections thirty-three, thirty-four, and thirty-five.

Township twelve south of Range six east,

The Sections nineteen, twenty, twenty-one, twenty-two, twenty-three, twenty-four, twenty-five, twenty-six, and twenty-seven.

Township nine south of Range seven east,

The Sections six, seven, eight, nine, and ten, the north half and the southwest quarter of Section eleven, the Section twelve, the west half and the southeast quarter of Section thirteen, the Sections fourteen, fifteen, sixteen, seventeen, eighteen, twenty, twenty-two, twenty-four, and twenty-six, the east half and the northwest quarter of Section twenty-eight, the northeast quarter of Section thirty, the south half of Section thirty-two, and the Section thirty-four.

Township ten south of Range seven east,

The Sections twenty-two, twenty-four, twenty-six, twenty-eight, thirty-two, and thirty-four.

Township twelve south of Range seven east,

The Section six, the south half of Section eight, the north half of the north half and the south half of the south half of Section ten, the north half, the north half of the southwest quarter, the southeast quarter of the southwest quarter, and the south half of the southeast quarter of Section twelve, the northwest quarter, the northwest quarter of the northeast quarter, the south half of the northeast quarter, and the south half of Section fourteen, the west half and the southeast quarter of Section seventeen, the Sections eighteen, nineteen, twenty, twenty-one, and twenty-two, the Lots seven, eight, nine, and ten of Section twenty-three, the Section twenty-four, the south half of Section twenty-five, and the Sections twenty-six, twenty-seven,

twenty-eight, twenty-nine, thirty, thirty-one, thirty-two, thirty-three, thirty-four, and thirty-five.

Township nine south of Range eight east,

The Sections two, four, six, eight, ten, twelve, fourteen, sixteen, and eighteen.

Township ten south of Range eight east,

The Sections two, four, six, eight, ten, twelve, and fourteen, the northwest quarter of the northeast quarter, the south half of the northeast quarter, the southwest quarter of the southwest quarter, the southeast quarter, and the northwest quarter of Section sixteen, and the Sections eighteen, twenty, twenty-two, twenty-four, twenty-six, twenty-eight, thirty, thirty-two, thirty-four, and thirty-six, containing in the aggregate, eighty-nine thousand two hundred three acres and ten hundredths of an acre, as shown by the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park pur-

List No.1.

4—1044-R

poses, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, I, Franklin D. Roosevelt,

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the TWELFTH

(SEAL) day of JUNE in the year of our Lord one thousand nine hundred and THIRTY-SIX and of the Independence of the United States the one hundred and SIXTIETH.

By the President: Franklin D. Roosevelt,

By Louise Polk Wilson, Secretary.

Evelyn S. Adams,

Recorder of the General Land Office.

RECORD OF PATENTS: Patent Number 1084149

6—2186 GOVERNMENT PRINTING OFFICE

List No. 2.

Patent No. 1092770

STATE PARK SELECTION

Act of March 3, 1933
(47 Stat. 1487).

Los Angeles Land District.

California.

1092770

List No.2. 4—1043-B

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range four east,

The Section thirty-six.

Township nine south of Range five east,

The fractional Sections two, four, and six, the Sections eight, ten, twelve, and fourteen, the fractional Section eighteen, and the Section twenty.

Township nine south of Range six east,

The fractional Sections two, four, and six, the Sections eight, ten, twelve, fourteen, and sixteen, the fractional Section eighteen, the Sections twenty and twenty-two, the southwest quarter of Section twenty-four, the Sections twenty-six and twenty-eight, the Lot one, the north half of the Lot two, the Lots three and four, the east half of the northwest quarter, and the east half of Section thirty, and the Sections thirty-two and thirty-four.

Township nine south of Range seven east,

The fractional north half of Section one and the fractional Sections two, three, and four.

Township nine south of Range eight east,

The Sections twenty, twenty-two, twenty-four, twenty-six, and twenty-eight, the fractional Section thirty, and the Sections thirty-two, thirty-four, and thirty-six.

CORD OF PATENTS: Patent Number 1092770

List No.2.

Township ten south of Range five east,

The Sections twenty-four, twenty-six, twenty-eight, twenty-nine, thirty-two, thirty-three, and thirty-four, the west half of the northwest quarter and the southwest quarter of the southwest quarter of Section thirty-six.

Township ten south of Range six east,

The fractional Section two, the fractional northeast quarter of Section four, the Lot seven of Section six, the east half of Section ten, the Section twelve, the northwest quarter of Section fourteen, the south half of the Lot two of the northwest quarter, the Lot two of the southwest quarter, the northwest quarter of the northeast quarter, the south half of the northeast quarter, and the southeast quarter of Section eighteen, and the south half of the Lot two of the northwest quarter, the Lot two of the southwest quarter, and the southeast quarter of the northwest quarter of Section thirty.

Township ten south of Range seven east,

The fractional Section two, the fractional north half of Section four, the fractional Section six, the southeast quarter of Section eight, the Sections ten, twelve, and fourteen, the fractional west half of Section eighteen, and the Section twenty.

Township twelve south of Range six east,

The fractional Section six, the northeast quarter and the fractional northwest quarter of Section seven, the north half of Section eight, the north half, the north half of the southeast quarter, and the northeast quarter of the southwest quarter of Section nine, the north half and the north half of the south half of Section ten, the north half, the southeast quarter, the north half of the southwest quarter, and the southeast quarter of the southwest quarter of Section eleven, the north half, the north half of the southwest quarter, and the southwest quarter of the southwest quarter of Section twelve, the south half of the north half and the south half of Section thirteen, the south half of the north half and the south half of Section fourteen, the south half of the north half and the south half of Section fifteen, the Section seventeen, and the fractional Section eighteen.

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List No.2.

Township twelve south of Range five east,

The northeast quarter, the north half of the northwest quarter, the northeast quarter of the southeast quarter, and the south half of the southwest quarter of Section eleven, the north half and the north half of the southwest quarter of Section twelve, the east half of the northeast quarter, the southwest quarter of the northeast quarter, and the south half of Section thirteen, the north half of the northeast quarter, the west half, the northeast quarter of the southeast quarter, and the south half of the southeast quarter of Section fourteen, the Sections fifteen and seventeen, the fractional Section eighteen, the Lots one, two, and three, the east half of the northeast quarter, and the northwest quarter of the northeast quarter of Section nineteen, the fractional Section twenty, the Section twenty-one, the north half, the northwest quarter of the southeast quarter, and the southwest quarter of Section twenty-two, the fractional Sections one and two, the Lots one, two, three, and four, the south half of the north half, the southeast quarter, and the north half of the southwest quarter of Section three, the Lots one, two, three, and four and the south half of the southwest quarter of Section five, the Lots one, four, five, six, and seven, the south half of the southeast quarter, and the east half of the southwest quarter of Section six, the Section eight, the southeast quarter of the northeast quarter, the east half of the southeast quarter, and the southwest quarter of Section nine, and the south half of the northwest quarter and the south half of Section ten.

Township eleven south of Range eight east,

The fractional Sections four and six and the Section fourteen.

Township eleven south of Range six east,

The fractional Section six, the fractional northwest quarter of Section nineteen, the southwest quarter of Section twenty, the east half of the northeast quarter, the southeast quarter of the southeast quarter, and the northwest quarter of the southwest quarter of Section twenty-four, the west half and the southeast quarter of Section twenty-nine, the fractional Sections thirty and thirty-one, the Section thirty-two, the west

half and the southeast quarter of Section thirty-three, and the west half of Section thirty-four.

Township eleven south of Range seven east,

The south half of Section two and the fractional Section four.

Township twelve south of Range five east,

The east half, the northwest quarter, the east half of the southwest quarter, and the southwest quarter of the southwest quarter of Section twenty-three, the Sections twenty-four and twenty-five, the east half, the northwest quarter, the north half of the southwest quarter, and the southeast quarter of the southwest quarter of Section twenty-six, the Lot one, the east half of the northeast quarter, the north half of the northwest quarter, and the northeast quarter of the southeast quarter of Section twenty-seven, the Lots one, two, three, and four, the north half of the northeast quarter, and the north half of the northwest quarter of Section twenty-eight, the fractional Sections twenty-nine, thirty-one, and thirty-two, the Lots two, three, and four, the southeast quarter of the northeast quarter, and the south half of the southeast quarter of Section thirty-three, the southwest quarter of the northwest quarter of Section thirty-four, and the northeast quarter, the east half of the northwest quarter, and the north half of the southeast quarter of Section thirty-five.

Township twelve south of Range six east,

The fractional Sections two, three, four, and five, the Sections twenty-eight and twenty-nine, the fractional Sections thirty and thirty-one, and the Sections thirty-two, thirty-three, thirty-four, and thirty-five.

Township twelve south of Range seven east,

The fractional Section two and the fractional northwest quarter and the west half of the southwest quarter of Section four.

Township nine south of Range five east,

The southwest quarter of Section sixteen.

Township eleven south of Range five east,

The Lot four of Section thirty-one.

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List No.2.

Township twelve south of Range five east,

The south half of the southwest quarter of Section three, the southwest quarter of the northeast quarter, the south half of the northwest quarter, the northwest quarter of the southeast quarter, and the north half of the southwest quarter of Section five, the southeast quarter of the northeast quarter and the north half of the southeast quarter of Section six, the fractional Section seven, the north half of the north half of Section nine, the northeast quarter and the north half of the northwest quarter of Section ten, the south half of the northwest quarter, the northwest quarter of the southeast quarter, the south half of the southeast quarter, and the north half of the southwest quarter of Section eleven, and the southeast quarter and the south half of the southwest quarter of Section twelve.

Township twelve south of Range six east,

The north half of the southeast quarter and the southwest quarter of of the southeast quarter of Section seven, the southeast quarter and the northeast quarter of the southwest quarter of Section eight, the south half of the southeast quarter, the northwest quarter of the southwest quarter, and the southeast quarter of the southwest quarter of Section nine, the south half of the south half of Section ten, the southwest quarter of the southwest quarter of Section eleven, the southeast quarter and the southeast quarter of the southwest quarter of Section twelve, the north half of the north half of Section thirteen, the north half of the north half of Section fourteen, and the north half of the north half of Section fifteen.

Township nine south of Range seven east,

The fractional Section five.

Township twelve south of Range seven east,

The north half of Section eight, the south half of the north half and the north half of the south half of Section ten, the southwest quarter of the southwest quarter of Section twelve, and the northeast quarter of the northeast quarter of Section fourteen, containing in the aggregate, seventy-six thousand five hundred ninety-six acres and fifty

1092770

hundredths of an acre, as shown by the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe. Reserving unto the United States, its permittee or licensee, the right to enter upon, occupy and use, any part or all of that portion of Lot four of said Section thirty-one in Township eleven south of Range five east, the south half of the southwest quarter of said Section three, the southwest quarter of the northeast quarter, the south half of the northwest quarter, the northeast quarter of the southwest quarter, and the northwest quarter of the southeast quarter of said Section five, the southeast quarter of the northeast quarter of said Section six, the north half of the north half of said Section nine, the north half of the northwest quarter and the northeast quarter of said Section ten, the southwest quarter of the northwest quarter, the north half of the southwest quarter, the north half of the southeast quarter, and the southeast quarter of the southeast quarter of said Section eleven, and the south half of the southwest quarter and the southeast quarter of said Section twelve in Township twelve south of Range five east, the north half of the southeast quarter of said Section seven, the northeast quarter of the southwest quarter and the north half of the southeast quarter of said Section eight, the northwest quarter of the southwest quarter and the southeast quarter of the southwest quarter of said Section nine, the southeast quarter and the southeast quarter of the southwest quarter of said Section twelve, the north half of the north-

west quarter and the northwest quarter of the northeast quarter of said Section thirteen, the north half of the north half of said Section fourteen, and the north half of the north half of said Section fifteen in Township twelve south of Range six east, and the north half of the northwest quarter, the southwest quarter of the northwest quarter, and the northeast quarter of said Section eight, the south half of the northwest quarter, the south half of the northeast quarter, and the north half of the southeast quarter of said Section ten, and the southwest quarter of the southwest quarter of said Section twelve in Township twelve south of Range seven east, lying within 25 feet of the center line of the telephone line right of way of the Southern Sierras Power Company, and that portion of the north half of the southwest quarter and the northwest quarter of the southeast quarter of said Section five, the southeast quarter of the northeast quarter and the north half of the southeast quarter of said Section six, the north half of the north half of said Section nine, the northwest quarter of the northeast quarter, the south half of the northeast quarter, the north half of the northwest quarter of said Section ten, the southwest quarter of the northwest quarter, the north half of the southwest quarter, the northwest quarter of the southeast quarter, and the south half of the southeast quarter of said Section eleven, and the south half of the south half of said Section twelve in Township twelve south of Range five east, the southwest quarter of the southeast quarter of said Section seven, the northeast quarter of the southwest quarter, the northwest quarter of the southeast quarter, and the south half of the southeast quarter of said Section eight, the south half of the southeast quarter and the southeast quarter of the southwest quarter of said Section nine, the south half of the south half of said Section ten, the southwest quarter of the southwest quarter of said Section eleven, the southeast quarter of the southeast quarter of said Section twelve, the north half of the north half of said Section thirteen, the north half of the north half of said Section fourteen, and the north half of the northeast quarter of said Section fifteen in Township twelve south of Range six east, and the south half of the north half of said Section eight, the north half of the

List No.2.

A- 1013-(c)

south half of said Section ten, and the northeast quarter of the northeast quarter of said Section fourteen in Township twelve south of Range seven east, lying within 50 feet of the center line of the transmission line right of way of the Southern Sierras Power Company for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063), and subject to the conditions and limitations of Section 24 of said Act, as amended by the Act of August 26, 1935 (49 Stat. 846), and included in power project No.544.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, I, **Franklin D. Roosevelt,**

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the TWENTY-SEVENTH

(SEAL) day of SEPTEMBER in the year of our Lord one thousand

nine hundred and THIRTY-SEVEN and of the Independence of the

United States the one hundred and SIXTY-SECOND.

By the President: Franklin D. Roosevelt

By Joanne Kavanagh, Secretary.

Evelyn S. Adams

Recorder of the General Land Office.

RECORD OF PATENTS: Patent Number 1092770

6—2186

GOVERNMENT PRINTING OFFICE

List No.4. 4—1043-R

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There has been deposited in the General Land Office of the United States an Order of the Secretary of the Interior, directing that a patent issue to the State of California, under the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), entitled, "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the tracts of land described as follows, to wit:

San Bernardino Meridian, California.

Township nine south of Range five east,

The north half of the northeast quarter, the southeast quarter of the northeast quarter, the northwest quarter of the southwest quarter, and the south half of the south half of Section twenty-two.

Township nine south of Range seven east,

The northeast quarter of the southwest quarter of Section twenty-eight and the southeast quarter of Section thirty.

Township ten south of Range five east,

The south half of the northeast quarter, the northeast quarter of the southwest quarter, and the southeast quarter of Section thirty-six.

Township ten south of Range six east,

The Lots three and four, the south half of the northwest quarter, and the south half of Section four, the north half of Section eight, the southeast quarter of Section nine, the west half of Section ten, the northeast quarter of Section twenty-two, the north half of Section twenty-three, the northwest quarter, the north half of the southwest quarter, and the southwest quarter of the southwest quarter of Section twenty-five, the northwest quarter of Section thirty-two, and the west half of the northwest quarter of Section thirty-four.

Township ten south of Range seven east,

The south half of Section four, the northeast quarter of Section

1100418

ORD OF PATENTS: Patent Number

eight, the southeast quarter of Section eighteen, and the east half of Section thirty.

Township eleven south of Range six east,

The west half of the northeast quarter of Section eight, the southeast quarter of the southeast quarter of Section eleven, the northwest quarter and the north half of the southwest quarter of Section thirteen, the south half of the northeast quarter of Section fourteen, the Lots one and two of the southwest quarter and the southeast quarter of Section nineteen, the southwest quarter of Section twenty-six, and the Section twenty-eight.

Township eleven south of Range seven east,

The southeast quarter of Section seven, the northeast quarter of Section eight, the southeast quarter of Section ten, the Sections twelve and fourteen, the Lots one and two of the northwest quarter, the northeast quarter, and the south half of the southeast quarter of Section eighteen, the northeast quarter of the southwest quarter, the north half of the southeast quarter, and the southeast quarter of the southeast quarter of Section twenty, the Sections twenty-two, twenty-four, twenty-six, and twenty-eight, the Lot two of the southwest quarter and the east half of the southeast quarter of Section thirty, and the Sections thirty-two and thirty-four.

Township eleven south of Range eight east,

The Section two, the north half, the southwest quarter, and the southeast quarter of Section eight, the Sections ten, twelve, eighteen, twenty, twenty-two, and twenty-four, the west half of Section twenty-six, the east half and the east half of the west half of Section twenty-eight, the Sections thirty and thirty-two, and the north half and the north half of the south half of Section thirty-four.

Township twelve south of Range seven east,

The Lots one and two of the northeast quarter of Section four and the north half of the southeast quarter of Section twelve.

Township twelve south of Range five east,

The Lots one, two, three, and four, the southeast quarter of the

northwest quarter, the south half of the northeast quarter, the northeast quarter of the southwest quarter, the north half of the southeast quarter, and the south half of the south half of Section four, the southeast quarter of the northeast quarter of Section five, and the southwest quarter of the northeast quarter and the west half of the southeast quarter of Section nine.

Township twelve south of Range eight east,

The Lot two of the northwest quarter, the Lot two of the northeast quarter, the south half of the north half, and the southeast quarter of Section two, the Lots one and two of the northwest quarter and the east half of the southwest quarter of Section four, the Lots one and two of the northwest quarter of Section six, the west half of Section twelve, the Section fourteen, the Lots one and two and the east half of the northwest quarter of Section eighteen, the south half of the northwest quarter, the north half of the northwest quarter, and the south half of Section twenty, the north half of Section twenty-four, the west half and the southeast quarter of Section twenty-eight, the Section thirty, the Lots three and four and the east half of the southwest quarter of Section thirty-one, and the Sections thirty-two and thirty-four, containing in the aggregate, twenty-six thousand thirteen acres and fifty-eight hundredths of an acre, as shown by the Official Plats of the Survey of the said Land, on file in the General Land Office:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California the tracts of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said lands, together with the right to prospect for, mine, and remove the same at such times

List No.4.

4—1944-C

and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express condition that the lands hereby granted shall be used by the State of California for State park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the lands hereby granted, a right of way thereon for ditches or canals constructed by the authority of the United States. Reserving unto the United States, its permittee or licensee, the right to enter upon, occupy and use, any part or all of that portion of the south half of the south half of said Section four in Township twelve south of Range five east and the Lot two of the northwest quarter of said Section eighteen in Township twelve south of Range eight east of the San Bernardino Meridian, lying within 25 feet of the center line of the telephone line right of way of the Southern Sierras Power Company, and as to any part or all of that portion of the southwest quarter of the southwest quarter and the south half of the southeast quarter of said Section four in Township twelve south of Range five east and the Lot two of the northwest quarter of said Section eighteen and the north half of the northwest quarter of said Section twenty in Township twelve south of Range eight east of the San Bernardino Meridian, lying within 50 feet of the center line of the transmission line right of way of the Southern Sierras Power Company for the purposes provided in the Act of June 10, 1920 (41 Stat. 1063), and subject to the conditions and limitations of Section 24 of said Act, as amended by the Act of August 26, 1935 (49 Stat. 846).

IN TESTIMONY WHEREOF, I, **Franklin D. Roosevelt,**

President of the United States of America, have caused these letters to be made Patent, and the Seal of the General Land Office to be hereunto affixed.

GIVEN under my hand, at the City of Washington, the SEVENTH

(SEAL) day of DECEMBER in the year of our Lord one thousand nine hundred and THIRTY-EIGHT and of the Independence of the United States the one hundred and SIXTY-THIRD.

By the President: Franklin D. Roosevelt

By Jeanne Kavanagh, Secretary.

R. D. Clinton

Acting *Recorder of the General Land Office.*

RECORD OF PATENTS: Patent Number 1100418

5—2186 GOVERNMENT PRINTING OFFICE

Form 4-1040
(January 1963)

Los Angeles 053209

The United States of America,

To all to whom these presents shall come, Greeting:

WHEREAS, There is now deposited in the Bureau of Land Management, a Certificate of the Land Office at Riverside, California, directing that a patent issue to the State of California, under the provisions of the Act of Congress of March 3, 1933 (47 Stat. 1487), as amended by the Act of June 5, 1936 (49 Stat. 1482), entitled "An Act To provide for the selection of certain lands in the State of California for the use of the California State Park system", for the following described land:

San Bernardino Meridian, California.
T. 9 S., R. 5 E.,
Sec. 23, SW¼NE¼, NE¼NW¼, S½NW¼.

The area described contains 160.00 acres, according to the Official Plat of the Survey of the said Land, on file in the Bureau of Land Management:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, HAS GIVEN AND GRANTED, and by these presents DOES GIVE AND GRANT, unto the said State of California, the tract of land above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, thereunto belonging, unto the said State of California, forever, for State Park purposes; excepting and reserving, however, to the United States all coal, oil, gas, or other mineral contained in said land, together with the right to prospect for, mine, and remove the same at such times and under such conditions as the Secretary of the Interior may prescribe.

This grant is made subject to valid rights existing on the date of said act and upon the express conditions that the land hereby granted shall be used by the State of California for State Park purposes, and upon the further express provision and condition that upon a finding by the Secretary of the Interior that for a period of more than one year the land has not been used by the State for park purposes the title to the same shall revert to the United States. And there is reserved from the land hereby granted, a right-of-way thereon for ditches or canals constructed by the authority of the United States.

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat., 476), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in **District of Columbia** the **SIXTEENTH** day of **APRIL** in the year of our Lord one thousand nine hundred and **SIXTY-FOUR** and of the Independence of the United States the one hundred and **EIGHTY-EIGHTH**.

[SEAL]

By Elizabeth B. Hucke

Chief, Patents Section

16—21679-4 GPO

Patent Number 1225736

From: Russ Kaldenberg **To:** CCCDA ; **Sent:** Tuesday, October 07, 2008 1:47 PM
Subject: RE: Beauty Mt Grazing allotment
(Cheyenne resident, Russell Kaldenberg, RPA, former State Archaeologist for the BLM in California, and who received the Lifetime Acheviement Award from The California Society of Archaeology (2009)

I was the Project Manager for the South Coast, or Escondido Project, as it was called in 1983-1985. Ralph Cisco was the Forest Supervisor then. Gerry Hillier was the District Manager, Ed Hastey was State Director and Zane Smith was the Regional Forester. I moved from there to Milwaukee, Wisconsin. Records may be in the BLM's Palm Springs Office or at the Cleveland NF in San Diego. I doubt many folks are around who actually worked on this in 1985, that is 23 years ago. I have racked my brain but I come up with nothing on this....perhaps Mr. Doran might find records. The lands were transferred for administration to the FS from BLM for a year or two from 1985-maybe 1987. They were returned to BLM administration in 1986 or 1987 as I recall.
I spent a lot of time in the Beauty Mountains of South Riverside County. I know there were horses there in the 1980s but I do not know if they would have been considered Wild. You might want to look at the South Coast Management Plan put out by the BLM in about 1990, it might help. Also, Gracie Cox, EquestrianTrails, INc, 10723 Riveside Drive, North Holywood, CA, 91602 (213) 769-2988; P. O. Box 300774, Escondido, CA 92030-0774 could have information. Address is also given as 26535 Lake Wohlford

The Cooper Cienaga Truck Trail was in part the original route of the Pacific Coast Trail through Beauty Mountain. During much of the 1980s private property owners locked gates so there was no, or very limited access to the area. Talking with Mr. Ed Hastey recently, he has informed me that most of the lands in the Beauty Mountain area are now public lands being managed by the BLM. That is fantastic. The horses were nearly always east of the Beauty Mountain dirt road which parallalled the original alignment of the PCT (Cooper Cienaga Truck Trail) because there was generally water there, also horses west of that at the old mine; water often ponded there. I cannot believe that it was not historic range since the tribal use of the area certainly lasted until they were placed on reservations.

I cannot think of any connection in FLPMA other than the identification of Areas of Critical Environmental Concern, where the agency, under sufficient public pressure, should set aside areas for resources. I think that Section 103 (a) describes areas of critical environmental concern in such a manner to "protect and prevent irreparable damage to important histoirc, cultural, or scenic valuse, fish and wildlife resources or other natural systems or processes....

The way the grazing allotments works is that they are identified and specified by AUM (Animal Unit Month-how many can the range sustain) and are specified cow/calf; sheep, horses, goats, etc. The administering agency has to agree to changes its use; that can be done by differences in forage, requests of the allottee, climatic condition (drought, soil erosion) etc. Ag Empire is supposed to use their allottment but maybe the BLM has agreed he can rest the forage without loosing his allotment. The administrative record would need to be checked.
If Ag Empire wants to graze horses and not cattle they would have apply for that change with the BLM who should look at forage needs, range condition etc and say yes or no. If he is paying the lease fee then someone would have to make the argument that he is paying fees for the AUMs but is not using the forage so his lease should not be valid. I would ask BLM when the last turn out was; if Ag Empire has paid for the use of the lease; or whether Ag Empire is in jeopardy of forfeiting their lease. Then...is there someone else who wants the lease for a cow/calf operation and has some priority identified in some Plan somewhere.I would do this formally, in a dated letter sent by certified mail so you have a record. I would not chit chat with someone on the phone or send an email with vague references. Get the allotment number, write a letter requesting a Finding of Facts, and see exactly what you know, not just gabbing information, and ask for a response from the BLM within 45 days. That is not unreasonable. If you have a relationship with the locally elected federal official, like a Congressperson, send the letter to them also with a cover letter telling them you are making an inquiry and hope that they can assist. Put in your letter to the BLM the CC to the local elected official. If not, being an understaffed agency, you may not get a response to the letter.

What they do not want to happen is to have the lease cancelled and opened up to a notice in the FR which invites others to put their operation on the lands. The grazing improvements paid for by PLT monies to the county belong to the leasee and if abandoned belong to the BLM (govt). who can then assign them to the new leasee. Some of what happens depends on what kind of grazing lease it is, whether is is older than FLPMA etc.

----- Original Message -----
From: Kathleen Hayden
To: BLM Tom Pogacnik
Sent: Thursday, October 09, 2008 8:18 PM
Subject: I don't understand what you said...say again????

This statement makes no sense at all... Please explain at your earliest convenience...like yesterday maybe???
kat

The decision to not manage for a herd area is NEPA document which is subject to change should new, prevailing data become available. As such through NEPA,

Tom's reply
Kathleen,
The Wild Free-Roaming Horses and Burros Act of 1971, as amended, states in the preamble, "It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found, as an integral part of the natural system of the public lands. (emphasis added)"

43 CFR 4700.0-5 (d) "Herd area means the geographic area identified as having been used by a herd as its habitat in 1971."

43 CFR 4710.2 Inventory and monitoring. "The authorized officer shall maintain a record of the herd areas that exited in 1971, and a current inventory of the numbers of animals and their areas of use. When herd management areas are established, the authorized officer shall also inventory and monitor herd and habitat characteristics."

As these inventories are public record, they are maintained in perpetuity.

The decision to not manage for a herd area is NEPA document which is subject to change should new, prevailing data become available. As such through NEPA,

I hope this helps. Tom

Tom Pogacnik
Acting Deputy State Director, Natural Resources
Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825
(916) 978-4637

----- Original Message -----
From: Alex_Neibergs@ca.blm.gov
To: Kathleen Hayden
Cc: David_Sjaastad@ca.blm.gov
Sent: Tuesday, March 18, 2003 10:03 AM
Subject: Re: BLM transfer to State Parks

Hi Kathleen,

In response to your last e-mail and the meeting you had with Tom. Tom had talked to my supervisor (Dave Sjaastad) and indicated that he heard that the horses were being actively gathered by a contractor as of yesterday (March 17). I got this information from my supervisor and he was not sure how accurate it is.

The Coyote Canyon HMA was addressed in the 1980 California Desert Conservation Area (CDCA) Plan. It established a management level for 20 wild horses.

In 1985, the CDCA plan amendment #18, was approved to reduced the wild horse population to zero for the Coyote Canyon HMA as prescribed in the Santa Rose Habitat Management Plan for the protection of bighorn sheep.

In 1993, the BLM land was transferred to the State Park and eliminated any use of public lands by these wild horses.

When I find out more information, I will pass it along.

Alex

----- Original Message -----
From: Tom_Pogacnik@blm.gov
To: Kathleen Hayden
Sent: Thursday, September 07, 2006 5:17 AM
Subject: Re: Question

Kat,
The Coyote Canyon Herd Area will always be in existence. The area was eliminated as a Herd Management Area due to the change in land ownership.
Tom

Tom Pogacnik
California Wild Horse and Burro Program Manager
Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825
(916) 978-4637

----Original Message-----
From: Tom_Pogacnik@blm.gov [mailto:Tom_Pogacnik@blm.gov]
Sent: Wednesday, March 26, 2003 1:14 PM

To: Thomas, Trudy (Senator Morrow's office)
Subject: RE: pictures of horses on roundup day taken by State Parks

Yes, the animals could still be returned with the proper planning. But, as mentioned before, the timing would be critical. The closer it gets to the summer heat and dry season, the more difficult it will be to transition back to a diet on native range.

Another thought on the condition of the animals. I'm not clear about when the animals left Southern California for South Dakota, but if it was mid to late last week, that would have had them either driving through the blizzard that hit Wyoming and Colorado last Thursday or they would have arrived just as or immediately after the storm hit. That would have had an impact on their condition when they arrived. Tom

Tom Pogacnik
California Wild Horse and Burro Program Manager
Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825
(916) 978-4637

From: Tom_Pogacnik@blm.gov
To: Kat Hayden
Cc: Alex_Neibergs@ca.blm.gov ; Ken and Jennifer Foster ; TahoEBARRY@aol.com ; BLM Tom Pogacnik ; Trudy.Thomas
Sent: Monday, August 08, 2005 7:03 AM
Subject: Re: Burro's on the Mojave

Kat,
Unfortunately, when BLM began revisiting the Coyote Canyon horse situation, I also worked with the Solicitor's Office about the NPS animals as there were strong parallels. **The Solicitor (the same one who said BLM erred in relinquishing control of the Coyote Canyon animals to State Parks**) said The Desert Protection Act pretty much gave control of the land and all resources to NPS.

----- Original Message -----
From: Tom_Pogacnik@blm.gov
To: Kathleen Hayden
Sent: Friday, June 06, 2003 9:49 AM
Subject: Re: meeting with Mike Poole

Kat,
We are passing on the request from Senator Morrow to our Washington Solicitors Office for a legal opinion. I'll be working with the local

Solicitor on the subject. This is gonna create some anxiety in BLM, but, we'll get over it. I'll be out of the office for a few days. When I get back I'll give you a call to discuss some other aspects and observations. Tom

California Wild Horse and Burro Program Manager
Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825
(916) 978-4637

----- Original Message -----
From: Tom_Pogacnik@blm.gov
To: Kathleen Hayden
Cc: BLM Tom Pogacnik ; Trudy.Thomas
Sent: Thursday, June 19, 2003 9:14 AM
Subject: Re: duty to manage herd??

Kathleen,
If BLM was correct in transferring ownership of the animals to the California, then the State would have taken all responsibility for management and the associated costs.

If BLM was incorrect in transferring the animals to the State, then BLM would probably be responsible for reimbursing CA for costs to manage the animals to date. That'll be up to the lawyers and politicians to work through.

Keep in mind, when the WH&B Act referrs to public land/assets, it is only relative to lands administered by BLM and the Forest Service, not public lands controlled by other federal or state agencies. Tom

Tom Pogacnik
California Wild Horse and Burro Program Manager
Bureau of Land Management
2800 Cottage Way
Sacramento, CA 95825
(916) 978-4637

Kathleen Hayden" <prknride@znet.co To Trudy.Thomas" <Trudy.Thomas@sen.ca.gov>, "BLM Tom Pogacnik" <tom_pogacnik@ca.blm.gov> 06/19/03 09:56 AM Subject: duty to manage herd??

Please can you answer this question...if the park did not have the horses removed conditional with the land transfer, and BLM did not relocate them at the time of the transfer, then state parks assumed a fiduciary duty

to manage the public asset??? Kat

----- Original Message -----
From: Kathleen Hayden
To: Tom Pogocnik ; Trudy Thomas ; Ray Field
Sent: Sunday, January 04, 2015 10:34 AM
Subject: Happy New Year...remember when?

--- Original Message -----
From: Thomas, Trudy District Representative Office of Senator Bill Morrow
To: 'pathfynder@surfree.com'
Cc: Barbara J. Ferguson (E-mail) ; Robert & Kathleen Hayden (E-mail)
Sent: Tuesday, April 13, 2004 4:23 PM
Subject: RE: SB 1294 killed in committee

Long story short: Last year BLM revisited its jurisdiction over these horses at the Senator's request and found that their agent Tim Salt had acted in error and in bad faith in an old report telling the State that BLM no longer had jurisdiction or interest in this herd. It was vital for BLM to reassert its jurisdiction over the herd if we were to preserve the gene pool looking towards restoration of the herd to its native range since State Parks twice last year tried to have the stallions gelded in order to assure no reintroduction could be made. We stopped them in their evil plan to geld the stallions. They are now back under the jurisdiction and the protection of BLM.

I know a lot of you who received my e-mail have no use for BLM. We have our quarrels with them here in California as well. **But the new California Wild Horse and Burro Program Manager, Tom Pogacnik, has been a true friend to our folks on this and other issues and BLM will come to the table on finding an Administrative remedy for restoration of the herd. They are extremely interested in a public/private partnership for restoration and management of the herd in its native range. State Parks is the obstructionist here, not BLM.**
That's all I have time for. If you want further information, talk to Kathleen.
Trudy
Trudy K. Thomas
District Representative
Office of Senator Bill Morrow - 38th District
2755 Jefferson Street, Suite 101
Carlsbad, CA 92008
760.434.7930 FAX: 760.434.8223
Trudy.Thomas@sen.ca.gov

Land Use Plan Amendments for the California Desert Conservation Area are ongoing and its (not so hidden) agenda is to re- write history by ignoring the evolution of our culture.
The Southcoast RMP was part of the CDCA
The 2011 Southcoast RMP and EIS update was part of the CDCA.

The ESA Petition to list Wild horses was filed with FWS and BLM on June 10, 2014.

The 2014 Draft DRECP includes Draft BLM Land Use Plan Amendments for the California Desert Conservation Area (CDCA) filed Sept 26, 2014.

Are these plans flawed that neglected to consider the ESA petition to list distinct population segments of wild horse herds in their inventories, cultural and native resources as we requested in our Southcoast RMP/EIS joint comments
i.e.

text - U.S. Fish and Wildlife Service
www.fws.gov/.../**2014**/**2014**-2283...
United States Fish and Wildlife Service
Sep 25, 2014 - The Draft DRECP includes Draft BLM Land Use Plan Amendments for the ... the Mojave and Colorado/Sonoran Deserts of southern California: the BLM's ..... Sacramento, CA 95825; BLM California Desert District Office, 22835 Calle ... Thomas Pogacnik, Deputy State Director, Bureau of Land Management.
[Federal Register Volume 79, Number 187 (Friday, September 26, 2014)]
[Notices]
[Pages 57971-57974]
From the Federal Register Online via the Government Printing Office [***www.gpo.gov***]
[FR Doc No: 2014-22834]
SUMMARY: In accordance with the National Environmental Policy Act of 1969, as amended (NEPA); the Federal Land Policy and Management Act of 1976, as amended (FLPMA); and the Endangered Species Act of 1973, as amended (ESA); the Bureau of Land Management (BLM) and the Fish and Wildlife Service (FWS) have partnered with the California Energy Commission and the California Department of Fish and Wildlife (collectively, the Agencies) to prepare the Draft Desert Renewable Energy Conservation Plan (DRECP) and Draft Environmental Impact Statement and Environmental Impact Report (EIS/EIR).

The Draft DRECP includes Draft BLM Land Use Plan Amendments for the California Desert Conservation Area (CDCA) Plan, Bishop Resource Management Plan (RMP), and the Caliente/ Bakersfield RMP; a FWS-proposed Habitat Conservation Plan (General Conservation Plan); and a CDFW-proposed Natural Community Conservation Plan. The Draft DRECP covers parts of Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego Counties, California. By this notice, the Agencies are announcing the availability of the Draft DRECP and Draft EIS/EIR, the receipt of permit applications under Section 10 of the ESA from CEC and the California State Lands Commission (CSLC), and the opening of the comment period on the Draft DRECP and Draft EIS/EIR and the information provided in the permit applications.
Text - U.S. Fish and Wildlife Service

And more_plan amendments, an everyday part of land and resource management
www.fws.gov/.../**2014**/**2014**-2283...
United States Fish and Wildlife Service
The Draft DRECP includes Draft BLM Land Use Plan Amendments for the California Desert ... Initiative and the Solar Energy Zones identified in the BLM Solar Programmatic EIS ..... Thomas Pogacnik, Deputy State Director, Bureau of Land Management. ... 2014-22834 Filed 9-25-14; 8:45 am] BILLING CODE 4310-55-P.

[PDF]Federal *www.blm.gov/.../blm/.../Minu*...
United States Bureau of Land Management
Sep 3, 2014 - FY2014 Surveys: What is the process now? .... The Board may suggest changes to a new Charter but the ultimate .... from BLM's Nevada State Office, Jim Kenna and Tom Pogacnik from BLM's ... driest deserts in the world in the south, and includes a scenic coast. ..... Operations Center in Denver, Colorado.

[PDF]COLORADO RIVER INDIAN TRIBES
www.crit-nsn.gov/crit.../L_Salazar%20DRECP_PEIS_02022012-1.pdf
Feb 1, 2012 - Please feel free to contact Mr. Tom Pogacnik, BLM Deputy State ... land-use plan (LUP) amendment to accommodate the objectives of that landscape planning effort. To .... Teri Rami, California Desert District (CDD) Manager.

govpulse | Notice of Intent To Prepare an Environmental ...
govpulse.us/.../notice-of-intent-to-prepare-an-environmental-impact-state...
Nov 20, 2009 - ... the Bureau of Land Management (*BLM*) California Desert *District*, ... an *amendment* to the California Desert Conservation Area (CDCA) Plan of ... goals in the Mojave and *Colorado desert* regions in California, while also ... *Tom Pogacnik*, ... *2014* CloudMade - Map data ODbL *2014* OpenStreetMap.org ...
Authorization of this proposal may require amendment of the CDCA Plan. By this notice, the BLM is complying with requirements in 43 CFR 1610.2(c) to notify the public of potential amendments to land use plans, predicated on the findings of the EIS. If a land use plan amendment is necessary, the BLM will integrate the land use planning process with the NEPA process for this proposal.
The BLM will use the NEPA commenting process to satisfy the public involvement process for Section 106 of the National Historic Preservation Act (16 U.S.C. 470f), as provided for in 36 CFR 800.2(d)(3). Native American Tribal consultations will be conducted in accordance with policy and Tribal concerns will be given due consideration, including impacts on Indian trust assets. Federal, State, Tribes, and local agencies, along with other stakeholders that may be interested or affected by the BLM's decision on this project, are invited to participate in the scoping process and, if eligible, may request or be requested by the BLM to participate as a cooperating agency.

On Sun, Nov 16, 2014 at 1:24 PM, CCCDA <CCCDA@znet.com> wrote:
Ray,

Dr. King prepared a Nomination of the Coyote Canyon Wild Horse District to the Federal register about 2004, which was turned down by Ca.State Preservation Commission. Check out his blog Tom King's CRM Plus: Historic Horses ***crmplus.blogspot.com****/2014/06/historic-horses.html)*

I believe that Tom, (as Deputy State Director of Natural Resources, Lands, Planning & Renewable Energy) has the authority to direct the Palm Springs Southcoast Office to amend the Southcoast Resource Management plan...both before and after the 2011 EIS update.

Over the past decade in numerous correspondence, Tom stated that amendments are everyday part of BLM business to accommodate needed changes.

He has been battling with the Colorado River Indian Tribes for the past several years regarding their complaints of NEPA violations relating to its participation in the development of the California Desert Conservation Area Plan. The same plan that zeroed out the Coyote Canyon Herd and transferred the Herd Area to State Parks.

Last week Tom instructed the Southcoast office to make a compliance check on the horses in our care and they jumped through the hoop lickety split.. However they did not return the foundation mares. And now the goody two shoe advocates think they can "re home" the mares, By doing so they destroy a decade of restoring very rare genetics
kat

Ray Field commented on your status.

Ray wrote: "Kathleen,

Tom introduced us to you many years ago to help with his plan he promoted to protect your band of wild horses.
His pitch to us at the Wild Horse Foundation was to help you and Robert build and maintain a operational plan. You needed no help with us on this as your first steps developing were fruitful.

I sat in Tom's office in a cubicle corner, telling how he made a plan to protect som wild horses. He told us in no uncertain terms that the bulk of these wild horses we moved to North Dakota and you had a few to start with and as you grew the remaining would be shipped and transferred to you.

Tom has always been a man I thought was honest, had integrity and loyalty to the wild horses. As he was thrown under-the-bus after the John Fend dynasty, Tom wa open and honest.
It would seem if Tom would make a simple phone call, this would solve this whole issue. Tom is in a power position that wouldn't cost the State Director a single dim straighten this mess out. No more excuses about budgets or finance - this is a no-brainer for Tom. Tom, I asking you politely to do the right-thing before you retire. F up the phone and do-it

please share this, anyway you like. It's not my first rodeo going head to head wit the blm and the blm knows they will not defeat me."

Prepared Remarks of BLM Director Bob Abbey at "Summit of the Horse"
http://www.blm.gov/wo/st/en/info/newsroom/extras/summitstatement.htm
excerpt "Essentially, with the exceptions I just noted, we have placed everythi

on the table for discussion. This includes:
o Taking whatever steps are necessary to ensure an accurate census of wild horses and burros (the methodology we use today to count horses was developed in partnership with the USGS, the most respected scientific agency in all of government).
o Pursuing more aggressive fertility control strategies to slow the reproduction rate of wild horses and burros on public lands.
o Making sure that Herd Management Areas are appropriately designated (this includes revisiting land use planning decisions which had zeroed out wild horses in difficult to manage herd areas).
o Providing greater opportunities for members of the public to volunteer their time in monitoring herds and rangeland conditions.
o Pursuing public and private partnerships designed to provide appropriate areas for wild horses and burros which are removed from over populated Herd Management Areas."

Obviously these statements are supportive of BLM's original offer to partnership with us to restore the Coyote Canyon Herd. BLM acquisitions of habitat in the Beauty Mt/Chihuahua area is an ideal example of grazing habitat. It is within the native ranges of the herd, as Russ Kaldenberg and Art Digrazi indicated to me. We have additional references and documentation sufficient to warrant a RMP amendment.

All of the Chihuahua preserve property is fenced that BLM obtained near Chihuahua Valley Road. It connects to the vacant allotment via the Historic California Riding Trail, aka Cooper Cienaga Truck Trail. This is ideal historic wild horse territory and provides access for eco- tourism. Come on down and we can explore this area.

kat

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"Born of Horses:" Missionaries, Indigenous Vaqueros, and Ecological Expansion during the Spanish Colonization of California

By Paul Albert Lacson

Introduction

In June 1774, Evangelista, a Costanoan Indian boy, explained to Father Junípero Serra the reaction of his people to the arrival of Spanish horses in 1769. Costanoans, who considered horses and mules to be the same animal, believed that mules had given birth to Spanish colonists.[1] Evangelista theorized that missionaries, soldiers, and settlers "were the sons of the mules on which they rode." He also supposed that the Spaniards were not quite newcomers, surmising that the people-born-of-mules were actually returning souls of Indians from "surrounding countries, who have come back this way," only this time as the offspring of strange animals.[2]

Spanish pioneer woman ca. 1650. Painting by José Cisneros in Riders Across the Centuries *(El Paso: University of Texas Press, 1984), p. 45.*

A graduate of Castle Park High School in Chula Vista, **Albert Lacson** earned his Ph.D. in History from UC Davis and currently holds the position of Assistant Professor of History at Grinnell College, Iowa. The histories of race and ethnicity in the United States are central to his teaching and research, especially the experiences of Native Americans.

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Leather jacket soldier, ca. 1775. Painting by José Cisneros in Riders Across the Centuries *(El Paso: University of Texas Press, 1984), p. 75.*

In 1769, Spanish colonists initiated a revolution in the relationship of California Indians to their environment when they introduced new crops, domesticated animals, and agriculture. Horses proved especially influential in transforming the economies, social hierarchies, political structures, and inter-tribal relationships of Native Californians. This article examines the key factors that led California Indians to embrace horses and caused Spanish colonists to entrust Indians with the powerful creatures—animals that could facilitate Indian rebellions against mission, presidio, or pueblo settlements. At the center of both processes were the Indian vaqueros who seized the opportunity to work with the new animals and who displayed the traits necessary for Spanish missionaries to give them access to the animals.

Given the thriving horse cultures that developed among Indian peoples throughout North America by the nineteenth century, especially in the Southwest and Great Plains, it may seem natural that California Indian peoples should welcome horses. Their embrace, however, of the horse, first introduced by the Spaniards, is complicated by the fact that other biological introductions wreaked havoc on the native population of the region. Historians of American Indian history have produced a healthy spate of scholarship that drives home the point that North America's native peoples readily adopted European goods, ideas, and practices that benefited them—a necessary corrective to the view of American Indians as primitive peoples left behind by history.[3] They have given the impression, however, that American Indians did not welcome the introduction of new biota in the same way that they greeted metal tools or woven cloth shirts. Following the lead of the renowned environmental historian, Alfred Crosby, scholars have stressed the destructive impact of European-introduced biota. They have emphasized that European colonies depended on the biological success of non-human migrants, like plants, animals, and microbes. In other words, it took more than an enterprising spirit and providential grace to wrest control of North America from the continent's native peoples.

By including plants, animals, and diseases as "allies" of Europeans, historians have advanced our understanding of the processes by which native peoples

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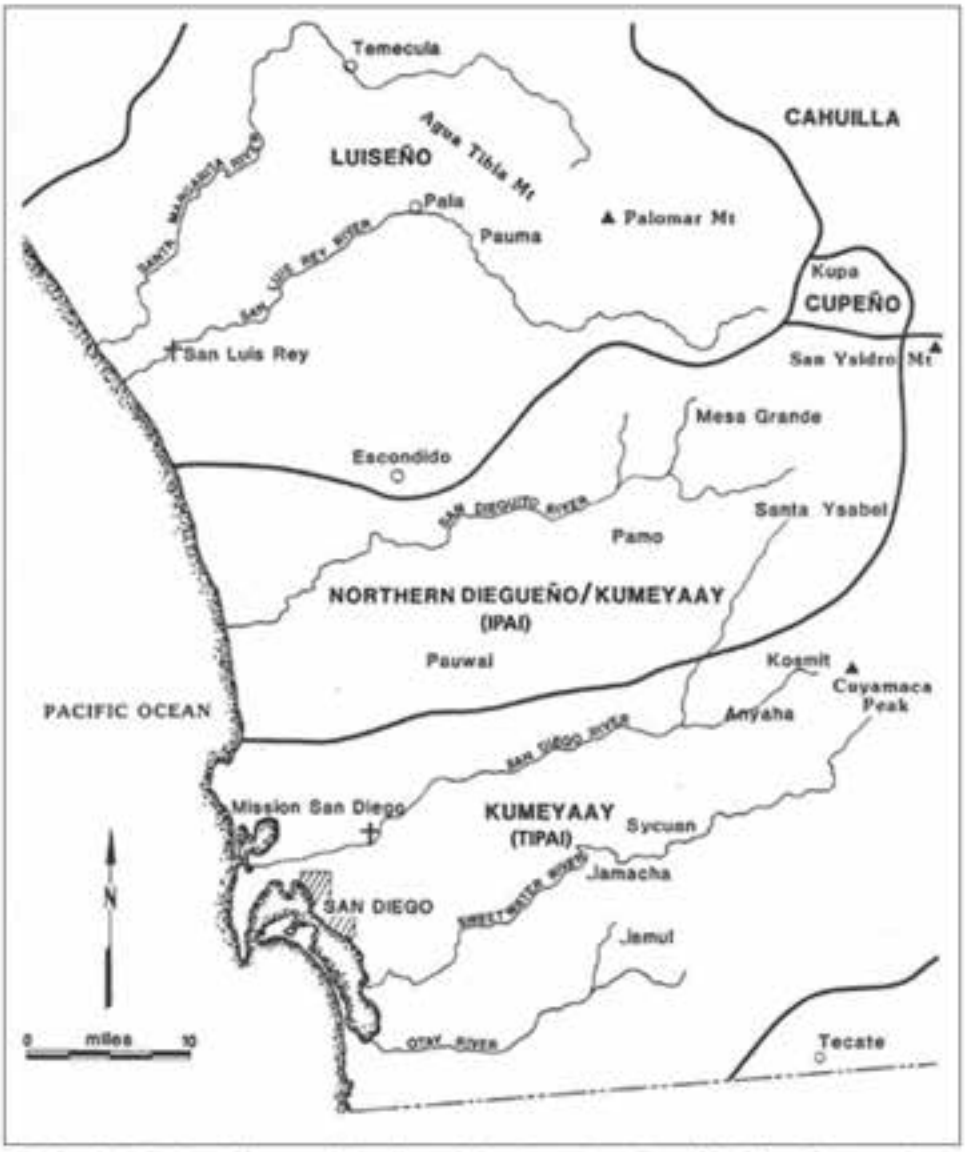

The Spaniards distributed horses and other livestock throughout the territory of San Diego County native Indian bands.

were dispossessed of their land. Pekka Hämäläinen, however, has convincingly identified a problem with the emphasis on the destructive impact of European-introduced biota, pointing out that the story is dangerously close to biological determinism. It represents what he calls "the biological turn of American colonial history" in which "all the conquerors often had to do was to show up and somehow stay alive; their microbes did the rest."[6] No longer stressing the benevolence of God

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Mission San Diego de Alcalá. Editors' collection.

or superior technology, the new narrative gives the impression that humans, whether European or indigenous, had less agency in determining the outcomes of European-Indian contact than previous generations of scholars had recognized. While such a view has gone a long way towards de-emphasizing an exaggerated degree of control held by Europeans, this spate of scholarship minimizes the extent to which American Indians readily incorporated certain aspects of European-introduced biota for their benefit.

This article builds on the study of Hämäläinen's Comanche incorporation of horses by stressing that indigenous peoples did not just passively accept or endure the introduction of European biota, especially horses. By examining the experiences of California Indian vaqueros (cowboys), it argues that Native Californians sought to take advantage of horses and other livestock in the same way that they incorporated metal tools and woven cloth; they put the new creatures and their newly acquired equestrian skills and knowledge to use in ways that furthered native goals. By integrating new animals into California Indian societies, Indian vaqueros aided the Spanish in their initial colonizing efforts, especially in the creation of mission communities based on agriculture and livestock raising. Indian access to horses, however, also created obstacles to the Spanish colonization project, especially as envisioned by Franciscan missionaries. Throughout the Spanish period, missionaries found it difficult to maintain a geographical divide between "civilization" and "savagery," between the coastal communities of Christian neophytes and the inland communities of Indians who chose not to join missions. Vaqueros developed the knowledge and equestrian skills necessary to challenge the spatial arrangement envisioned by Franciscan missionaries in which "civilized" communities existed along the coast while "savagery" was limited to the interior regions of California's Central Valley (the modern San Joaquin Valley).[5]

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Unlike other parts of North America, where the dearth of records does not allow historians to identify the specific Indian individuals who played the most influential roles in incorporating horses into their societies, the meticulous record keeping of Franciscan missionaries in Alta California makes it possible to explore the histories of specific Indian individuals crucial to the spread of horse knowledge and skills among California Indians, mission and non-mission Indians alike. For example, an examination of an 1835 census of the Kumeyaay Indian pueblo in San Pascual, situated along the San Dieguito River between the modern cities of Escondido and Poway, illustrates the penetrating changes in Kumeyaay society wrought by the Spanish introduction of horses.[6] Among the thirty-four men listed in the census, many pursued "trades or pursuits" connected in some way to the new culture of horses: seven vaqueros, ten muleteers, one blacksmith, two weavers, two millers, one carder of wool, five farmers, and one cheesemaker. Some worked directly with horses (the vaqueros and muleteers); others supported the ability of people to ride horses (blacksmiths); some made items like cheese and woven cloth products that required the work of horses to herd cattle and sheep (the cheesemaker, weavers, and carder); and others worked with agricultural products that depended on horses and oxen to plow the soil that nourished agricultural products (millers).

By 1835, inhabitants of San Pascual took for granted the consumption of woven cloth and dairy products, as well as the sight of Indian vaqueros taming horses and herding the sheep and cattle necessary to produce such goods. An 1827 report by Franciscan missionaries passing through San Pascual described a scene that had come to seem quite natural along other parts of Alta California's west coast: "In these districts pasture the horses and mules and the sheep of this [San Diego] Mission."[7] While nothing could seem more natural than horses eating grass or weavers making cloth out of the wool from sheep that vaqueros had herded, these animals were not native to Alta California. Their existence—and the human effort necessary to ensure their survival—requires an explanation.

This article illustrates the emergence of California Indian vaqueros in spreading a new relationship with the land—a relationship in which domesticated animals, especially horses, radically reshaped the lives of California's indigenous peoples.

Reactions

Knowledge of sheep, cows, pigs, chicken, and horses may not have made its way to Alta California until 1769, despite the fact that the Spaniards had introduced domesticated livestock to northwestern New Spain in the mid-seventeenth century. The Costanoan boy's belief that mules gave birth to Spanish colonists suggests

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that the animals from the exploratory expeditions of 1769 may have been the first domesticated livestock that he or his neighbors had encountered. Evangelista's views may not have been representative of every Costanoan, and certainly should not necessarily be taken to reflect a theory held by every California Indian, but his assessment of horses does illustrate a lack of experience with domesticated livestock among all Native Californians.

From the perspective of Indians, regardless of their knowledge about horses, one thing was clear: Native Californians associated horses and other livestock with the Spanish newcomers. While a seemingly obvious point, the association is worth emphasizing since Indian peoples resistant to Spanish colonization violently targeted animals in efforts to expel the Spanish. For instance, when Kumeyaay Indians attacked Mission San Diego in 1775, in addition to burning buildings and killing a Franciscan missionary, they also targeted livestock. According to Father Vicente Fuster, who survived the attack, "[O]ur enemies fired arrows at all the livestock both large and small and at the horses. They had not even overlooked the hogs."[8]

In 1785, Tongva Indians rebelled against missionaries at Mission San Gabriel and killed several sheep and goats as part of the rebellion.[9] Along with mission buildings and people, the new animals symbolized an unwelcome presence that became targets of violence during Indian rebellions against Spanish colonization.

Over time, however, whether California's native peoples approved of Spanish colonization or not, most willingly incorporated livestock, especially horses, into their lives. Relatively soon after the arrival of Spanish newcomers, California Indians became the primary caretakers of horses, mules, cattle, oxen, and other Spanish-introduced livestock. Less than a decade after the establishment of Mission San Diego, Father Fermín Francisco de Lasûen reported Indians from that mission rounding up livestock in his 1778 annual report to New Spain's viceroy.[10] At the end of the nineteenth century, Kitsepawit, a Chumash Indian from Mission San Buenaventura, bragged that Native Californians had become the best horse riders in the region.[11] By the early twentieth century, it was common to

1804	2
1805	21
1810	37
1815	25

Number of Indian Vaqueros at Mission San Buenaventura. Source: Libro de la Ropa, Vaqueros, Santa Barbara Mission Archive-Library

find mounted California Indians working as cowboys on the ranches and farms that dotted the coast.

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Fray Fermín Francisco de Lasuén, Mission San Carlos Borromeo.

Beginning with a seed population of fewer than 1,000 animals in 1769, the number of Spanish-introduced livestock in what would become the state of California grew precipitously in less than a century. In 1850, there were approximately 295,000 such animals in the state (approximately 254,000 cattle, 18,000 sheep, and 23,000 horses and mules). By 1860, the numbers rose even more dramatically: 1,000,000 cattle, 1,100,000 sheep, and 170,000 horses and mules.[12] At Mission San Diego, there were 102 cattle, 304 sheep, and 54 horses in 1776. At the end of the Spanish period in 1821, the growth of the livestock population mirrored the increase in population throughout Alta California; missionaries reported 8,436 cattle, 17,000 sheep, and 1,060 horses.[13] Of course, no biological population, whether human or animal, arrives at a particular population size "naturally." Like the fields of wheat, barley, and beans that depended on the hard labor of the natives, California's livestock population would not have flourished without the work of California Indian vaqueros.

By learning equestrian skills, neophyte Indians could contribute immeasurably to the creation of agricultural communities that would form the centerpiece of the civilizing program of Franciscan missionaries. Military leaders worried, however, that mounted Indians might use their new skills and access to horses against the Spaniards. In 1787, Alta California's governor accused Franciscan missionaries of ignoring a 1786 decree by the Viceroy of New Spain Bernardo de Gálvez that prohibited the "use and management of horses" by Indians. Father-President of the Franciscan missions Father Lasuén acknowledged that neophyte Indians did indeed have access to horses, but assured the governor that a scarcity of labor gave missionaries little choice in the matter:

> No one is more concerned or more interested than the missionariese that the Indian should continue in his native ignorance of horsemanship. But Your Lordship is well aware of the cattle and horses which, with the King's pleasure, every one of the missions possesses, and that horsemen are needed to look after them. And these have to be Indians, for there are no others.[14]

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:37 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar Eplanning

---------- Forwarded message ----------
From: **Liberatore, Miriam** <mliberat@blm.gov>
Date: Thu, Apr 5, 2018 at 11:36 AM
Subject: Fwd: [EXTERNAL] Crimson Solar Eplanning
To: BLM_CA CrimsonSolar <blm_ca_crimsonsolar@blm.gov>

---------- Forwarded message ----------
From: **Liberatore, Miriam** <mliberat@blm.gov>
Date: Thu, Apr 5, 2018 at 11:35 AM
Subject: Re: [EXTERNAL] Crimson Solar Eplanning
To: "K. Emmerich" <atomicquailranch@gmail.com>

Hi Kevin, good talking with you today. Here's the information on the upcoming public meetings for Crimson Solar.

Wednesday, April 11, 5:00 pm to 8:00 pm

UCR Palm Desert

75080 Frank Sinatra Drive

Palm Desert, CA 92211

Thursday, April 12, 12:00 noon to 3:00 pm

City of Blythe City Hall, Multipurpose Room

235 North Broadway

Blythe, CA 92225

Please feel free to contact me if you have any further questions.

Miriam Liberatore

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

541-618-2412

On Thu, Apr 5, 2018 at 11:32 AM, K. Emmerich <atomicquailranch@gmail.com> wrote:

> Please additional meeting dates.
>
> Thanks
>
> Kevin Emmerich
>
> Basin and Range Watch

--

Miriam Liberatore

Planning and Environmental Coordinator

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

Phone: 541-618-2412

--

Miriam Liberatore

Planning and Environmental Coordinator

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

Phone: 541-618-2412

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:40 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Project

---------- Forwarded message ----------
From: **Robert Latunski** <rmlatunski@gmail.com>
Date: Sat, Apr 7, 2018 at 8:15 AM
Subject: [EXTERNAL] Crimson Project
To: blm_ca_crimsonsolar@blm.gov

I am on full support of this project. God Bless our USA technology.

CEQA-2018-0060-RG

AUGUSTINE BAND OF CAHUILLA INDIANS

PO Box 846 84-481 Avenue 54 Coachella CA 92236
Telephone: (760) 398-4722
Fax (760) 369-7161
Tribal Chairperson: Amanda Vance
Tribal Vice-Chairperson: William Vance

received 4/16/18

April 9, 2018

Magdalena Rodriguez
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C220
Ontario, CA 91764

RE: **Crimson Solar Project NOP Scoping Comments**

Dear Ms.Rodriguez -

Thank you for the opportunity to offer input concerning the development of the above-identified project. We appreciate your sensitivity to the cultural resources that may be impacted by your project, and the importance of these cultural resources to the Native American peoples that have occupied the land surrounding the area of your project for thousands of years. Unfortunately, increased development and lack of sensitivity to cultural resources has resulted in many significant cultural resources being destroyed or substantially altered and impacted. Your invitation to consult on this project is greatly appreciated.

At this time we are unaware of specific cultural resources that may be affected by the proposed project. We encourage you to contact other Native American Tribes and individuals within the immediate vicinity of the project site that may have specific information concerning cultural resources that may be located in the area. We also encourage you to contract with a monitor who is qualified in Native American cultural resources identification and who is able to be present on-site full-time during the pre-construction and construction phase of the project. Please notify us immediately should you discover any cultural resources during the development of this project.

Very truly yours,

Amanda Vance

Amanda Vance
Tribal Chairperson

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:41 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] CBD scoping comments on Crimson solar

Attachments: CBD scoping comments Crimson solar 4-9-18 final w attachments.pdf

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---------- Forwarded message ----------
From: **Ileene Anderson** <IAnderson@biologicaldiversity.org>
Date: Mon, Apr 9, 2018 at 12:11 PM
Subject: [EXTERNAL] CBD scoping comments on Crimson solar
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>, "magdalena.rodriguez@wildlife.ca.gov" <magdalena.rodriguez@wildlife.ca.gov>
Cc: "Brian_Croft@fws.gov" <Brian_Croft@fws.gov>, "Plenys.Thomas@epa.gov" <Plenys.Thomas@epa.gov>, Lisa Belenky <lbelenky@biologicaldiversity.org>

Hi Ms. Liberatore and Ms. Rodriguez,

Please find attached the scoping comments from the Center for Biological Diversity regarding the Crimson Solar project west of Blythe, CA. I will also be submitting these through BLM's e-planning portal.

Please feel free to contact either Lisa or I with any questions. We look forward to working with you on this project.

Sincerely,

Ileene

lleene Anderson

Senior Scientist/Public Lands Deserts Director

Center for Biological Diversity

660 S. Figueroa St., Suite 1000
Los Angeles, CA 90017
tel: (213) 785.5407 (Direct Office), (323) 490-0223 (cell)

CENTER for BIOLOGICAL DIVERSITY
Because life is good.

protecting and restoring natural ecosystems and imperiled species through science, education, policy, and environmental law

via electronic mail and website

4/9/2018

Miriam Liberatore, Project manager
RE Crimson Solar
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504
blm_ca_crimsonsolar@blm.gov
https://eplanning.blm.gov/

California Department of Fish and Wildlife
Attn: Magdalena Rodriguez, Project Manager
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764
via email: magdalena.rodriguez@wildlife.ca.gov

RE: Comments on the Notice of Intent ("NOI") To Prepare a Joint Environmental Impact Statement/ Environmental Impact Report and Possible Land Use Plan Amendment for the Proposed RE Crimson Solar Project, Riverside County, CA 83 FR 10516 and the California Department of Fish and Wildlife ("CDFW") Notice of Preparation ("NOP") of a Joint Draft Environmental Impact Statement/Environmental Impact Report and Notice of Public Scoping Meetings issued March 8, 2018

Dear Ms. Liberatore and Ms. Rodriguez,

Please accept the Center for Biological Diversity's comments on the Bureau of Land Management ("BLM") Notice of Intent ("NOI") to prepare a Joint Environmental Impact Statement/ Environmental Impact Report (EIS/R) and Possible Land Use Plan Amendment for the Proposed RE Crimson Solar Project, Riverside County, CA (83 Fed. Reg. 10516-18 (March 9, 2018)), and the California Department of Fish and Wildlife ("CDFW") Notice of Preparation ("NOP") of a Joint Draft Environmental Impact Statement/Environmental Impact Report and Notice of Public Scoping Meetings issued March 8, 2018.

The Center is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. These scoping comments are submitted on behalf of the Center's 1.6 million staff, members and supporters throughout California and the western United States many of whom live in southern California and enjoy visiting, studying, photographing and hiking in the California Desert Conservation Area, including the areas on and around the project site.

Ileene Anderson, Senior Scientist
660 S. Figueroa Street, Suite 1000, Los Angeles, California 90017
tel: (213) 785 -5407 *email:* ianderson@biologicaldiversity.org
www.BiologicalDiversity.org

The development of renewable energy is a critical component of efforts to reduce greenhouse gas emissions, avoid the worst consequences of global warming, and to assist California in meeting emission reductions. The Center strongly supports the development of renewable energy production, and the generation of electricity from solar power, in particular. However, like any project, proposed solar power projects should be thoughtfully planned to minimize impacts to the environment. In particular, renewable energy projects should avoid impacts to sensitive species and habitat, and should be sited in proximity to the areas of electricity end-use in order to reduce the need for extensive new transmission corridors and the efficiency loss associated with extended energy transmission. Only by maintaining the highest environmental standards with regard to local impacts, and effects on species and habitat, can renewable energy production be truly sustainable.

The Crimson Solar Project proposed by Sonoran West Solar Holdings, LLC, a wholly owned subsidiary of Recurrent Energy, LLC, would construct, maintain and decommission a proposed solar photovoltaic (PV) 350 megawatt generating facility and ancillary facilities with a project footprint covering approximately 2,700-acres of BLM-administered public land on in-tact desert landscape within the California Desert Conservation Area ("CDCA"). The proposed project would lie within the Riverside East Solar Energy Zone (SEZ) and the area is also designated as a Development Focus Area (DFA) under the Desert Renewable Energy Conservation Plan (DRECP). Because the project application predated the DRECP it requires a proposed land use plan amendment to the CDCA Plan, as amended. In considering that plan amendment and the proposed project we urge the BLM to fully consider the science used to develop the requirements of the DRECP, so that the landscape level analysis used in formulating those requirements to meet the goals of the DRECP will not be compromised by this proposed project if it moves forward. Similarly, CDFW must consider all of the science and information gathered during the DRECP process, and other new information, in considering any incidental take permit ("ITP") or Lake and Streambed Alteration Agreement ("LSAA") for the proposed project

The CDCA plan Energy Production and Utility Corridors section requires at minimum that the following resource issues be addressed:

1) Consistency with the Desert Plan, including designated and proposed planning corridors;
2) Protection of air quality;
3) Impact on adjacent wilderness and sensitive resources;
4) Visual quality;
5) Cooling-water source(s);
6) Waste disposal;
7) Seismic hazards; and
8) Regional equity.

This joint EIS/R must meet the requirements of NEPA and CEQA regarding baseline information, identification and analysis of impacts, and consideration of alternatives. Under CEQA, alternatives must fully consider avoidance of all significant impacts as well as minimization and migration measures for any remaining unavoidable impacts. In addition, because species protected under both the federal ESA and California ESA (CESA") are present,

the joint EIS/R must consider the impacts to these species, avoidance, minimization and mitigation measures. CDFW must also consider whether the project could impact any fully protected species under California law, such as golden eagles. If so, then the EIS/R must consider whether take could occur and if a NCCP is also needed rather than only an ITP.

Specifically, there are a number of potentially significant impacts to resources that are of concern to the Center and need to be addressed in detail as follow below:

Biological Resources

Based on the proposed project description and our knowledge of the public lands resources, this site is proposed on ecologically functional desert landscape that may provide habitat a suite of rare species. Careful documentation of the current site resources is imperative in order to analyze how to best site the project to *avoid and minimize* impacts and then to mitigate any unavoidable impacts.

Biological Surveys and Mapping

The Center requests that thorough, seasonal surveys be performed for sensitive plant species and vegetation communities, and animal species under the direction and supervision of the BLM and resource agencies such as the US Fish and Wildlife Service and the California Department of Fish and Wildlife. Full disclosure of survey methods and results to the public and other agencies without limitations imposed by the applicant must be implemented to assure full NEPA/CEQA/ESA compliance.

Confidentiality agreements should not be allowed for the surveys in support of the proposed project. Surveys for the plants and plant communities should follow California Native Plant Society (CNPS) and California Department of Fish and Wildlife (CDFW) floristic survey guidelines.[1] A full floral inventory of all species encountered needs to be documented and included in the EIS/R. Surveys for animals should include an evaluation of the California Wildlife Habitat Relationship System's (CWHR) Habitat Classification Scheme[2]. All rare species (plants or animals) need to be documented with a California Natural Diversity Data Base form and submitted to the California Department of Fish and Game using the CNDDB Form as per the State's instructions[3].

The Center requests that the vegetation mapping be done on the whole site and adjacent areas that would be impacted through indirect impacts. The mapping must be at a large enough scale to be useful for evaluating the impacts. Vegetation/wash habitat/sand transport corridor mapping should be at such a scale to provide an accurate accounting of wash areas, sand transport corridor areas and adjacent habitat types that will be directly or indirectly affected by

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[1] https://cnps.org/wp-content/uploads/2018/03/cnps_survey_guidelines.pdf and https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=18959 (respectively)
2 https://www.wildlife.ca.gov/Data/CWHR/Wildlife-Habitats
3 https://www.wildlife.ca.gov/data/CNDDB/submitting-data

the proposed activities. A half-acre minimum mapping unit size is recommended, such as has been used for other development projects. The mapping protocol needs to follow CDFW's Vegetation Classification and Mapping Standards[4] and implement Alliance Level Mapping using a downloadable, blank geodatabase from California Dept. of Fish and Wildlife's VegCAMP[5]. If rare vegetation types are encountered, the survey needs to implement CNPS' protocol for mapping of rare vegetation types[6].

Adequate surveys must be implemented, not just a single season of surveys, in order to evaluate the existing on-site conditions. Due to unpredictable and sparse precipitation, desert organisms have evolved to survive in these harsh conditions. If surveys are performed at inappropriate times or year or in particularly dry years many plants that are, in fact, on-site, but may not be apparent during surveys (ex. annual and herbaceous perennial plants). Importantly in this part of the CDCA, plant surveys should also be implemented after the monsoon season to evaluate the presences of fall blooming rare plants.

Impact Analysis

The EIS/R must evaluate all direct impacts due to loss of habitat and also indirect and cumulative impacts to sensitive habitats, including impacts associated with the introduction of non-native plants, the introduction of lighting and noise, increased predation due to attraction of predators to new perching sites and trash, and the loss and disruption of essential habitat due to edge effects.

A number of rare plants and animals have high potential to occur on this site and include but are not limited to:

Common Name	*Scientific Name*	Federal /State Status
Plants		
Harwood's milk-vetch	*Astragalus insularis* var. *harwoodii*	2B.2
gravel milk-vetch	*Astragalus sabulonum*	2B.2
pink fairy-duster	*Calliandra eriophylla*	2B.3
Harwood's eriastrum	*Eriastrum harwoodii*	1B.2
Abrams' spurge	*Euphorbia abramsiana*	2B.2
bitter hymenoxys	*Hymenoxys odorata*	2B.1
roughstalk witch grass	*Panicum hirticaule* ssp. *hirticaule*	2B.1
dwarf germander	*Teucrium cubense* ssp. *depressum*	2B.2
Herptofauna		
Couch's spadefoot	*Scaphiopus couchii*	BLM-S / SSC
desert tortoise	*Gopherus agassizii*	FT/CT
Mojave fringe-toed lizard	*Uma scoparia*	BLM-S / SSC

4 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=102342&inline
5 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153394
6 https://www.cnps.org/wp-content/uploads/2018/03/guidelines-rare_veg_mapping.pdf

Birds		
Golden eagle	*Aquila chrysaetos*	BGEPA/FP
burrowing owl	*Athene cunicularia*	BLM-S / SSC
mountain plover	*Charadrius montanus*	BLM-S / SSC
merlin	*Falco columbarius*	WL
loggerhead shrike	*Lanius ludovicianus*	BCC / SSC,
Gila woodpecker	*Melanerpes uropygialis*	BLM-S, BCC/ CE
black-tailed gnatcatcher	*Polioptila melanura*	WL
vermilion flycatcher	*Pyrocephalus rubinus*	SSC
Ridgway's clapper rail (formerly Yuma clapper rail)	*Rallus obsoletus* (formerly *Rallus longirostris yumanensis)*	FE/ CT, FP
Crissal thrasher	*Toxostoma crissale*	SSC
Le Conte's thrasher	*Toxostoma lecontei*	SSC
Insects		
Riverside cuckoo wasp	*Hedychridium argenteum*	
California mellitid bee	*Melitta californica*	
Mammals		
Pallid bat	*Antrozous pallidus*	BLM-S / SSC
California leaf-nosed bat	*Macrotus californicus*	BLM-S / SSC
Arizona Myotis	*Myotis occultus*	SSC
Cave myotis	*Myotis velifer*	BLM-S / SSC
American badger	*Taxidea taxus*	BLM-S / SSC, CFBM
Desert kit fox	*Vulpes macrotis arsipus*	CFBM

Federal Designation

FE Federally listed as endangered.
FT Federally listed as threatened.
BGEPA Protected under Bald and Golden Eagle Protection Act
BCC U.S. Fish and Wildlife Service Bird of Conservation Concern.
BLM SS BLM Sensitive Species.

State Designation

FP Fully Protected under State
CE State listed as endangered.
CT State listed as threatened. Species that although not presently threatened in California with extinction are likely to become endangered in the foreseeable future.
SSC California Department of Fish and Wildlife's "Species of Special Concern." Species with declining populations in California.
WL – Watch List
CFBM – State Fur Bearing Mammal
1B.2 Plant rare, threatened or endangered in California and elsewhere, and fairly threatened in CA.
2B.1 Plant rare, threatened or endangered in California, but more common elsewhere, and very threatened in CA
2B.2 Plant rare, threatened or endangered in California, but more common elsewhere, and fairly threatened in CA.
2.3 Plant rare, threatened or endangered in California, but more common elsewhere, and not very threatened in CA.

All of these species and others have been identified as occurring in the general vicinity of the project site.[7] Therefore, the EIS/R must adequately address the impacts and propose effective ways to avoid, minimize, and mitigate the impacts to these resources through a robust slate of alternatives including alternative siting and alternative on-site configurations.

Desert Tortoise

The desert tortoise is continuing to decline throughout its range in California despite being under federal and state Endangered Species Acts protection as threatened and particularly in the area of the proposed project site[8] . The proposed Crimson project, despite being outside desert wildlife management areas (DWMAs) as identified in the Northern and Eastern Colorado Plan[9], will likely have desert tortoise occurring on site, because 1) tortoise are known from areas surrounding the proposed project, 2) it lies partially on an alluvial fan coming down from the Mule Mountains, and 3) it may lie within one of the required north-south wildlife connectivity corridors required under the Solar PEIS, which established the Solar Energy Zones that the project is being proposed in. Under the PEIS, not all of the lands within those zones are suitable for development, and in particular the required north-south wildlife connectivity linkages should be maintained as habitat. The EIS/R must clearly address alternative proposals for avoiding, minimizing and mitigating the impacts to the desert tortoise and any occupied habitat.

The BLM and CDFW must first look at ways to avoid impacts to the desert tortoise, for example, by identifying and analyzing *alternative sites* outside of desert tortoise occupied habitat or in areas that have already been severely disturbed by other prior land use as well as alternative project configurations that would avoid or significantly reduce impacts. The BLM and CDFW must also look at ways to minimize any impacts that the EIS/R finds are unavoidable, for example, by limiting the ground disturbing activities from the project and limiting access roads to the project. Acquisition of lands that will be managed in perpetuity for conservation must be included as part of the strategy to mitigate impacts to the tortoise, mitigation lands should also be high-quality habitat and, at minimum 5:1 mitigation should be provided of all acres of desert tortoise habitat destroyed. Set-aside conservation lands are particularly important because the project as proposed appears to have little or no compatibility with on-site conservation for desert tortoise.

Translocation as a long-term strategy for minimizing and mitigating impacts to desert tortoise may be a tool for augmenting conservation of the desert tortoise[10], but it cannot substitute for other mitigation such as preservation of habitat. Moreover, to date, translocation does not have a proven track record of success and translocation as mitigation has been questioned for its effectiveness in aiding recovery[11]. If translocation (for any species) is to be a part of the mitigation strategy, a detailed final plan must be included as apart of the EIS/R, and

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[7] CNDDB 2018 https://www.wildlife.ca.gov/Data/CNDDB/Maps-and-Data

[8] USFWS 2018 https://www.fws.gov/nevada/desert_tortoise/documents/reports/2018/2017_rangewide-mojave-desert-tortoise-monitoring.pdf

[9] BLM 2006 http://www.blm.gov/ca/st/en/fo/cdd/neco.html

[10] Field et al 2007 https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1092&context=usgsstaffpub

11 Germano et al. 2015 https://www.fws.gov/nevada/desert_tortoise/documents/publications/germano-et-al.2015.mitigation.pdf

include methodologies for determining appropriate conservation area where tortoises may be translocated, impacts to existing "host" tortoise populations that occur on the translocation site, when/how the tortoise are to be translocated, how tortoise diseases will be addressed, and requisite monitoring of host and translocated tortoises, etc.. Monitoring of the translocated and existing "host" tortoises needs to occur for a long enough time period that is realistic to evaluate success of the translocation –10 years may be a more realistic minimum for tracking impacts to this long lived species. Success criteria for translocation must also be clearly identified. Any temporary project site and construction lay down and staging areas need to be fenced with tortoise proof fencing during construction and the permanent project sites need to be fenced to prevent tortoise mortality. All associated roads also need to be fenced to prevent roadkill.

An aggressive raven prevention plan also needs to be developed as part of the EIS/R and followed during project development and implementation. This must include reducing perching opportunities and trash reduction and control. Open water sources should be strictly prohibited as well to reduce attraction of ravens and other tortoise predators.

Burrowing Owl

Burrowing owls are continuing to decline in California. If burrowing owls are identified on the site, at least one alternative should evaluate the reduction of impacts to this rare species by moving the project away from the nesting burrows. Additionally, acquisition lands may be required as part of the mitigation and will need to be managed in perpetuity for conservation. Mitigation lands should be high-quality habitat and, at minimum 5:1 mitigation should be provided of all acres of burrowing owl habitat destroyed. Additional measures for avoidance and minimization should also be incorporated into the evaluation of impacts to this species.

Mojave Fringe-toed Lizards

The proposed Crimson project lies within the important and irreplaceable sand transport corridor that originates in Joshua Tree National Park and terminates at the agricultural area surrounding Blythe. This sand river provides important habitat for a variety of sand dune specialists – both plants and animals. The Mojave fringe-toed lizard reaches its southern-most range in the proposed project area – the hottest and driest part of its range. The construction and operation of the Colorado River substation, which this project, as proposed, will surround on three sides, has experienced significant mortalities of Mojave fringe-toed lizards (initially over 103 animals during construction).[12] Despite implementing additional mitigation measures to reduce mortalities, additional mortalities to this species continued to occur[13]. The DEIS/R needs to carefully evaluate all measures to avoid impacts to this rare lizard during construction and operations, including alternative siting outside of the sand transport corridor, alternatives that reduce the use of heavy equipment and trucks crossing MFTL habitat, clearing roads of MFTL before each pass of heavy equipment and others. The DEIS/R must also consider the impact from the infrastructure which will create of perching opportunities for lizard predators on fencing and other infrastructure and describe ways to avoid these predation threats and impacts to this

12 http://www.cpuc.ca.gov/Environment/info/aspen/dpv2/reports/final_monitoring_report.pdf
13 See DVP2 Monitoring Report (attached)

species. BLM required another project - Desert Sunlight, which sits farther away from the sand transport corridor than this project - to prepare a Mojave Fringe-toed Lizard Protection Plan (Desert Harvest FEIS at Wil-4). Unfortunately that plan was not provided for public review and is not as robust as it should be. BLM and CDFW can correct those shortcomings here; this DEIS/R needs to require a Mojave Fringe-toed Lizard Protection Plan and provide the draft plan for public review along with the Draft EIS/R.

Avian Species

Large-scale renewable energy facilities in California are having direct and indirect impacts on migratory birds[14]. The scale of the impacts and the significance to the overall population abundance and ecology of migratory bird species is potentially significant, yet due to a lack of standardized monitoring and analysis, the scale of the impacts remains unknown. Surveys have found low background mortality in the California desert overall.[15] In order to account for project impacts to avian species at a specific site, it is essential that standardized before-after-control-impact surveys of migratory birds are conducted when developing projects, including the proposed project, in order to understand how renewable energy projects are affecting our migratory bird populations and to ensure that projects are developed in accordance with federal law and international treaties.

At this time, there are numerous large-scale solar energy projects operational in the California desert with others moving forward. The land being developed for renewable energy is habitat used by migratory bird species as they migrate and periodically stopover at various sites. These areas are crucial for the viability of the migratory populations. At solar facilities in California that are either under construction or operational, individuals of over 40 species of migratory birds have been found injured or dead[16] and this is far above the background mortality found during control surveys.[17] Avifauna impacted by the nearby solar PV facilities include multiple species of raptors, passerines, and water birds, such as the endangered Ridgway's clapper rail (*Rallus longirostris yumanensis*), and the federally threatened Yellow-billed cuckoo (*Coccyzus americanus*).

The proposed project needs to incorporate at a minimum, collect baseline avian information over all seasons, avoidance and minimization measures, and a robust avian monitoring program with a commitment to implement additional minimization measures as new information emerges. For example, one approach to implement avoidance and minimization would be by incorporating technologies that make the solid photovoltaic panel visible and avoidable to birds. This is a potential technological "fix" that should be considered in the alternatives analysis for incorporation into the project design.

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14 Kagan et al. 2014 http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN202538_20140623T154647_Exh_3107_Kagan_et_al_2014.pdf
15 Fesnock 2017 presentation (see attached)
16 Kagan et al. 2014 http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN202538_20140623T154647_Exh_3107_Kagan_et_al_2014.pdf
17 Fesnock 2017 (see attached)

Desert Dry Wash Woodland and Other Natural Communities

The analysis of impacts to species must include impacts to natural communities such as desert dry wash woodland that provide habitat for many other species as well. DDWW is a rare habitat type (as recognized in the DRECP) and particularly associated with streambeds in these arid areas. Any potential impacts (direct, indirect or cumulative) to this natural community must be identified and analyzed along with alternatives to avoid these critically important landscape features. Further, all rare vegetation communities on the site and adjacent lands must be fully considered in the EIS/R. We support and fully incorporate the scoping comments submitted by the California Native Plant Society for this project.

In preparing the environmental setting and baseline information regarding streambed locations and extent, CDFW should use robust delineation methodology such as the MESA.[18]

Pursuant to California law, CDFW must also consider avoidance, minimization and mitigation for all sensitive plant communities. The CDFW has identified numerous rare plant communities[19], including communities that are found in the California deserts and possibly on the proposed project site. The CDFW also provides guidance on impact analyses to these sensitive plant communities[20] and the DEIS/R needs to incorporate this impact analysis methodology into the environmental review for this proposed project.

Other Rare Species

The diversity of rare species found across the landscape near and on the proposed Crimson site is impressive and suggests that the proposed project site is part of a larger ecologically intact and functioning unit[21]. The BLM and CDFW must clearly address proposals for avoiding, minimizing and mitigating the impacts to all of the rare species that utilize the sites for part or all of their lifecycle.

Acquisition of lands that will be managed in perpetuity for conservation must be included as part of the strategy to avoid, minimize and mitigate impacts to the other species found on site as well. Acquisition is particularly important for these species because the proposed project appears to have little compatibility with any type of on-site conservation of plant communities or wildlife.

For the rare plants, for example, large old-growth yuccas and microphyllous trees, avoidance is preferable because of the general lack of success in transplanting rare plants[22]. If transplantation is to be a part of the mitigation strategy, a detailed final transplantation plan must

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18 CEC Report: *Methods to Describe and Delineate Episodic Streams on Arid Landscapes for Permitting Utility Scale Solar Power Plants with the MESA Field Guide.* 2014 Available at http://www.energy.ca.gov/2014publications/CEC-500-2014-013/index.html

19 https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#sensitive%20natural%20communities

20 https://www.wildlife.ca.gov/Data/VegCAMP/Natural-Communities#environmental%20review

21 CNDDB 2010 http://www.dfg.ca.gov/biogeodata/cnddb/mapsanddata.asp

22 Fiedler 1991 https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=3173

be included as part of the EIS/R on the methodology for determination of appropriate conservation area where plants may be transplanted, when/how plant are to be transplanted and identification of success criteria for transplantation. Monitoring of the transplanted plants needs to occur for a time period that is realistic to evaluate long-term success of the plants.

Locally Rare Species

The Center requests that the EIS/R also evaluate the impact of the proposed project on locally rare species (not merely federal- and state-listed threatened and endangered species). The preservation of regional and local scales of genetic diversity is very important to maintaining species in perpetuity especially in light of global climate change. Therefore, we request that all species found at the edge of their ranges or that occur as disjunct locations be evaluated for impacts by the proposed permitted activities.

Sand Transport Corridor

The site is known to be within the sand transport corridor that originates in Joshua Tree National Park, through the Palen and Ford Dry Lake Valleys, across Interstate 10 to the agricultural areas adjacent to Blythe. This corridor provides sand habitat for a suite of sand-specialists, including the Mojave fringe-toed lizard and endemic insects. Baseline data should be collected on all of these sand-dependent species. Avoidance through alternative project design or siting must be the first step, and if any remaining impacts to habitat as well as disruption to the sand transport corridor are anticipated they must be identified, minimized and analyzed.

Water Resources

The project will impact many on-site drainages on the project site. The EIS/R document must clarify the impacts to the jurisdictional Waters of U.S. and the Water of the State of California (as noted above, the delineation for waters of the state should use the MESA protocol to ensure robust analysis), and avoid, minimize and mitigate any impacts. Impacts should be avoided to the greatest extent possible and if impacts remain they must be minimized and mitigated. In doing so, any reroute of waters and drainage on the site must assure that downstream processes are not impacted.

An evaluation of the effect of additional groundwater pumping (in conjunction with other groundwater issues [pumping, nitrate plume etc.] in the basin) on the water quality in the basin and surface water resources, and its effect on the native plant and animal species and their habitats need to be included in the EIS/R.

Alternatives

The EIS/R must include a robust analysis of alternatives, including alternative siting (both public and private lands alternatives), and alternatives using other technologies including distributed generation. The stated objectives of the project must not unreasonably constrain the range of feasible alternatives evaluated in the EIS/R. The BLM and CDFW must establish an independent set of objectives that do not unreasonably limit the EIS's analysis of feasible

alternatives including alternative sites. At a minimum alternatives including the no-action alternative, an alternative that avoids all sand transport corridors and semi-stabilized sand habitats as well as all DDWW, alternatives sties, and an alternative where power generation is sited adjacent to power consumption need to be included.

Other Resources

The construction and operation of the proposed facilities will also impact air quality and traffic in the area and these impacts should be disclosed, minimized and mitigated as well. For mobile sources, since consistency with the AQMP will not necessarily achieve the maximum feasible reduction in mobile source greenhouse emissions, the EIS/R should evaluate specific mitigation measures to reduce greenhouse emissions from mobile sources. Soil disturbance should be kept to a minimum to limit additional contributions to PM in this area as well.

The project may directly, indirectly and cumulatively impact cultural resources and these must be fully addressed in the EIS/R including alternatives to avoid impacts, and to minimize and mitigate any impacts that cannot be avoided.

Fire Impacts

Because the any industrial project increases the potential for human-caused fire to occur on site, fire prevention including best management practices must be addressed and clearly identified in the EIS/R - not only on-site protection of resources, but also preventing fire from moving into the adjacent lands. Fire is incredibly detrimental to desert ecosystems, resulting in degradation of the habitat and if frequently reburned results in a type conversion to non-native vegetation[23].

Non-Native Plants

The EIS/R must identify and evaluate impacts to species and ecosystems from invasive exotics species. Many of these species invade disturbed areas, and then spread into wildlands. Fragmentation of intact, ecologically functioning communities further aides the spread and degradation of plant communities[24]. These factors for wildland weed invasions are present in the project, and their effect must be evaluated in the EIS/R. Additionally, landscaping with exotic species is often the vector for introducing invasive exotics into adjacent habitats. Invasive landscape species displace native vegetation, degrade functioning ecosystems, provide little or no habitat for native animals, and increase fire danger and carrying capacity[25] and should be banned from the project site.

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[23] Brooks et al 2013 https://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1080&context=jfspresearch http://www.nps.gov/moja/naturescience/upload/Fire%20congress%202006_brooks%20and%20draper_extended%20abstract.pdf

[24] Bossard et al 2000. http://www.cal-ipc.org/resources/library/publications/ipcw/

[25] Brooks 2000 http://listserver.energy.ca.gov/sitingcases/genesis_solar/documents/others/testimony_centr_biological_diversity/exhibits/Exh.%20806.%20Brooks%202000.%20Competition%20between%20alien%20annual%20grasses%20and.pdf

Wildlife Movement

Because the project site is located within a required wildlife connectivity corridor discussed above, a thorough and independent evaluation of the project's impacts on wildlife movement is essential. The EIS/R must evaluate all direct, indirect, and cumulative impacts to wildlife movement corridors. The analysis should cover movement of large mammals, as well as other taxonomic groups, including small mammals, birds, reptiles, amphibians, invertebrates, and vegetation communities. The EIS/R should first evaluate habitat suitability within the analysis window for multiple species, including all listed and sensitive species. The habitat suitability maps generated for each species should then be used to evaluate the size of suitable habitat patches in relation to the species average territory size to determine the appropriate size and location of linkages and that they provide both live-in and move-through habitat. The analyses should also evaluate if suitable habitat patches are within the dispersal distance of each species. The EIS/R should address both individual and intergenerational movement (i.e., will the linkages support metapopulations of smaller, less vagile species). The EIS/R should identify which species would potentially utilize the proposed wildlife movement corridors under baseline conditions and after build out, and for which species they would not. In addition, the EIS/R should consider how wildlife movement will be affected by other planned approved, planned, and proposed development in the region as part of the cumulative impacts analysis.

The EIS/R should analyze any proposed on-site wildlife movement corridors are wide enough to minimize edge effects and allow natural processes of disturbance and subsequent recruitment to function. The EIS/R should also evaluate whether the wildlife movement corridors would provide key resources for species, such as host plants, pollinators, or other elements. For example, many species commonly found in washes depend on upland habitats during some portion of their cycle. Therefore, in areas with intermittent or perennial streams, upland habitat protection is needed for these species. Upland habitat protection is also necessary to prevent the degradation of aquatic habitat quality.

Cumulative Impacts

Because of the number of currently permitted and proposed projects in the projects' vicinity, the region, and the CDCA, a thorough analysis of the cumulative impacts from all of these projects on the resources needs to be included. Because the project site is within solar energy zone designated in the Solar PEIS, projects located in the zone have the potential to cumulatively significantly impact the existing biological resources and ecological processes that currently exist within the zone. To date several projects have been permitted in the general vicinity, including the Desert Sunlight and Desert Harvest projects to the northwest, the Genesis project to the north and multiple projects to the east. Other nearby proposed projects are well into the environmental review process, including the Palen project. Additionally other applications are filed in the area. While the zone may be appropriate for some renewable energy development, especially on already disturbed lands, the EIS/R must evaluate if the cumulative impact from the projects will cause significant unmitigable impacts not only to the zone but to the surrounding resources including the Mule Mountains ACEC and Joshua Tree National Park,

which already is impacted by border development on the south, east and west boundaries. In addition, cumulative impacts to cultural resources across this landscape must be fully addressed. The EIS/R must evaluate if the cumulative impact from the projects will cause significant unmitigable impacts to BLM identified Areas of Critical Environmental Concern (ACECs), Wildlife Habitat Management Areas (WHMAs) and federally designated Wilderness.

Thank you for your consideration of these comments. Please add us to the distribution list for the EIS/R and all notices associated with this project.

Sincerely,

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PROJECT MEMORANDUM
SCE DPV2 TRANSMISSION PROJECT

To: Billie Blanchard, Project Manager, CPUC
From: Vida Strong, Aspen Project Manager
Date: April 25, 2013
Subject: Weekly Report 89, March 25 to March 31, 2013

INTRODUCTION

This report provides a summary of the construction and compliance activities associated with the SCE DPV2 Transmission Line and Red Bluff Substation Projects. This report is organized as follows:

- Transmission Line Construction
- Substation Construction and Upgrades
- Construction Yards and Other Workspaces

A summary of the Notices to Proceed (NTPs) with construction and Variance Request activity are also provided (see Tables 1 and 2, respectively, near the end of this report). Additionally, a summary of Temporary Extra Workspace (TEWS) and non-compliance activities are provided in Tables 3 and 4, respectively. Table 5 provides a summary of transmission line construction progress to date.

CPUC/BLM/Aspen Environmental Monitors (EM): Ryann Loomis, Rosina Goodman, Jamie Miner, Carla Wakeman, and Scott Debauche.

TRANSMISSION LINE CONSTRUCTION

Summary of Activity

1. Colorado River Substation (CRS) to Red Bluff Substation
   - No construction activities were conducted during the subject period.
2. Red Bluff Substation to Devers Substation
   - Maintenance of Coachella Valley fringe-toed lizard fencing occurred at Towers 2122 and 2126.
   - Maintenance road grading occurred on the right-of-way (ROW) between Towers 2011 thru 2012, and 2221 thru 2225.
   - Wire stringing activities were conducted between Towers 2010 thru 2018, Towers 2257 thru 2326, and at associated wire stringing locations.
   - Telecommunication splicing occurred at Towers 2431, 2440, 2454, 2505, 2516, RB1-2E, and RB2-3E.
   - Foundation closeout activities were conducted at Tower 2443.
   - Site stabilization activities, including BMP removal, recontouring, and desert pavement/topsoil replacement were conducted at Towers 2134, 2137, 2202, 2203, 2205 thru 2225, 2227, 2228, 2327, 2328, 2330, 2331, and 2332, Pull Site 42, Wire Site 41, Splice Sites 29, 30, 38, and 42, Fiber Optic Reel Site 51, Guard Structures 54 and 55, Wire Site 53/Pull Site 54/Splice Site 41, and Wire Site 55/Pull Site 56/Splice Site 43.

3. Devers Substation to Valley Substation

Non-USFS Land

- Installation of BMPs occurred at Towers 1032, 1034, 1053, 1055 thru 1057, 1059, 1061, 1064, 1065, 1081, 1095, 1096, 1098, 1099, 1100, 1101, and 1140.
- Maintenance of BMPs occurred at Towers 1032 thru 1035, 1049 thru 1051, 1080, 1093, 1094, 1107 thru 1129, 1133 thru 1142, and 1145 thru 1155.
- Installation of guard poles occurred at Guard Structures GS1 thru 4, and 12 (see Figure 1).
- Site clearing occurred at Wire Site 36 (see Figure 2).
- Site clearing for permanent landing pads occurred at Tower 1034.
- Grading activities occurred on the ROW access road from HWY 79 to Tower 1101.
- Grading activities occurred at Guard Structures 19, 20A, and 20B, and Wire Site 37.
- Grounding wire trenching occurred at Tower 1064.
- Micropile foundation activities occurred at Towers 1070, 1101, 1102, 1103, 1108, and 1109.
- Tower assembly and/or steel deliveries occurred at Towers 1036, 1049, 1070, 1071, 1073, 1075, 1081, 1093, 1094, 1099, 1105, 1106, 1110, 1111, 1113, 1116, 1118, 1124, 1130, 1131, 1132, 1140, 1142, 1153, 1154, and 1155 (see Figure 3).
- Tower foundation close-out activities occurred at Towers 1055 through 1057, 1059, 1063, 1077, 1078, 1087, 1122, 1125, 1135, 1136, 1140, 1145, 1146, 1150, 1151, and 1154.
- Wire stringing activities were conducted between Towers 1001 and 1010, and at associated wire stringing locations.

USFS Land

- BMP maintenance occurred at Towers 1037 thru 1048.
- Site clearing for permanent landing pads occurred at Tower 1043.
- Micropile foundation activities occurred at Tower 1037 thru 1048.
- Tower assembly occurred at Towers 1037, 1040, 1042, 1045, and 1046.

Environmental Compliance

- Per the requirements of the Paleontological Monitoring and Treatment Plan, approved Paleontological Monitors were present during grading and foundation drilling activities where required throughout the subject period.
- The CPUC EMs confirmed that approved desert tortoise Authorized Biologists were available at all applicable sites.
- The CPUC EMs confirmed Authorized Coachella Valley fringe-toed lizard (CVFTL) Monitors and handlers were onsite during construction activities at applicable sites.
- The CPUC EMs confirmed permitted California gnatcatcher (CAGN) Biologists were onsite during construction activities at applicable sites.
- On March 28, dust plumes were observed originating from (Helicopter Landing Zone) HLZ H7 disturbance area upon K-Max helicopter approach to site to return a tower leg sections during two picks. As soon as the tower leg was released from the longline during the second pick and secured by ground crews, the onsite water truck began watering the areas where dust plumes were generated.
- There were two incidents of crews working outside of the approved disturbance area boundaries.

- On March 27, the CPUC EM observed a contractor vehicle towing guard poles from a yard that was not approved for the DPV2 project. The CPUC LEM notified the SCE Environmental Coordinator (EC) of the observation. The SCE Environmental Coordinator (EC) confirmed that the contractor was using an unapproved yard and were notified to vacate that yard and move all equipment and materials to an approved DPV2 yard.
- On March 28, the CPUC EM observed a truck and trailer staged in an unapproved area near Tower 1094. The SCE EC was notified and informed the CPUC EM the truck and trailer would be moved. The next day the CPUC EM observed the truck and trailer were moved into an approved disturbance area (see Figure 4).

- On March 26, the sockline used to pull OPGW broke and fell to the ground between Towers 2265 and 2305. The small diameter line contacted the ground for approximately 100 feet. Recovery of the line did not require any off road work. Upon inspection of the area, the SCE Biological Monitor determined that there were no impacts to biological resources (see Figure 5).

No Non-Compliance Reports or Project Memoranda were issued during the subject period for substation construction and upgrade activities. Non-Compliance activities for the project to date are summarized in Table 4.

Agency Representatives during Construction (Other than CPUC EMs):

None.

SUBSTATION CONSTRUCTION AND UPGRADES

Summary of Activity

1. Colorado River Substation (CRS) (BLM Lands) – Activities that occurred at CRS during the subject period included foundation excavation, construction of the MEER building and switchracks, installation of conductor cable and other conduit, trenching for grounding and backfilling of trenches, storm drain installation, steel erection, and telecomm splicing. Activities associated with the CRS access road improvements included key trenching and installation of riprap and culverts.
2. Southeast (SE) Telecomm Line (BLM and Private Lands) – Activities that occurred during the subject period were limited to fiber optic cable splicing.
3. Desert Center Telecomm Site (BLM and Private Lands) – Activities that occurred during the subject period included civil grading, retaining wall construction, distribution pole and line installation, driveway access construction, and running conduit cable.
4. Red Bluff Substation (BLM Lands) – Activities that were conducted at the Red Bluff site included foundation excavation; construction of the MEER building, transformer pads, and switchracks; installation of conductor cable and other conduit; trenching for grounding; steel erection; and telecomm splicing (see Figure 6).
5. Chuckwalla Telecomm Site (BLM Lands) – Activities that occurred during the subject period were limited to MEER building electrical work and tower erection.
6. Series Capacitor (BLM Lands) – Activities that were conducted during the subject period included construction associated with the capacitor and MEER building, foundation excavation, security equipment installation, grounding well construction, transmission line bypass jumper installation, and telecomm fiber optic cable splicing (see Figure 7).
7. Mirage Substation Loop-ins (Private Lands) – Construction activities included telecommunication fiber optic stringing and splicing from the Mirage Substation to Tower 2130.
8. Devers Substation (Private Lands) – Activities that were conducted for the Devers Substation expansion and upgrades included work associated with the extension of the 500 kV switchrack 2 positions and MEER building electrical improvements.

9. Valley Substation (Private Lands) – No construction activities occurred during the subject period.

Environmental Compliance

- SCE General, Biological, and Archeological Monitors were onsite, as appropriate, throughout all construction activities associated with the above listed sites.
- There were fourteen reported mortalities of Mojave fringed-toed lizards along the CRS access road during the subject period.
- There was one incident associated with excessive vehicle speed along the CRS access road reported during the subject period.
- There was one incident associated with improper disposal of trash (including food scraps) reported at CRS during the subject period.

No Non-Compliance Reports or Project Memoranda were issued during the subject period for substation construction and upgrade activities. Non-Compliance activities for the project to date are summarized in Table 4.

Agency Representatives during Construction (Other than CPUC EMs):

None.

Construction YARDS AND OTHER WORKSPACES

Summary of Activity:

Non-Federal Lands:

Blythe Yard (Material Yard/Contractor Show-Up Yard) – There were no construction activities conducted during the subject period. The process of closing out this yard is underway.

Desert Center 1 Yard (Material Yard) – There were no construction activities conducted during the subject period. The process of closing out this yard is underway.

Desert Center 2 Yard (Material Yard/Contractor Show-Up Yard) – There were no construction activities conducted during the subject period. The process of closing out this yard is underway.

Chiriaco Summit Yard (Material Yard) – Activities are limited to minor maintenance, implementation of BMPs, and material deliveries.

Indio Yard (Material Yard) – Activities are limited to minor maintenance, implementation of BMPs, and material deliveries.

Indio 2 Yard (Material Yard) – Activities are limited to minor maintenance, implementation of BMPs, and material deliveries.

Devers Yard (Material Yard) – Activities are limited to minor maintenance, implementation of BMPs, and material deliveries.

Devers 2 Yard (Contractor Show-Up Yard) – Activities are limited to minor maintenance, implementation of BMPs, temporary storage of construction equipment and materials, and worker vehicle parking.

Beaumont Yard (Material Yard) - Activities are limited to minor maintenance, implementation of BMPs, and material deliveries.

Beaumont 2 Yard (Contractor Show-Up Yard) – Activities are limited to minor maintenance, implementation of BMPs, temporary storage of construction equipment and materials, and worker vehicle parking.

Menifee Yard (Contractor Show-Up Yard) – Activities are limited to minor maintenance, implementation of BMPs, temporary storage of construction equipment and materials, and worker vehicle parking.

Perris Yard (Contractor Show-Up Yard) – Activities are limited to minor maintenance, implementation of BMPs, temporary storage of construction equipment and materials, and worker vehicle parking.

Environmental Compliance:

- SCE Biological Monitors conducted biological sweeps at all construction yards throughout the subject period.

No Non-Compliance Reports or Project Memoranda were issued during the subject period for Construction yard activities. Non-Compliance activities for the project to date are summarized in Table 4.

Agency Representatives during Construction (Other than CPUC EMs):

None.

CPUC/BLM NOTICES TO PROCEED (NTPS)

Table 1 summarizes the CPUC/BLM Notices to Proceed (NTPs) for the DPV2 and Red Bluff Projects, to date.

TABLE 1
NTPs
(Updated 4/25/13)

NTP #/ Permit	Date Requested	Date Issued	Segment	Description
CPUC NTPs				
NTP #1	04/28/11	06/23/11	Yards	Authorization to proceed with the development of the Devers, Desert Center 1, Desert Center 2, Summit, Blythe, Perris, Beaumont, and Menifee Construction Yards.
NTP #2	08/05/11	09/09/11	T/L	Installation of exclusionary fencing, Devers to Blythe. No cultural resources affected. Bio pending.
NTP #3	08/26/11	09/19/11	Yards	Construction of Beaumont Construction Yard #2.
NTP #4	09/09/11	09/20/11	Yards	Construction of Indio Construction Yard.
NTP #5	09/16/11	10/11/11	Red Bluff Distribution Line	Upgrades to a segment of the existing SCE 12 kV circuit overhead distribution line to supply light and power to the Red Bluff Substation, non-BLM lands.
NTP #6	09/16/11	10/17/11	Substation	Authorization to proceed with improvements to the new Colorado River Substation on private lands, including extension of the existing 33 kV distribution line, installation of a new telecommunication line, and access road improvements.
NTP #7	09/09/11	12/01/11	T/L – DPV1	Construction activities associated with a minor relocation of the Devers-Valley No. 1 Line (DV1).
NTP #8	10/08/11	12/02/11	T/L – CRS to Red Bluff	Construction of the DPV2 transmission line between Red Bluff and Colorado River Substations and replacement of existing DPV1 overhead ground wire; non-BLM lands.
NTP #9	10/08/11	12/02/11	T/L – Devers to Red Bluff	Construction of the DPV2 transmission line between the existing Devers Substation and the new Red Bluff Substation; non-BLM lands.
NTP #10	10/08/11	12/02/11	T/L – Devers to Valley	Construction of the DPV2 transmission line between existing Devers and Valley Substations; not including San Bernardino National Forest lands.
NTP #11	11/08/11	12/10/11	Yards	Construction of Devers 2 and Indio 2 Construction Yards.

NTP #/ Permit	Date Requested	Date Issued	Segment	Description
NTP #12	01/20/12	02/03/12	Yards	Construction of Desert Center 3 Construction Yard.
NTP #13	04/12/12	05/09/11	Substation	Devers Substation upgrades
NTP #14	06/13/12	06/20/12	Substation	Valley Substation upgrades
__	06/19/12	Retracted	T/L- Devers to Valley	H10- Helicopter Landing Zone
NTP #15	07/16/12	11/15/12	Substation	Colorado River Substation to Blythe South East Telecommunication Route
NTP #16	11/07/12	12/03/12	Substation	Mirage loop in.
BLM NTPs				
BLM NTP #1	08/26/11	09/19/11	DPV2 Substation, T/L	Authorization to proceed with construction of the DPV2 Transmission Line, Colorado River Substation, and associated project components on BLM lands.
BLM NTP #2	08/26/11	09/19/11	Substation	Construction of Red Bluff Substation and associated project components, BLM lands.

VARIANCE & TEMPORARY EXTRA WORKSPACE REQUESTS

Table 2 presents Variance Requests submitted to CPUC, BLM and/or USFS for review and approval. Table 3 presents CPUC Temporary Extra Workspace (TEWS) and BLM Level 1 requests that are submitted to the CPUC EMs for review and approval. Variance Requests and CPUC TEWS/BLM Level 1/2A requests submitted to date are summarized in Tables 2 and 3, respectively.

TABLE 2
VARIANCE REQUESTS
(Updated 4/25/13)

Variance Request	Date Requested	Date Issued	Segment	Description
Private Lands (CPUC Jurisdiction)				
VR #1	05/06/11	05/24/11	Devers-Valley	Construction of traditional lattice towers instead of "Tetra" towers at two locations (Structures #1139 and #1140)
VR #2	04/21/11	05/26/11	All	Revisions to Mitigation Measure B-7d pertaining to seasonal restrictions for Coachella Valley fringe-toed lizard and flat-tailed horned lizard to support consistency with conditions provided in the Biological Opinion.
VR #3	07/12/11	07/18/11	DC 1 & DC 2 Yards	Utilize offsite well location and installation of 12,000-gallon water tank for filling trucks.
VR #4	07/06/11	07/21/11	Menifee Yard	Expansion of Menifee Construction Yard, which would include approximately 5 acres of additional disturbance within the western portion of the parcel, for material storage and other activities.

Variance Request	Date Requested	Date Issued	Segment	Description
VR #5	04/22/11	07/28/11	CRS Devers and Valley Substations, Series Capacitor Site	Modification of APM A-7 regarding carpooling for construction at substations.
VR #6	07/07/11	08/01/11	Menifee, Beaumont, Perris Yards	Request to remove Mitigation Measures B-13a and B-13b, and to modify B-1a, B-1a (revised), and B-7e pertaining to Western Riverside County MSHCP compliance.
VR #7	08/11/11	08/22/11	Perris, Beaumont, Menifee, Blythe Yards	Request to utilize offsite water hydrants at Perris, Beaumont, Menifee, and Blythe Construction Yards.
VR #8	08/26/11	08/27/11	Beaumont Yard	Request to install seeded jute netting along the property frontage at Beaumont Construction Yard.
VR #9	08/24/11	09/01/11	DC 2 Yard	Request for installation of temporary power poles outside of Desert Center 2 Construction Yard.
VR #10	08/26/11	09/01/11	Devers & Summit Yards	Utilize offsite water locations needed for dust suppression at Devers and Summit Construction Yards.
—	09/21/11	Retracted	Perris Yard	Request for additional workspace involving vegetation clearing, installation of BMPs, and temporary driveway installation at Perris Construction Yard.
VR #11	09/26/11	09/28/11	T/L	Two water sources for exclusionary fencing work.
VR #12	10/13/11	10/18/11	T/L	Request for parking/temporary staging of vehicles along existing access road within the Coachella Valley Preserve during exclusionary fencing activities.
VR #13	10/26/11	11/10/11	Devers Yard	Request for temporary power supply to provide power to construction trailer at the Devers #1 Construction Yard.
VR #14	11/10/11	11/28/11	Substation	Request for increased well pumping to support civil work, including access road improvements, at Colorado River Substation.
VR #15	12/13/11	12/14/11	Summit Yard	Request for temporary power outside yard boundaries required to power office trailers.
VR #15 Mod	04/25/12	05/02/12	Summit Yard	Request for temporary power modification.
VR #16	12/22/11	01/04/12	Project-wide	Request to approve alternate/extended work hours project-wide.
VR #17	01/04/12	01/09/12	Project-wide	Request to utilize existing approved construction yard and/or exclusionary fencing water sources for transmission line construction needs.
VR #18	10/25/12 10/26/12	Denied 01/13/12	Substation	Request to formalize changes to the Red Bluff MMCRP Mitigation Measure BIO-4 and Applicant Measure BIO-5.

Variance Request	Date Requested	Date Issued	Segment	Description
VR #19	01/06/12	01/18/12	T/L	Request to allow the usage of helicopter landing zone H9-DV as a replacement for H8-DV.
VR #20	01/13/12	01/19/12	T/L	Request for the use of offsite water hydrants located in the Cabazon area for dust suppression.
VR#21	01/20/12	02/02/12	T/L	Request for the use of offsite water hydrants located in the Lake Tamarisk area for dust suppression
VR #21 Mod	03/16/12	03/21/12	T/L	Modification to VR #21. Request installation of two driveways and an underground water line adjacent to the approved stand tank locations at the Lake Tamarisk Resort water source.
VR #21 Mod	09/24/12	10/03/12	T/L	Request for a modification to Variance #21 for the expansion of the egress at the Lake Tamarisk water source.
VR #22	01/25/12	02/02/12	T/L	Request to install 10,000-gallon standing water tanks at three locations.
VR #23	01/27/12	02/21/12	T/L	Request to modify NTP #10 and MM AQ-1g for additional t-line helicopter construction.
VR #24	02/08/12	02/21/12	T/L	Request for approval to purchase MWD water credits in lieu of Colorado River water credits due to the unavailability of water allotments within the Colorado River Basin.
VR #25	02/10/12	02/28/12	T/L	Request for use of existing DPV1 access roads and spur/stub roads for parking and staging of vehicles and equipment.
VR #26	03/09/12	03/16/12	Substation	Request for the use of offsite water source located on a private date farm.
VR #27	03/09/12	03/20/12	Substation	Request for the use of offsite water source located off Corn Springs Road.
VR #28	03/22/12	03/30/12	T/L	DPV2 Gas Line Road.
VR #29	03/22/12	04/04/12	T/L	DVP1 minor relocation of outage pull sites.
VR #30	03/23/12	04/10/12	Substation	CRS pull sites.
VR #31	04/24/12	05/05/12	T/L	Helicopter landing zone H2 disturbance area revision
VR #32	03/16/12	05/08/12	T/L	HLS H7-DV boundary modification.
VR #33	04/26/12	05/17/12	T/L	Additional water hydrant locations
VR #35	05/11/12	05/15/12	Substation	Request to eliminate construction screening of the Devers Substation Expansion area.
VR #36	05/17/12	05/29/12	T/L	Three additional water stand tanks from Devers to Red Bluff
VR #37	06/20/12	06/30/12	T/L	Request a disturbance area shift for Tower 1013 due to engineering changes.
VR #38	08/09/12 Revised	08/21/12	T/L	Request for additional water source locations in the Thousand Palms area.
VR #39	08/14/12	09/05/12	T/L	Request for additional access road use near Towers 2103, 2112, and 2260.

Variance Request	Date Requested	Date Issued	Segment	Description
VR #40	08/22/12	09/11/12	T/L	Request for the use of an existing spur road to Tower 2242.
VR #41	09/10/12	09/12/12	T/L	Request for the use of additional access routes to Towers 1118-1122 and HLZ H9. These roads were previously approved through the TEWS process.
__	04/12/12	Retracted	T/L	Preconstruction survey extension request from 14 days to 30 days. Petition for Modification required.
__	08/09/12 revised	Retracted	T/L	APM A-6 - Eliminate tarping on bottom dump trucks. Petition for Modification required.
VR #42	08/14/12	09/21/12	T/L	Request for a road to be used as a helicopter picking site near Tower 1031.
VR #42 Mod	02/28/13	03/05/13	T/L	Request to modify Variance 42 to allow equipment and material to be staged on the access road near Tower 1031 for helicopter picks.
__	08/14/12	Retracted	T/L	Request that Helicopter Landing Zones (HLZs) on Devers to Valley be exempt from construction screening MM V-1a.
VR #43	09/18/12 (revised)	09/21/12	T/L	Request revisions to pull sites from Devers to Red Bluff.
VR #44	09/24/12	09/28/12	T/L	Request a stub road revision at Tower 1147.
VR #45	09/25/12	10/04/12	T/L	Request for the use of additional access roads on the Devers to Valley section.
VR #46	09/20/12	10/10/12	T/L	Helicopter Picking Locations for Sites 1112 and 1108.
VR #47	10/09/12 (revised)	10/18/12	T/L	Relocation of guard structures and an addition of an access road in the Devers to Red Bluff section.
VR #48	10/02/12	10/18/12	T/L	Request for an additional water source in the Devers to Valley section.
VR #49	11/02/12	11/07/12	T/L	Request additional disturbance area at Tower 2000X.
VR #50	10/19/12	11/11/12	T/L	Request for the expansion of splice site 57 (near Tower 2557) and expansion and shift of splice site 64 (near Tower 2614).
VR # 51	10/24/12	11/15/12	T/L	Request to convert two conventional tower sites to helicopter sites from Devers to Red Bluff. In addition, SCE is requesting to add temporary helicopter platforms to access three sites.
VR #52	11/13/12 (revised)	11/15/12	T/L	Request to revise the disturbance area for Fiber Optic Site 59.
VR #53	10/30/12	11/20/12	Substation	Request access road improvements along the CRS access road.
VR #54	11/27/12	12/07/12	T/L	Request to revise pull site on Devers to Valley (pull Package 1).
VR #55	11/28/12	12/10/12	T/L	Request to revise pull sites from Devers to Red Buff (Pull Site Revision III-B).
VR #56	12/17/12	01/07/13	T/L	Request for an additional HLZ site near Tower 1051.

Variance Request	Date Requested	Date Issued	Segment	Description
VR#57	01/03/13 and 01/07/13	01/10/13	T/L	Request to shift guard structures from Red Bluff to Devers (Priority #1). Request to shift guard structures from Red Bluff to Devers (Minor Modification).
VR #58	01/04/13	01/15/13	T/L	Request to shift pull sites from Red Bluff to Devers (Pull Site Priority #2).
VR #59	01/08/13	01/15/13	Substation	Request for a temporary work area for the Mirage Substation Telecommunication Loop-In.
VR #60	01/18/13	01/22/13	Substation	Request for an additional disturbance area for CRS SE Telecom Route Anchor Rod Installation.
VR #61	01/18/13	01/23/13	Substation	Request to use Gravel Pit Road to access pole installation locations east of TL tower M123-T1 for the SE Telecom Route.
VR #62	01/30/13	02/07/13	T/L	Request to shift Devers to Valley Pull 102 for Towers 1002-1010.
VR #63	01/30/13	02/07/13	T/L	Request to shift Devers to Valley Pulls 103 for Towers 1010-1019.
VR #64	01/29/13	02/12/13	T/L	Request to shift Devers to Valley Pulls 104-105 for Towers 1019-1031.
VR #65	01/31/13	02/12/13	T/L	Request to shift Devers to Valley Pulls 101 for Towers 1000-1002.
VR #65 MOD	03/22/13	03/25/13	T/L	Request to modify Guard Structure Sites GS3 and GS4 previously approved in Variance #65.
VR #66	02/14/13 Revised on 02/25/13	02/28/13	T/L	Request to expand Tower 1077 disturbance area.
VR #67	02/25/13	02/28/13	T/L	Suppress fugitive dust outside of HLZs H2 and H2A disturbance areas, including required access roads.
VR #68	02/13/13	03/07/13	T/L	Request to shift Devers to Valley Pulls 109 for Towers 1083-1090.
VR #69	03/07/13	03/08/13	T/L	Request to use Gasline Road to Tower 2249 to avoid an active nest.
VR #69 MOD	03/26/13	04/01/13	T/L	Request to modify Variance #69 by adding an access road between the Gasline Road and the ROW road near Tower 2249.
VR #70	03/05/13	03/13/13	Substation	Request to use access roads by Devers Substation.
VR #71	03/08/13	03/14/13	T/L	Request to modify the turning radius at HLZ H7.
VR #72	03/13/13	03/18/13	T/L	Request to shift Devers to Valley Pulls 115 for Towers 1132 to 1143.
	03/11/13	Under Review	T/L	Request for the following yards (Beaumont 1, Perris, Devers, Indio 1 and Desert Center 2) to stay as permanent construction yards.
VR #73	03/13/13	03/24/13	T/L	Request to shift Devers to Valley Pulls 110-113 for Towers 1090 to 1122.
VR #74	03/22/13	03/29/13	T/L	Request to shift Devers to Valley Pulls 116-117 for Towers 1143-1157.

Variance Request	Date Requested	Date Issued	Segment	Description
VR #75	03/22/13	04/01/13	T/L	Request to shift Devers to Valley Pulls 107-108 for Towers 1065 thru 1082.
VR #76	03/28/13	04/04/13	T/L	Request to increase Wire Site 42 near Tower 1122.
VR #77	04/04/04	04/10/13	T/L	Request to modify Guard Structure Sites GS22A and GS22B on Devers to Valley.
VR #78	04/05/13	04/10/13	T/L	Request to relocate the approved access road to DV Fiber Option Optional Setup 34 to within SCE's right-of-way along the Devers-Valley segment.
VR #79	04/11/12	04/16/13	T/L	Request to use an alternate access route to Power Line Road at Diablo Road to maintain access between Towers 1003 and 1004 along the Devers-Valley segment.
VR #80	04/16/13	04/18/13	T/L	Request for Disturbance Area Adjustments at GS52A and GS52B on the Devers to Valley segment.
	04/23/13	Under Review	T/L	Request for Disturbance Area Adjustments at GS89A and GS89B on the Devers to Valley segment.
	04/23/13	Under Review	T/L	Request to use walking paths from Towers 1031 to 1032, 1034 to 1037 and 1048 to 1051 on the Devers to Valley segment.
BLM				
BLM #1	10/18/11	10/27/11	Substation	Request to install a temporary guard structure along the entrance of the existing transmission line access road for Colorado River Substation.
BLM #2	10/19/11	10/27/11	Substation	Request to approve 24-hour drilling operations at the CRS site.
BLM #3	01/24/12	02/28/12	Red Bluff	Rock Crushing
BLM #4	03/16/12	03/30/12	Substation	Red Bluff Loop-in pull site modifications.
BLM #5	03/22/12	05/18/12	T/L	DPV2 Gas Line Road.
BLM #6	03/23/12	04/10/12	Substation	CRS pull sites.
BLM #7	03/28/12	04/11/12	Substation	Request for HLZ (helicopter landing zone) at Red Bluff Loop-in Tower site RB1-2W.
BLM #8	04/06/12	05/16/12	Substation	Additional water sources @ Red Cloud Road, Red Bluff Substation.
DNA #1	10/27/11	12/07/11	Series Capacitor	Request for a slight expansion of the Series Capacitor site due to engineering conflicts.
DNA #2	12/21/11	02/01/12	Red Bluff	Request to install secondary well at Red Bluff Substation site.
DNA #3	12/22/11	05/24/12	Series Capacitor	Request to relocate a portion of the Imperial Irrigation District distribution line located at the Series Capacitor site.
DNA #4	02/01/12	05/24/12	T/L	Request for the addition of proposed helicopter construction and maintenance platforms to the description included in the Project Refinements 1 and 2 documents.

Variance Request	Date Requested	Date Issued	Segment	Description
DNA #5	03/05/12	05/22/12	Red Bluff Loop-ins	Request to revise road locations.
DNA #6	04/04/12	04/17/12	Substation	Red Bluff Substation access road realignment.
DNA #7	04/12/12	05/22/12	Series Capacitor	Certain activities to be constructed within the footprint of the Series Capacitor bank.
DNA #8	05/02/12	07/31/12	T/L	Additional access route between Towers 2528X and 2527.
DNA #9	05/19/12	06/15/12	CRS	Request for a permanent turning radius along the CRS access road.
DNA #9	06/04/12	06/15/12	CRS	300-foot driveway along the CRS access road.
DNA #11	07/02/12	07/31/12	T/L	A Level 2 Variance request for a disturbance area shift at Tower 1013 due to engineering changes. This tower is located on BLM land.
__	07/24/12	Retracted	T/L	APM A-6 - Eliminate tarping on bottom dump trucks.
BLM #9	04/04/12	09/21/12	T/L	Request for a HLZ and temporary disturbance area shifts near CRS.
DNA #10	06/18/12	09/25/12	Substation	Request to build a telecom site near Desert Center for Red Bluff Substation.
DNA #12	07/30/12	09/26/12	Substation	DNA for Colorado River Substation Telecommunication Distribution Line.
BLM #10	10/24/12	11/20/12	T/L	Request to construct Tower 2413 using both conventional and helicopter construction methods.
USFS				
USFS-1	03/15/12	03/20/12	T/L	SBNF engineering modifications (revised disturbance areas).

TABLE 3
TEMPORARY EXTRA WORKSPACE (TEWS) REQUESTS
(Updated 4/25/13)

TEWS Request	Date Requested	Date Approved	Segment	Description
CPUC				
#1	07/20/11	07/27/11	Blythe Yard	Use of offsite hydrant and installation of water tank at location adjacent to Blythe Construction Yard
#2	07/28/11	08/04/11	Menifee Yard	Use of offsite hydrant, located along the frontage of the Menifee Construction Yard, and a flexible hose to supply water to a 4,000 gallon water truck.
#3	08/16/11	08/16/11	Menifee Yard	Revised use of offsite hydrant, located along the frontage of the Menifee Construction Yard, approximately 200 yards north of previously approved location.
—	09/06/11	Retracted	Devers Yard	Revised use of offsite hydrant, including installation of above ground pipeline and water towers.

TEWS Request	Date Requested	Date Approved	Segment	Description
#4	09/29/11	09/29/11	T/L	Use of parking areas along primary access road within 400-ft total distance exclusionary fencing locations with exception of sites within the Coachella Valley Preserve.
#5	07/13/12	07/17/12	T/L	Request to use two existing access roads near Tower 1118 and 1119.
#6	07/31/12	08/03/12	T/L	Request to use an existing access road to Tower 1122
#7	08/01/12	08/03/12	T/L	Request to use an existing access road to H9
#8	11/07/12	11/08/12	T/L	Request to use an existing access road near Tower 1141.
#9	03/27/13	03/28/13	T/L	Request to use a turnout off Highway 79.
#10	03/29/13	03/29/13	T/L	Request to use an existing road near Tower 1099.
BLM Level 1				
Level 1 #1	06/06/12	06/11/12	Red Bluff Loop In	RB1-4E disturbance area shift.
Level 1 #2	07/12/12	08/06/12	T/L	Request for two stand tank locations. Received revised request from SCE on 08/06/12.
Level 1 #3	09/13/12	Partial Approval on 09/17/12, Complete Approval on 09/24/12	T/L	Remove visual screening at Helicopter Landing Zones H1E H4 and H5. *Approved the removal of screening at H4 on 09/17/12. Approval of the removal of screening at H1E and H5 on 09/24/12.
Level 1 #4	09/14/12	09/17/12	T/L	Request to shift the tower disturbance area at Tower 2644.
Level 1 #5	09/14/12	09/19/12	T/L	Request to use an existing road (Ford Dry Lake Road) as access.
Level 1 #6	09/25/12	09/26/12	T/L	Request the use of an additional access route to Tower 1130.
Level 1 #7	10/09/12	10/11/12	T/L	Request to use an access road (Chuckwalla Valley road) near Tower 2574.
Level 1 #8	12/20/12	01/16/13	Substation	Request to export the excess excavation soil from Red Bluff Substation to a local approved disposal site.
Level 1 #9	01/18/13	02/04/13	Substation	Request to use Gravel Pit Road to access pole instal-lation locations east of TL tower M123-T1 for the SE Telecom Route.
Level 1 #10	02/07/13	02/08/13	Substation	Request for a temporary work space for the Red Bluff Desert Center Telecom.
Level 1 #11	02/20/13	02/22/13	Substation	Request for a temporary work area at the Series Capacitor Site.
Level #1 #12	02/28/13	03/04/13	Substation	Request for two additional temporary work areas at the Series Capacitor Site for an underground conduit.
Level #1 #13	03/07/13	03/08/13	T/L	Request to use Gasline Road to Tower 2249 to avoid an active nest.
	04/23/13	Under Review	T/L	Request to use walking paths from Towers 1031 to 1035 on the Devers to Valley segment

TEWS Request	Date Requested	Date Approved	Segment	Description
BLM Level 2A				
Level 2A #1	09/20/12	09/24/12	T/L	Request for pull site revisions from Devers to Red Bluff.
Level 2A #2	10/04/12	10/05/12	T/L	Request for an access road to RB14 pull site near Red Bluff.
Level 2A #3	10/04/12	10/25/12	T/L	Request for additional disturbance area for pull sites and an access road near Red Bluff RB2-5E. Revised on 10/11/12 and 10/22/12.
Level 2A #4	10/05/12	10/10/12	T/L	Request to relocate two guard structures near Red Bluff.
Level 2A #5	10/10/12	10/10/12	T/L	Request for additional disturbance area at Tower RB1-2W in order to build the tower prior to the scheduled outage.
Level 2A #6	10/19/12	10/25/12	T/L	Request for temporary disturbance area shifts at wire sites, splice sites, pull sites, guard structures and access roads from CRS to RB.
Level 2A #7	10/19/12	10/25/12	T/L	Request for temporary disturbance area shifts at splice site 53 (near Tower 2535) and access road to Wire Site 69/Pull Site 70/54 (near tower 2540).
Level 2A #8	10/30/12	Awaiting revised request from SCE	T/L	Request additional disturbance area at Guard Sites GS05 and GS05A.
Level 2A #9	11/14/12	11/16/12	T/L	Request to shift Fiber Optic Site 63.
Level 2A #10	11/09/12	11/16/12	T/L	Request for the shift of Wire Site No 73/Pull Site No 74/Splice Site No 58, Wire Site No 81/Pull Site No 82/ Splice Site No 65, and Wire Site No 83/Pull Site No 84/ Splice Site.
Level 2A #11	11/14/12	11/16/12	T/L	Request for the shift Splice Site 55, Access Rd to Splice Site No. 55, Guard Structures 126 and 127, and Pull Sites 71 and 72.
Level 2A #12	11/19/12	11/28/12	T/L	Request to widen Guard Structures CRD-GS132, CRD-GS133, CRD-GS137, CRD-GS138, and CRD-GS138A (Pull Site 78, Wire Site 77).
Level 2A #13	11/28/12	12/05/12	T/L	Request to revise pull sites from Devers to Red Bluff (Pull Site Revision III-A).
Level 2A #14	12/05/12	12/11/12	T/L	Request to expand Splice Site 40
Level 2A #15	01/07/13	01/10/13	T/L	Request to shift guard structures from Red Bluff to Devers (Minor Modification).
Level 2A #16	01/31/13	02/13/13	T/L	Request to shift Devers to Valley Pulls 103 for Towers 1014-1016.
Level 2A #17	04/01/13	04/03/13	Substation	Request a work area for the Red Bluff Telecommunication Manhole.

NON-COMPLIANCES & INCIDENTS

Table 4 provides a summary of reported non-compliance incidents.

TABLE 4
CPUC NON-COMPLIANCE REPORTS & PROJECT MEMORANDA
(Updated 4/25/13)

Type	Date Issued	Location	Description
CPUC Project Memoranda (PM)			
PM #1	10/28/11	CRS Dist. Line	Construction vehicles leaving marked disturbance limits at two locations along CRS distribution line.
PM #2	01/18/12	Tower 2649/ CR1-2W	DPV2 Construction contractor vehicle driving outside of the approved tower and access road disturbance area limits.
PM #3	03/08/12	Tower 1059 & 1060	Failure to comply with MM B-5 which requires that 300-foot buffers are established around active bird nests. Working within unapproved active nest buffers.
PM #4	04/04/12	Tower 2515, 2520, & 2526	Impacts to desert pavement at Towers 2520 and 2526 by not implementing one of the approved methods stated in the revised Desert Pavement Plan. Impacts to desert tortoise habitat when a road was built near Tower 2515 that was not approved.
PM #5	04/18/12	Along the main access road near Red Bluff	Excessive fugitive dust observed on multiple locations along the main access road near Red Bluff Substation. Violation of MM AQ-1a.
PM #6	05/08/12	Along the T/L access roads	Construction vehicles observed driving off the approved access road limits at various locations along the T/L.
PM # 7	06/01/12	Near Tower 2317	Two stand tanks were installed in an area that was not approved for the Project along the access road near Tower 2317.
PM #8	06/01/12	Along the access road near Tower 2310	Road base was installed along a portion of the access road to protect the utility crossing south of Tower 2310. This work was completed prior to the pre-construction verification and release of this road from the CPUC.
PM #9	06/19/12	Tower 2126	Inadequate covering of foundation excavations at Tower 2126. Violation of BO-13.
PM #10	09/21/12	Tower 1037	Work occurred at Tower 1037 without the Fire Patrol Representative on site, a requirement on the Fire Plan.
PM #11	12/05/12	Tower 1070	Excessive Fugitive Dust during Helicopter Picks at Tower 1070. Violation of MM AQ-1a and the Fugitive Dust Emission Control Plan.
PM #12	03/19/13	Towers 1001 and 1077	Construction work occurring prior to a biological monitor present at Towers 1001 and 1077.
PM #13	03/21/12	Various Locations along the T/L	Helicopter construction operations occurring within ESA nest buffers.
CPUC Non-Compliance Reports (NCR)			
NCR #1	01/13/12	Project-wide	Unapproved removal of stick nests from DPV1 Transmission Line towers.

Type	Date Issued	Location	Description
NCR #2	05/18/12	Tower 2333	Failure to protect wildlife during construction which resulted in the death of a kit fox.
NCR #3	06/04/12	Near Tower 2310	Road base was installed at two locations along the access road to protect the utility crossings near Tower 2310. This work was completed prior to the pre-construction verification and release of this road from the CPUC.
NCR #4	07/02/12	Near 2303X	Road base installed along a portion on a road not approved for the Project.
NCR #5	07/02/12	Near 2204 and 2205	Project equipment drove outside the approved road width along the access road near Towers 2204 and 2205. These towers are located within the Coachella Valley Preserve.
NCR #6	07/06/12	Near Tower 1083	Project equipment drove outside the existing road width along the access road near Tower 1083.
NCR #7	07/12/12	Tower 2437	Inadequate covering of a foundation excavation at Tower 2437. Violation of BO-13.
NCR #8	07/23/12	Near Tower 2604	Project equipment drove outside the approved road limits along Chuckwalla road west of Tower 2604.
NCR #9	08/28/12	Tower 2644	Construction work conducted outside the approved project limits.
NCR #10	09/10/12	Towers 1153 and 1155	Construction work conducted at Towers 1153 and 1155 prior to the CPUC site verification and release to SCE.
NCR #11	10/18/12	Tower 1036	Excavations at Tower 1036 were left uncovered and no proper means for wildlife to escape entrapment had been installed. Violation of BO-13.
NCR #12	11/02/12	Tower RB2-4E	Work occurred at an unapproved location near RB2-4E.
NCR #13	01/29/13	Access road to Tower 1130	Violation of the conditions of BLM Variance Approval #6, which stated no road improvement to the existing road could be made. Road improvements were conducted on 01/19/13.
NCR #14	03/19/13	Tower 1078	Construction work occurring within an ESA buffer near Tower 1078, which is a violation to Mitigation Measure B-5a.
NCR #15	03/21/13	Guard Structure Sites near Towers 1001 and 1003	Construction work occurring outside the approved work area limits at the Guard Structure Sites near Tower 1001 and 1003.

CONSTRUCTION PROGRESS

Table 5 provides a summary of transmission line construction progress.

TABLE 5
CONSTRUCTION PROGRESS STATUS
(As of 04/20/13)

	Agency	Number of Towers	Towers Released for Construction	Tower Foundations Completed	Towers Erected	Primary Wire Installed (per tower)	OHGW/OPGW Installed (per tower)
CRS-Devers	Non Federal (CPUC)	208	208	208	208	208	208
	Bureau of Land Management (BLM)	197	197	197	197	197	197
	US Forest Service (SBNF)	N/A	N/A	N/A	N/A	N/A	N/A
	Sub Total	405	405	405	405	405	405
	% Complete	N/A	100%	100%	100%	100%	100%
Devers-Valley	Non Federal (CPUC)	138	138	138	114	23	23
	Bureau of Land Management (BLM)	11	11	10	10	0	0
	US Forest Service (SBNF)	12	12	12	7	0	0
	Sub Total	161	161	160	131	23	23
	% Complete	N/A	100%	99%	81%	14%	14%
Total Project	Non Federal (CPUC)	346	346	341	322	231	231
	Bureau of Land Management (BLM)	208	208	207	207	197	197
	US Forest Service (SBNF)	12	12	12	7	0	0
	Total	566	566	565	536	428	428
	% Complete	N/A	100%	99%	95%	76%	76%

PROJECT PHOTOGRAPHS

Figure 1. Installation of Guard Poles at GS12 next to HWY 62.

Figure 2. Site clearing at Wire Site 36 near Tower 1101.

Figure 3. Tower assembly at Tower 1130.

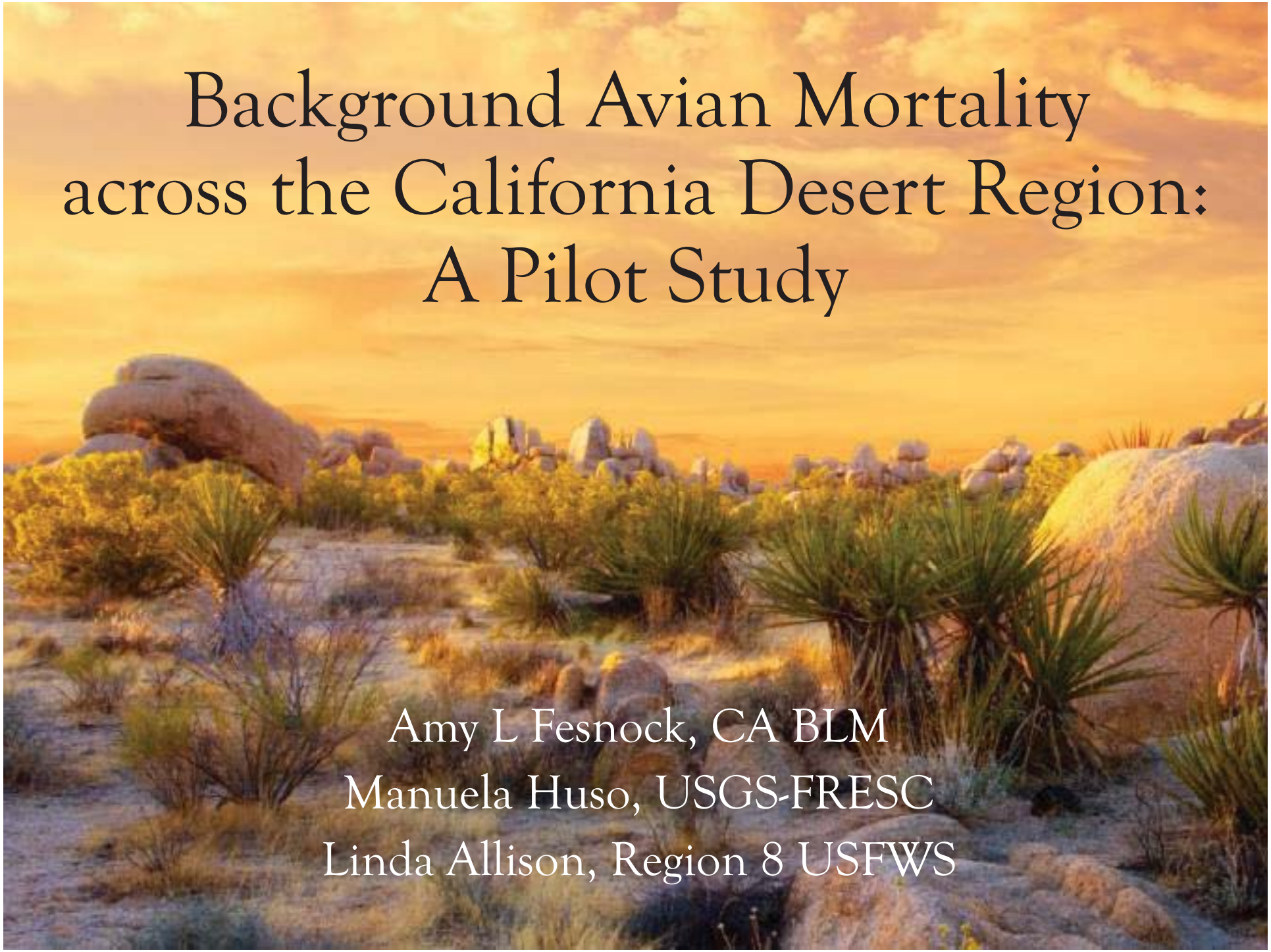
Figure 4. A truck and trailer staged in an unapproved area near Tower 1094.

Figure 5. Minor scarring as a result of the OPGW breaking loose between Towers 2265 and 2305.

Figure 6. Steel erection of the telecomm tower at Red Bluff Substation.

Figure 7. Transmission line bypass jumper installation at the Series Capacitor.

Background Avian Mortality across the California Desert Region: A Pilot Study



Amy L Fesnock, CA BLM
Manuela Huso, USGS-FRESC
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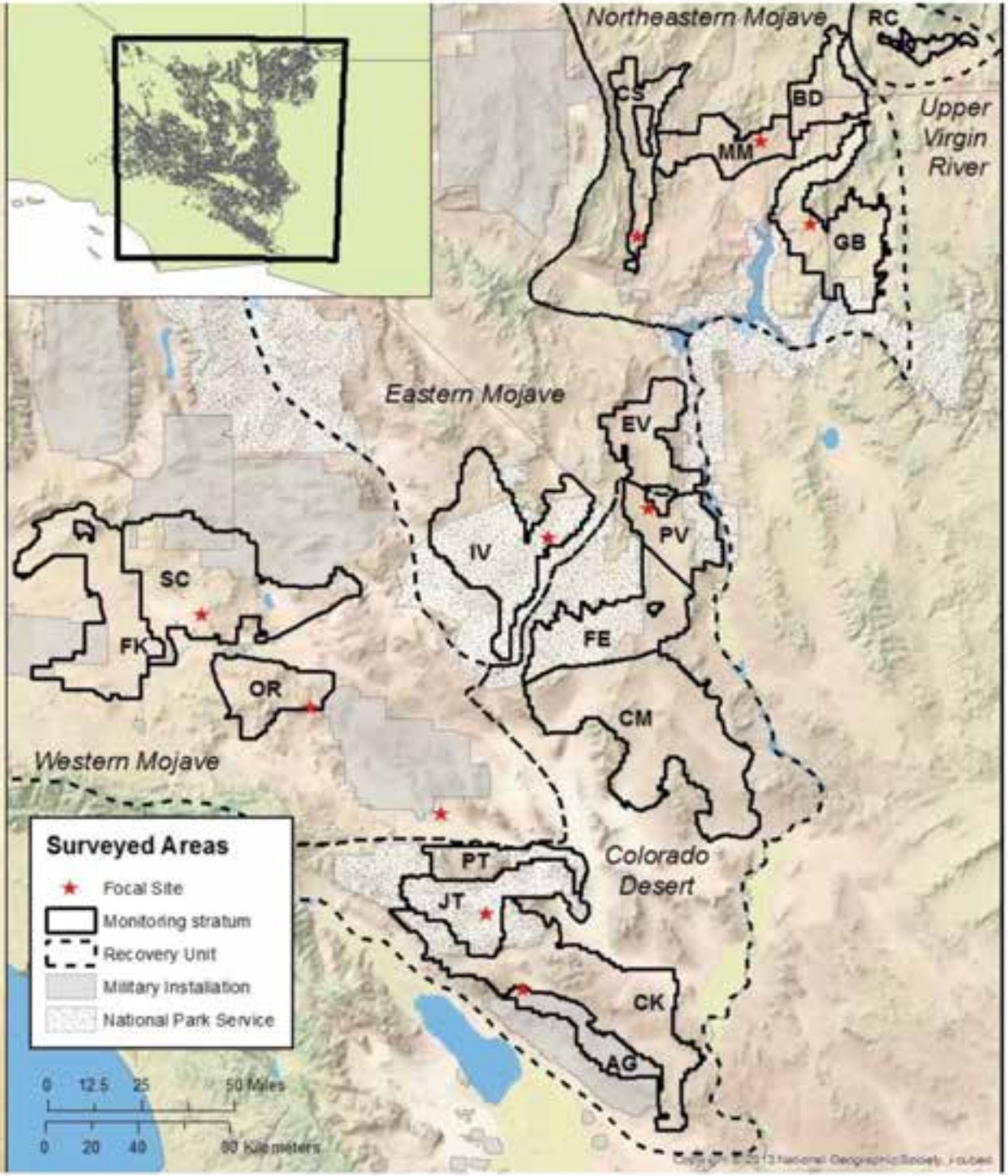
Purpose and Need for the Pilot Study

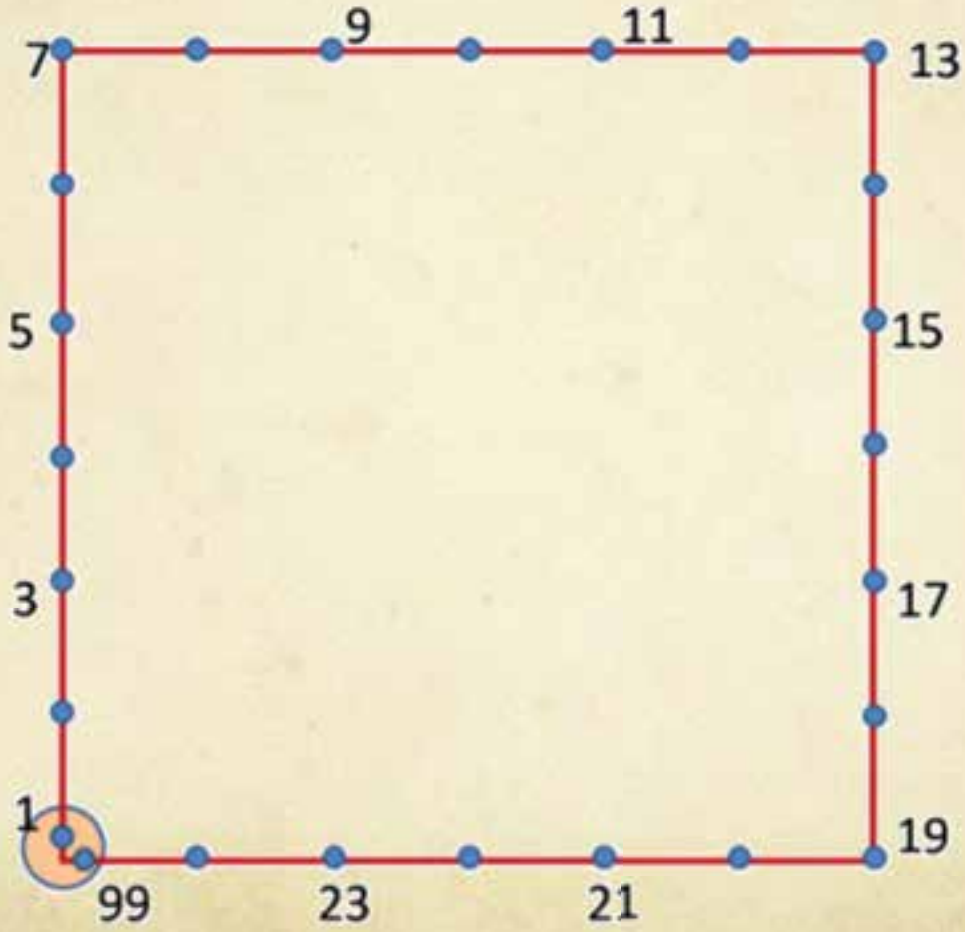
- 2010-Major push for renewable energy (especially solar)
- Monitoring from first projects documented avian fatalities
- Mortalities rates at RE facilities are corrected for
  - Observer Detection Probabilities
  - Scavenger Rates/Carcass Persistence
- Questions were raised as to what is the "normal" detectable mortality rate across the California desert region
- How would the "background mortality rate" provide context to inform our understanding of avian mortalities at facilities

Study Design

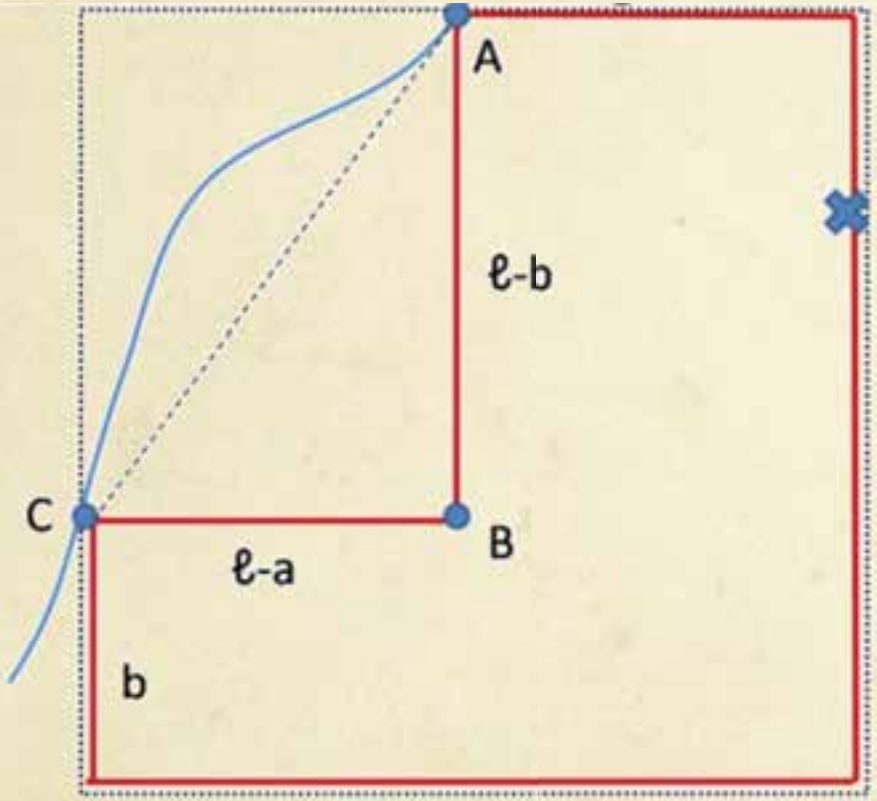
- Paired with Tortoise LDS
  - Range-wide
  - Natural Areas
- Observer Trials incorporated in LDS training
- Scavenger Trails Conducted

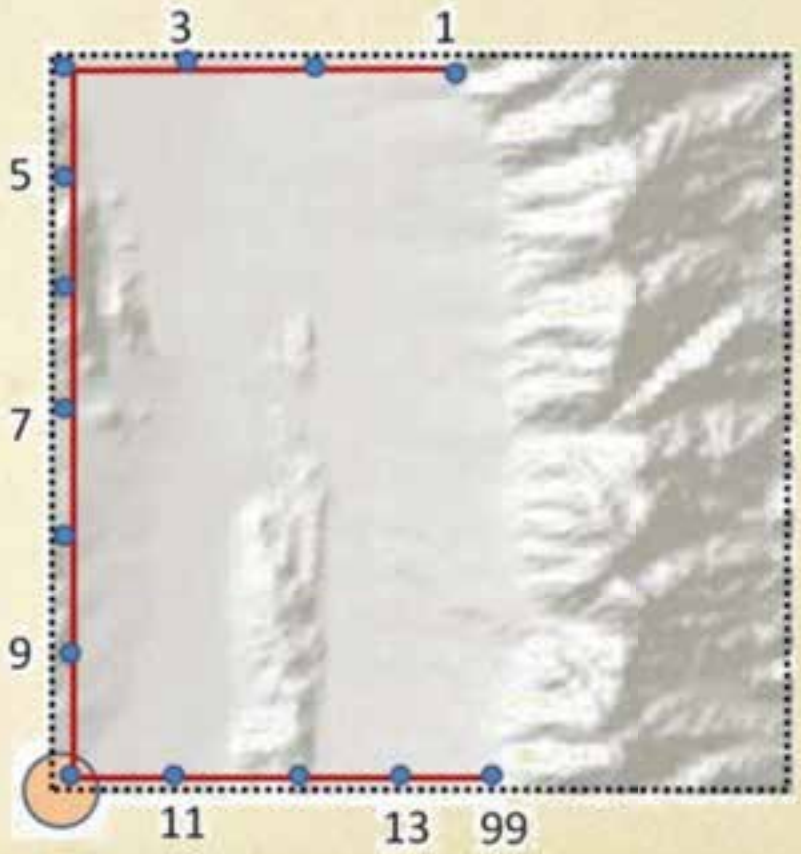


The Normal 12-km LDS transect



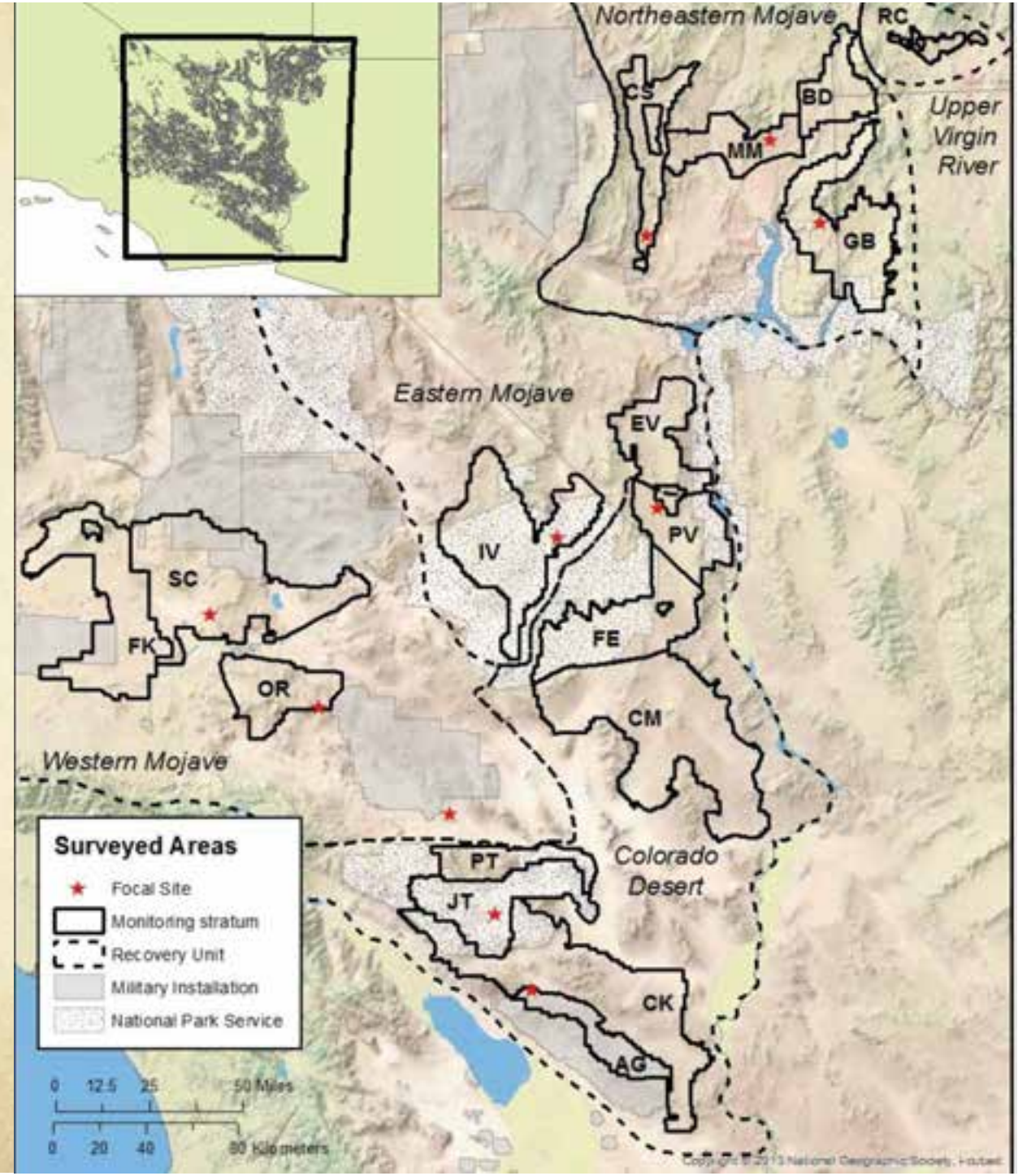
Established Means to Alter Transect





Range Wide

- Freemont-Kramer
- Superior-Cronese
- Ord-Rodman
- Pinto Mountains
- Joshua Tree NP
- Chuckwalla
- Chocolate Mtns
- Ivanpah
- Piute Fenner
- Chemehuevi



Range Wide

- Freemont-Kramer
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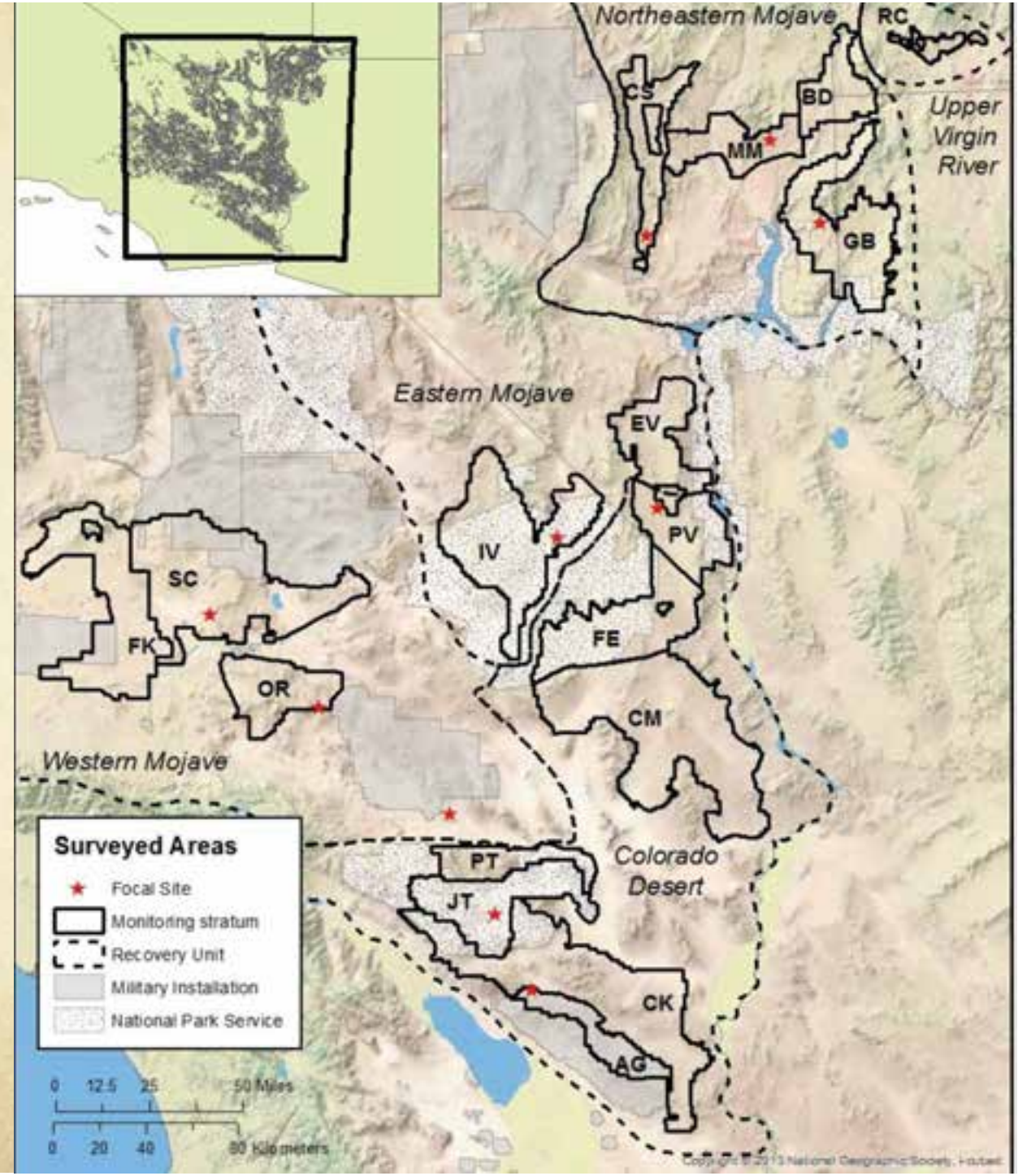
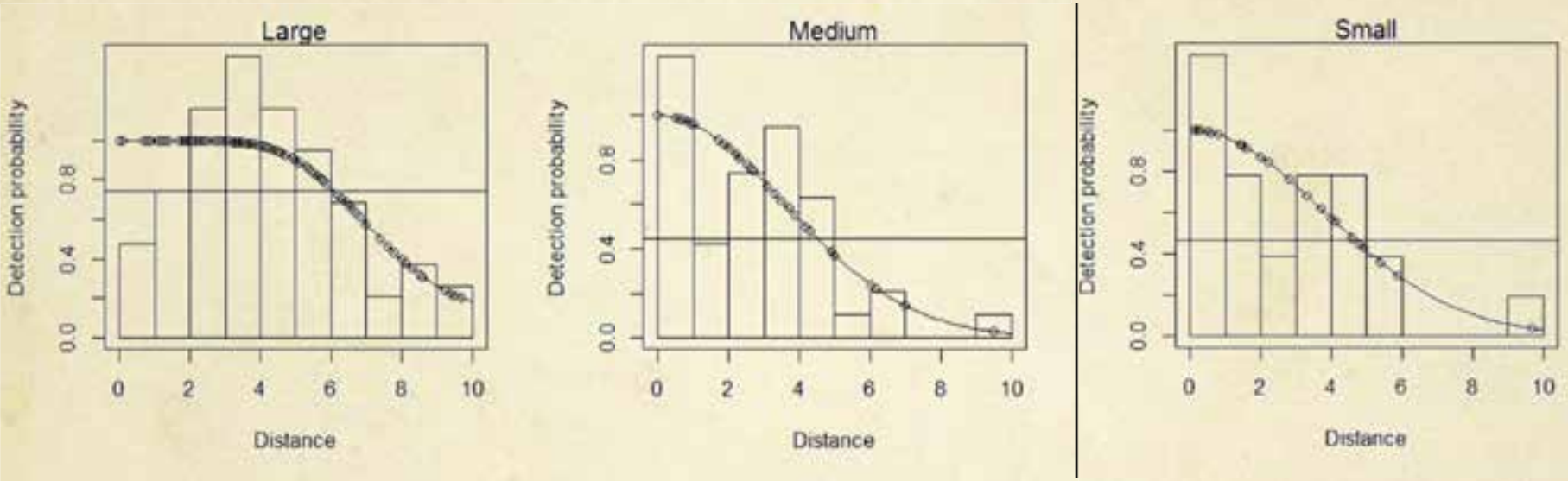
- Pinto Mountains
- Joshua Tree NP
- Chuckwalla
- Chocolate Mtns
- ~~Ivanpah~~
- ~~Piute Fenner~~
- ~~Chemehuevi~~



Observer Detection Probability

- Desert Tortoise LDS technicians were trained to search for dead birds at the same time as they looked for tortoises.
- On the training transects, 62 large, 28 medium and 34 small bird carcasses were placed at varying distances from the training transects (spaced 25 m apart).
- When a bird carcass was detected, searchers recorded
  - perpendicular distance from the transect to the bird
  - distance from the observer to the bird at the time of discovery.
- During the detection trials, 97% detections were within <10 m, so we used 10 m as the effective sampling width.

Observer Detection Probability



Carcass Persistence Trials

- Conducted in three areas
  - Chuckwalla ACEC
  - Joshua Tree National Park
  - Fremont-Kramer ACEC
- At each site, 10 large, 20 medium and 30 small bird carcasses were placed in random locations and checked daily for continued persistence.
- Persistence times were modeled using the R package survival.
- Effective search interval (Huso 2011) was calculated
  - the time at which 99% of carcasses would have been removed, or no longer detectable to an observer.

Searcher Efficiency/Carcass Persistence

- Average searcher efficiency (and 95% confidence limits) within 10m of the transect
- Average proportion of carcasses persisting through the effective interval (and 95% confidence limits).

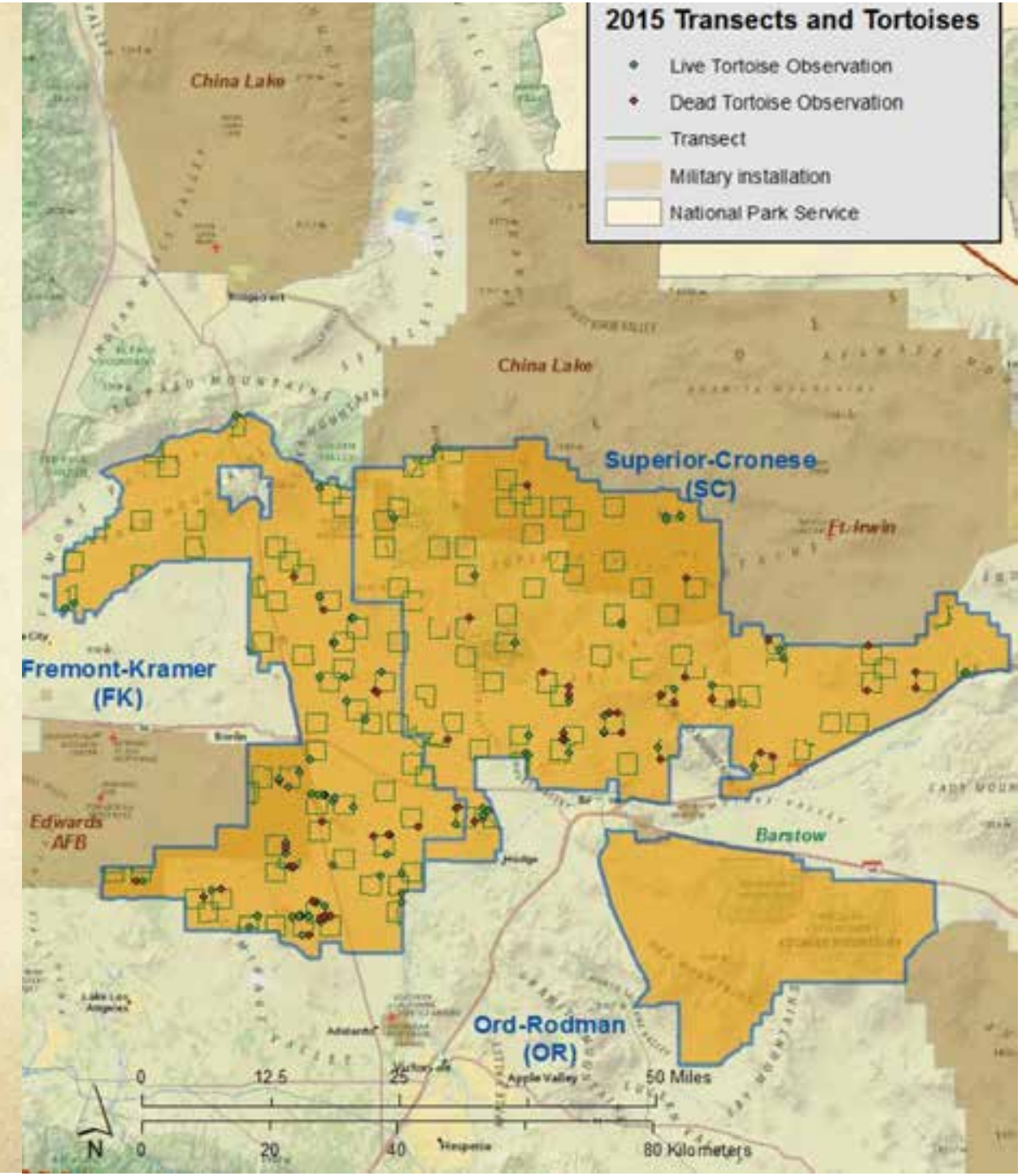
Size	SE	95%LCL	95%UCL	Prop Persist	95%LCL	95%UCL	Effective Interval (d)
L	0.77	0.43	0.96	0.22	0.10	0.44	318
M	0.44	0.35	0.55	0.22	0.15	0.30	77
S	0.47	0.34	0.59	0.21	0.17	0.26	30

Overall Probability of Detection

Size	Pr (detection)	95%LCL	95%UCL
L	0.160	0.064	0.358
M	0.095	0.062	0.135
S	0.100	0.070	0.138

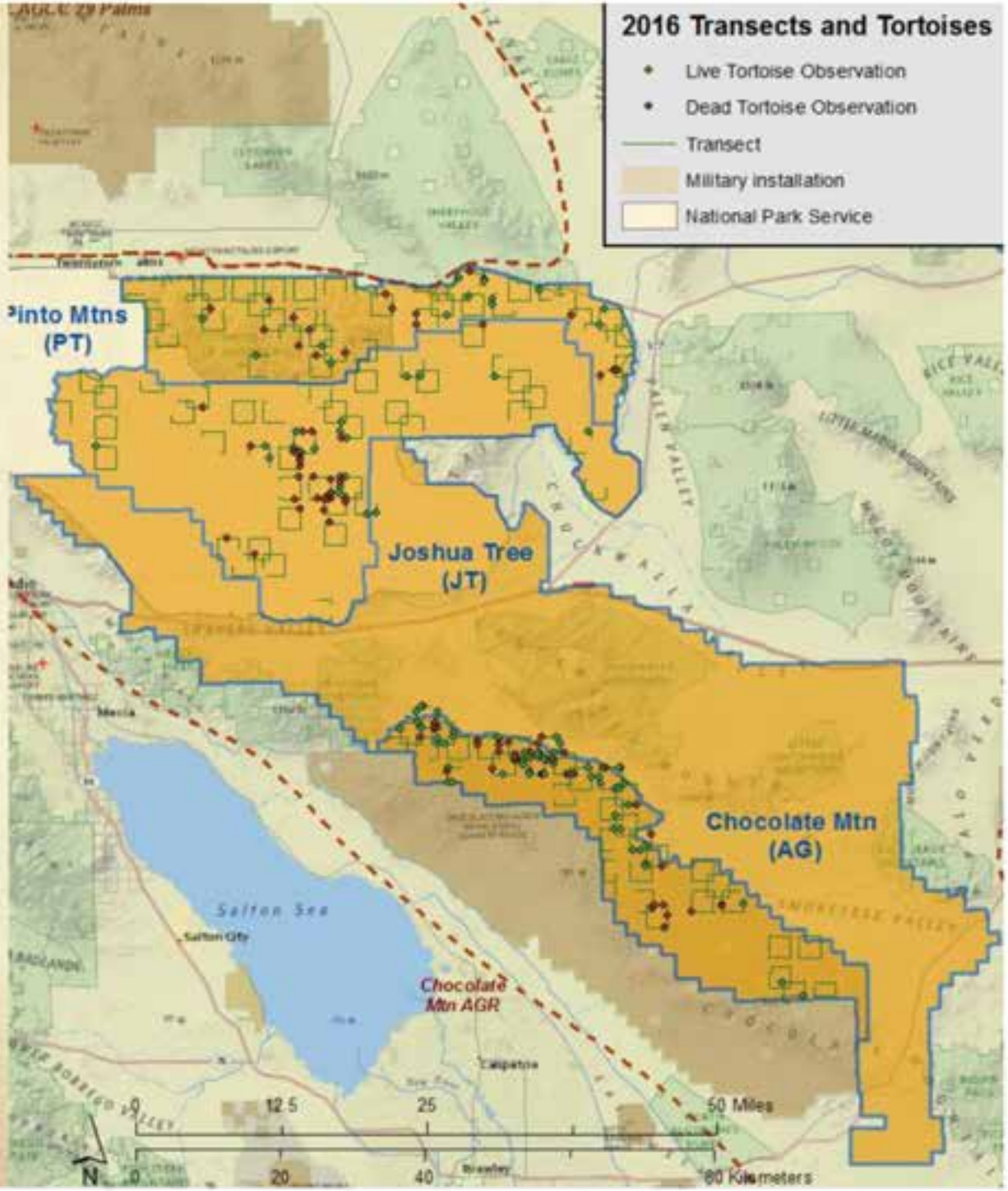
Transect Distribution

- Freemont-Kramer
  - 57 transects
  - 677.7 km
- Superior-Cronese
  - 70 transects
  - 780.5 km
- Ord-Rodman
  - 60 transects
  - 677.7 km



Transect Distribution

- Pinto Mtns
  - 50 transects
  - 451.7 km
- Joshua Tree
  - 60 transects
  - 614.5 km
- Chuckwalla
  - 120 transects
  - 1270.0 km
- Chocolate Mtn
  - 36 transects
  - 375.7 km



Results

- 453 transects covering 4,847.8 km surveyed March to May
- With the 10-m transect width, area of ground surveyed
  - 96.74 km^2 or 37.35 $mile^2$ of area searched
- Avian Mortalities Observed – 6
  - 1 Red-tailed Hawk adult (L), predated, base of nest
  - 1 Red-tailed Hawk juvenile (M),
  - 1 rock wren (S), shrike impaled on cactus
  - 3 feather spots.

Estimates of Median Fatality

		Searched Area				Searched Period/mi2		
Size	X	M* (median)	95%LCL	95%UCL	eff.int	Period M*/mi2	95%LCL	95%UCL
L	4	31	9	142	318	0.83	0.24	3.80
M	1	13	1	43	77	0.35	0.03	1.15
S	1	12	1	40	30	0.32	0.03	1.07
L	1	9	1	44	318	0.24	0.03	1.18
M	4	45	15	109	77	1.20	0.40	2.92
S	1	12	1	40	30	0.32	0.03	1.07
L	1	9	1	44	318	0.24	0.03	1.18
M	1	13	1	43	77	0.35	0.03	1.15
S	4	42	14	99	30	1.12	0.37	2.65

Estimates of Median Fatality

	Full Yr/mi2			Full Yr/acre		
Size	Year M/mi2	95%LCL	95%UCL	Year M/acre	95%LCL	95%UCL
L*	0.95	0.28	4.36	0.0015	0.0004	0.0068
M	1.65	0.13	5.46	0.0026	0.0002	0.0085
S	3.91	0.33	13.03	0.0061	0.0005	0.0204
L	0.28	0.03	1.35	0.0004	0.0000	0.0021
M*	5.71	1.90	13.83	0.0089	0.0030	0.0216
S	3.91	0.33	13.03	0.0061	0.0005	0.0204
L	0.28	0.03	1.35	0.0004	0.0000	0.0021
M	1.65	0.13	5.46	0.0026	0.0002	0.0085
S*	13.68	4.56	32.25	0.0214	0.0071	0.0504

In Summary

- Median background mortality (large, medium, small birds)
  - 0.95, 5.71 and 13.68 per square mile per year
- Upper 95% confidence limits
  - 4.36, 13.83 and 32.25 per square mile, respectively
- In practice, the most reasonable category in which to place them might be the one with the shortest effective interval, i.e., small birds… which results in
  - 0.28, 1.65 and 13.68 per square mile per year, for large, medium and small birds, respectively.
- Translated per acre
  - 0.0004, 0.0026, 0.0214, for large, medium, and small birds
  - Total – 0.024 birds per acre

Comparing Data from Solar Facilities

Annual Avian Mortality per acre, all bird sizes combined

- Solar Facility A –1.7 birds/acre
- Solar Facility B –0.4 birds/acre
- Solar Facility C –0.6 birds/acre
- Background Mortality Across the Region –0.024 birds/acre

In Conclusion

- Only 3 bird carcasses were found in >35 square miles.
- 3 feather spots were found
  - Potentially remnants of a dead bird that was removed by scavengers or simply a preening station for a live bird.
- Conservative approach to Median background mortality was on the order of 0.95, 5.71 and 13.68 per square mile per year, for large, medium and small birds, respectively.
- Background Mortality Rate Across the Region – 0.024 birds/acre
- When compared to mortality rates from solar projects, background mortality does not appear to be a significant factor and could easily be accounted in the sampling design error rates.

Acknowledgements

- Manuela Huso – USGS-FRESC Research Statistician
- Linda Allison – FWS Desert Tortoise Monitoring Coordinator
- CDD BLM– Mark Massar, Katie Makias, Danielle Ortiz, Carrie Woods
- Joshua Tree NP – Michael Vamstad, Jane Rodgers, Kristen Lalumiere
- Kiva Biological – Leif Mjos and Christine Stirling – Team Leads

  Mike Bassett, Kelsi Black, Bret Blosser, Mariann Burke, Sage Clegg, Tobias Corwin, Richard Crawford, Tony Dee, Adam Drummer, Chris Hackbarth, Kristen Hayes, Joshua Macnaughton, Averi Marciano, Cassandra Nagle, Scott Nelson, Amy Robinson, Brian Sandstrom, Brian Scavone, Ashley Spenceley, Scott Trageser, Amy Wiley, Ash Wiscovitch

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:41 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] RE Crimson Solar Project comment letter submittal

Attachments: CRB Crimson Solar Project NOP comment letter Apr 9 2018.pdf

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---------- Forwarded message ----------
From: **Lindia Liu** <lliu@crb.ca.gov>
Date: Mon, Apr 9, 2018 at 4:18 PM
Subject: [EXTERNAL] RE Crimson Solar Project comment letter submittal
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>
Cc: Vic Nguyen <Thang.Nguyen@crb.ca.gov>

To Ms. Miriam Liberatore,

Attached please find our comment letter in response to the NOI to Prepare a Joint EIS/EIR and Possible Land Use Plan Amendment for the proposed RE Crimson Solar Project in Riverside County, California. Thank you for the opportunity to provide comments on the proposed project. If you have any questions, please do not hesitate to contact me.

Lindia Liu

Water Resources Engineer

Colorado River Board of California

770 Fairmont Avenue, Suite 100

Glendale CA 91203

Ph (818) 500-1625 Ext 310

Fx (818) 543-4685

Colorado River Board
of California

Colorado River Board
of California

April 9, 2018

Ms. Miriam Liberatore
Project Manager, RE Crimson Solar
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Ms. Magdalena Rodriguez
Project Manager
California Department of Fish and Wildlife, Region 6
3602 Inland Empire Boulevard, Suite C-220
Ontario, CA 91764

Regarding: Notice of Intent to Prepare a Joint Environmental Impact Statement/Environmental Impact Report and Possible Land Use Plan Amendment for the Proposed Recurrent Energy (RE) Crimson Solar Project, Riverside County, CA and Notice of Preparation (NOP) of a Joint Draft Environmental Impact Statement/Environmental Impact Report for the Recurrent Energy Crimson Solar Project and Notice of Public Scoping meetings (NEPA Tracking # DOI-BLM-CA-D060-2017-0029-EIS and CA State Clearinghouse No. 2018031027)

To Whom It May Concern:

The Colorado River Board of California (Board) appreciates the opportunity to submit comments for consideration on the Notice of Intent to Prepare a Joint Environmental Impact Statement/Environmental Impact Report and Possible Land Use Plan Amendment for the Proposed Recurrent Energy Crimson Solar Project, Riverside County, California, and on the Notice of Preparation (NOP) of a Joint Draft Environmental Impact Statement/Environmental Impact Report for the Recurrent Energy Crimson Solar Project and Notice of Public Scoping meetings.

Sonoran West Solar Holdings, a wholly owned subsidiary of Recurrent Energy, proposes to construct, operate, and decommission a 350-megawatt utility-scale solar photovoltaic project on approximately 2,500 acres of public lands administered by the Bureau of Land Management (BLM). The proposed project is located 13 miles west of Blythe in Riverside County within the California Desert Conservation Area planning area. It is also located within the Riverside East Solar Energy Zone and within a Desert Renewable Energy Conservation Plan Development Focus Area.

According to the Consolidated Decree of the Supreme Court of the United States in the case of *Arizona v. California, et al.* entered March 27, 2006, (547 U.S. 150 (2006)), the consumptive use of water means "diversion from the stream less such return flow thereto as is

available for consumptive use in the United States or in satisfaction of the Mexican treaty obligation" and consumptive use "includes all consumptive uses of water of the mainstream, including water drawn from the mainstream by underground pumping." Also, pursuant to the 1928 Boulder Canyon Project Act (BCPA) and the Consolidated Decree, no water shall be delivered from storage or used by any water user without a valid contract between the Secretary of the Interior and the water user for such use, i.e., through a BCPA Section 5 contract.

Within California, BCPA Section 5 contracts have previously been entered into between users of Colorado River mainstream water and the Secretary of the Interior for water from the Colorado River that exceeds California's basic entitlement to use Colorado River water as set forth in the Consolidated Decree. Thus, no additional Colorado River water is available for use by new project proponents along the Colorado River, except through the contract of an existing BCPA Section 5 contract holder, either by direct service or through an exchange of non-Colorado River water for Colorado River water.

Based on the description of the project location provided in the NOP, the proposed Crimson Solar Energy project site is located within the delineation of the Accounting Surface area as designated by the U.S. Geological Survey (USGS) Water Investigation Report No. 2008-5113. The Chuckwalla Valley Groundwater Basin groundwater aquifer beneath the project site is considered by the USGS report to be hydraulically connected to the Colorado River and groundwater withdrawn from lands underlying the Accounting Surface would be replaced by Colorado River water, in total or in part. This means that if it is determined that any wells on or near the project site intended to supply water for the project are, in fact, pumping groundwater that would be replaced by Colorado River water, a contract with the Secretary of Interior is required before such a use is deemed to be a legally authorized use of this groundwater.

The Board requests that the EIS/EIR must address and analyze proposed water uses as well as the potential impact to Colorado River water resources as a result of construction, operations, maintenance, and decommissioning activities for the project. If it is determined that groundwater pumping would yield water that would be replaced by water from the Colorado River, a legally authorized and reliable water supply for the project can be obtained through the project owner contracting with an existing BCPA Section 5 contractor holder – The Metropolitan Water District of Southern California.

The Board requests that the mitigation measures for the Crimson Solar Project be consistent with those of the Desert Harvest Solar Project, for which BLM published a Record of Decision (ROD) in March 2013 (see https://eplanning.blm.gov/epl-front-office/projects/nepa/65699/79579/92204/Desert_Harvest_ROD.pdf). The Board supports the proposed implementation of mitigation measures to avoid or offset any potential impacts to Colorado River water resources as outlined in Appendix 3 of the ROD, which includes the requirement that prior to the onset of water-consuming construction activities, the project owner shall prepare a "Colorado River Water Supply Plan" to identify measures that will be taken to replace water on an acre-foot to acre-foot basis, if the project results in consumption of any water from below the Accounting Surface, towards the purpose of ensuring that no allocated water from the Colorado River is consumed without an entitlement to that water.

The Board requests to be notified and provided an opportunity to review and comment on the Colorado River Water Supply Plan and any future water supply investigation associated with the proposed Crimson Solar Project. If you have any questions or require further information, please feel free to contact Mr. Vic Nguyen at (818) 500-1625.

Sincerely,

Christopher S. Harris
Executive Director

cc: Dr. Terrence J. Fulp, Regional Director
Lower Colorado Region, U.S. Bureau of Reclamation
Mr. William Hasencamp, Manager of Colorado River Resources
The Metropolitan Water District of Southern California
Mr. Ned Hyduke, General Manager
Palo Verde Irrigation District

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:41 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] RE Crimson Solar Project NOP Scoping Comments (with address)

Attachments: Comment Letter NOP RE Crimson Solar Project DEIS_EIR.pdf

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---------- Forwarded message ----------
From: **Stalvey,Malinda K** <mstalvey@mwdh2o.com>
Date: Mon, Apr 9, 2018 at 2:27 PM
Subject: [EXTERNAL] RE Crimson Solar Project NOP Scoping Comments (with address)
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>, "blm.ca.crimsonsolar@blm.gov" <blm.ca.crimsonsolar@blm.gov>

Hello Ms. Liberatore,

Please accept our scoping comments on the Notice of Preparation for the RE Crimson Solar Project. Let me know if you have any questions.

Regards,

Malinda Stalvey

Environmental Specialist

Metropolitan Water District of Southern California

700 North Alameda Street

Los Angeles, California 90012

(o) 213-217-5545

mstalvey@mwdh2o.com

From: Stalvey,Malinda K
Sent: Monday, April 09, 2018 2:14 PM
To: 'blm_ca_crimsonsolar@blm.gov'
Subject: RE Crimson Solar Project NOP Scoping Comments

Dear Ms. Liberatore,

Malinda Stalvey

Environmental Specialist

(o) 213-217-5545

mstalvey@mwdh2o.com

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THE METROPOLITAN WATER DISTRICT
OF SOUTHERN CALIFORNIA

Office of the General Manager

April 9, 2018 **DUE BLM 4/9/2018, CDFW 4/23/2018** **Via Electronic & U.S. Mail**

Magdalena Rodriguez, Project Manager
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764

EMail: magdalena.rodriguez@wildlife.ca.gov

ATTN: Miriam Liberatore, Project Manager
RE Crimson Solar Project
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Email: blm_ca_crimsonsolar@blm.gov

To Whom It May Concern:

RE Crimson Solar Project Notice of Preparation (NOP) Scoping Comments

The Metropolitan Water District of Southern California (Metropolitan) has reviewed the California Department of Fish and Wildlife's (CDFW) March 8 Notice of Preparation (NOP) and the Bureau of Land Management's (BLM) March 9 Federal Register Notice of Intent to prepare a Joint Draft Environmental Impact Statement/Environmental Impact Report for the RE Crimson Solar Project (proposed Project). Metropolitan is pleased to submit comments for consideration by CDFW and BLM. Metropolitan provides these comments to ensure that any potential impacts on its facilities in the vicinity of the proposed Project and on Colorado River water resources are adequately addressed.

Background

Metropolitan is a public agency and regional water wholesaler. It is comprised of 26 member public agencies serving approximately 19 million people in six counties in southern California. One of Metropolitan's major water supplies is the Colorado River via Metropolitan's Colorado River Aqueduct (CRA). Metropolitan holds an entitlement to water from the Colorado River. The CRA consists of tunnels, open canals and buried pipelines. CRA-related facilities also include above and below ground reservoirs and aquifers, access and patrol roads, communication facilities, and residential housing sites. The CRA, which can deliver up to 1.25 million acre-feet

of water annually, extends 242 miles from the Colorado River, through the Mojave Desert and into Lake Mathews. Metropolitan has five pumping plants located along the CRA, which consume approximately 2,400 gigawatt-hours of energy when the CRA is operating at full capacity.

Concurrent with its construction of the CRA in the mid-1930s, Metropolitan constructed 305 miles of 230 kilovolt (kV) transmission lines that run from the Mead Substation in southern Nevada, head south, then branch east to Parker, California, and then west along Metropolitan's CRA. Metropolitan's CRA transmission line easements lie on federally-owned land, managed by BLM. The transmission lines were built for the sole and exclusive purpose of supplying power from the Hoover and Parker projects to the five pumping plants along the CRA.

Metropolitan's ownership and operation of the CRA and its 230 kV transmission system is vital to its mission to provide Metropolitan's 5,200-square-mile service area with adequate and reliable supplies of high-quality water to meet present and future needs in an environmentally and economically responsible way.

Project Understanding

Pursuant to the information contained in the NOP, Sonoran West Solar Holdings LLC (Applicant), a wholly owned subsidiary of Recurrent Energy LLC, proposes to construct, operate, and decommission the proposed 350 megawatt (MW) utility-scale solar photovoltaic (PV) facility and would include up to 350 MW energy storage on approximately 2,500 acres of public lands administered by the BLM within the California Desert Conservation Area (CDCA) planning area. The proposed Project is also located within the Riverside East Solar Energy Zone (SEZ) and within a Desert Renewable Energy Conservation Plan (DRECP) Development Focus Area (DFA).

The proposed Project would interconnect to the regional electrical grid at the Southern California Edison (SCE) 230- kV Colorado River Substation. The proposed Project would generate up to 350 MW of renewable energy using PV technology and would include up to 350 MW of integrated energy storage capacity.

According to the Federal Register notice, the Crimson Solar Project site consists of approximately 2,500 acres of BLM-administered land according to the Federal Register notice, located in unincorporated eastern Riverside County, approximately 13 miles west of Blythe, just north of Mule Mountain and just south of Interstate 10. The proposed Project is comprised of the following components/facilities: photovoltaic modules and support structures, inverters, transformers, and electrical collection system, project substations and gen-tie line, and an operations and maintenance building. Other features/components of the proposed facility include a supervisory control and data acquisition system, an optional battery or flywheel storage

system capable of storing up to 350 MW of electricity, a meteorological data collection system, and telecommunications facilities. If provided, the storage system would consist of up to 3,000

electrical enclosures measuring approximately 40 feet by 8 feet by 8.5 feet high and installed on concrete foundations.

Land Use Issues: Potential Impacts on Metropolitan Facilities

Although Metropolitan has not yet identified any direct impacts, the proposed Project is in the general vicinity of Metropolitan facilities, perhaps as close as 6 miles. As described above, Metropolitan currently has a significant number of facilities, real estate interests, and fee-owned rights-of-way, easements, and other properties (Facilities) located on or near BLM-managed land in southern California that are part of our water supply or distribution system. Metropolitan is concerned with potential direct or indirect impacts that may result from the construction and operation of any proposed solar energy project on or near our Facilities. In order to avoid potential impacts, Metropolitan requests that the project review documents include an assessment of potential impacts to Metropolitan's Facilities with proposed measures to avoid or mitigate significant adverse effects.

Metropolitan is also concerned that locating solar projects near or across its electrical transmission system could have an adverse impact on Metropolitan's electric transmission-related operations and Facilities. From a reliability and safety aspect, Metropolitan is concerned with development of any proposed Project and supporting transmission systems that would cross or come in close proximity with Metropolitan's transmission system. Metropolitan requests that the propose Project review documents analyze and assess any potential impacts to Metropolitan's transmission system. Metropolitan also requests that the proposed Project proponent ensure that the California Independent System Operator (CAISO) includes Metropolitan as a Potentially Affected System for this proposed Project in accordance with the CAISO Tariff and Business Practice Manuals for the Generation Interconnection Procedures. This allows Metropolitan's Power System Operations and Planning Section the opportunity to participate in scoping meetings and study result meetings with SCE and CAISO for any related technical generation interconnection studies.

Water Resources: Potential Impacts on Colorado River and Local Water Supplies

Metropolitan is also concerned about the proposed Project's potential direct and cumulative impacts on water supplies, specifically potential impacts on Colorado River and local groundwater supplies. As noted above, Metropolitan holds an entitlement to imported water supplies from the Colorado River. Water from the Colorado River is allocated pursuant to federal law and is managed by the Department of the Interior, Bureau of Reclamation (USBR).

In order to lawfully use Colorado River water, a party must have an entitlement to do so. *See* Boulder Canyon Project Act of 1928, 43 U.S.C. §§ 617, et seq.; Arizona v. California, 547 U.S. 150 (2006).

CDFW's NOP and BLM's Notice of Intent do not provide any information regarding a source of water to be used during construction, operation, maintenance, and decommissioning. If the

proposed Project intends to utilize groundwater from on-site or off-site wells, Metropolitan is concerned that the wells would draw water from a groundwater basin that is hydro-geologically connected to the Colorado River, within an area referred to as the "Colorado River accounting surface." The extent of accounting surface area for the Colorado River was determined by the U.S. Geological Survey (USGS) and USBR prior to a proposed rule-making process. *See* Notice of Proposed Rule Regulating the Use of the Lower Colorado River Without an Entitlement, 73 Fed. Reg. 40916 (July 16, 2008); USGS Scientific Investigation Report No. 2008-5113. To the extent the proposed Project uses Colorado River water, it must have a documented right to do so.

Entities in California are using California's full apportionment of Colorado River water, meaning that all water is already contracted and no new water entitlements are available in California. Thus, Proponents would have to obtain water from the existing junior priority holder, Metropolitan, which has the authority to sell water for power plant use. Metropolitan is willing to discuss the exchange of a portion of its water entitlement subject to any required approvals by Metropolitan's Board of Directors through an agreement with Metropolitan.

Metropolitan requests that CDFW and BLM also assess the potential cumulative impacts of the use of the scarce Colorado River and local groundwater supplies in light of other pending renewable energy projects within the Colorado River Basin and the local groundwater regions. Metropolitan requests the proposed Project review documents address the proposed water supply for this project and any potential direct or cumulative impacts from this use.

We appreciate the opportunity to provide input to your planning process and we look forward to receiving and reviewing the project review documents in the future. If we can be of further assistance, please contact Ms. Malinda Stalvey at (213) 217-5545.

Very truly yours,

Jennifer Harriger
Team Manager, Environmental Planning Section

JAH:mks

cc: Mr. Christopher S. Harris
Executive Director
Colorado River Board of California
770 Fairmont Avenue, Suite 100
Glendale, CA 91203-1068

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:41 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar Project - Public Hearing Documents

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---------- Forwarded message ----------
From: **Liberatore, Miriam** <mliberat@blm.gov>
Date: Tue, Apr 10, 2018 at 9:45 AM
Subject: Re: [EXTERNAL] Crimson Solar Project - Public Hearing Documents
To: "Kramek, Michael" <Michael.Kramek@betm.com>
Cc: BLM_CA CrimsonSolar <blm_ca_crimsonsolar@blm.gov>

Hello, Mike,

Thank you for your email. There are no documents to review yet. We currently are collecting public input to help define the issues we will address in the draft EIS. As documents are released for comment they will be posted on our e-planning site:

https://eplanning.blm.gov/epl-front-office/eplanning/planAndProjectSite.do?methodName=renderDefaultPlanOrProjectSite&projectId=88925&dctmId=0b0003e880f99e9a

We will continue accepting comments even though the posted comment period is over. Please feel free to contact me again if you have any further questions.

On Tue, Apr 10, 2018 at 7:11 AM, Kramek, Michael <Michael.Kramek@betm.com> wrote:

> HI Miriam,
>
> BLM has called for public comments on the project and will be holding hearings April 11 in Palm Springs and April 12 in Blythe. Has BLM released an documents on the projects that are publically available? If so do you know where I can find them?
>
> Thanks
>
> Mike

Michael Kramek

Director, Market Policy & Regulatory Affairs

Boston Energy Trading and Marketing, LLC

Cell: 617-279-3364

Email: Michael.kramek@betm.com

--

Miriam Liberatore

Planning and Environmental Coordinator

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

Phone: 541-618-2412

La Cuna de Aztlan
Sacred Sites Protection Circle

Alfredo A. Figueroa
424 N. Carlton Ave
Blythe, Ca 92225

Phone: (760) 922-6422
E-mail: lacunadeaztlan@aol.com

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April 12, 2018

Miriam Liberatore, Project Manager
Bureau of Land Management
Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262-8001

RE: Comments in opposition to the proposed Crimson Solar Project

Dear Miriam Liberatore:

Our organization, La Cuna de Aztlan Sacred Sites Protection Circle is a Native American organization whose mission is to protect and preserve sacred Indigenous sites that are located along the Colorado River. Our organization has a Memorandum of Understanding (MOU) with the Bureau of Land Management to be guardians of these sacred sites that begin in Needles, CA down to the Gulf of California and centered in the Palo Verde/Parker Valleys. These sites include the world-famous Blythe Giant Intaglios, Kokopilli, Cicimitl, El Tosco and Bouse Fisherman geoglyphs as well as over 300 other geoglyphs (intaglios), thousands of petroglyphs, hundreds of piclographs and mountains images.

We are totally against the new proposed Crimson Solar Project that is to be located west of the Mule Mountains. We are attaching a power point we presented at Palo Verde College on March 15, 2016.

Our opposition of the project is the same reason we opposed the Rio Mesa Solar Project on the east side of the Mule Mountains. The Mule Mountains represent "Calli" in Nahuatl. Calli means "earth/house" and its glyph is the 3rd glyph left on top on the Aztec Sunstone calendar with the 20-day glyphs. The origin of the word "California" is derived from "Calli-Fornax" meaning "the hot house". In the Aztec cosmic tradition when the body of a person dies they first go to "Calli". There at Calli, "The Great Spirit, Cicimitl (El Cucuy, ET)" takes the spirit to one of the four final resting places all based on how the person died and how they lived during their life. In the beginning of the 19th century, the Mule Mountains were referred to as the upside-down mountains and as the "Molcajete Mountains because of their 3 peaks.

As John Kalish and George Kline are well aware, the Cicimitl Giant geoglyph is in the Kokopilli geoglyph group. Cicimitl is 10 miles north of and in line with the Mule Mountains and going northeast approximately 90 miles, it is directly 13 magnetic north with Topock Maze south east of Needles. The Maze is where most of the spirits go to repose. Before the Spanish invasion, the Natives would place the calcinated remains of the deceased in an olla with an upside down 3 legged molcajete put on top. This was done in accordance with their belief that their spirits first have to go to the Molcajete (Calli) Mountain before Cicimitl takes them to their final resting place. Ollas with molcajete thousands of years old, have been found in Northwest Sonora all the way down to Bonampak Yucatan.

The Mule Mountains have an abundance of petroglyphs and geoglyphs that relate to the 20 days of the Aztec calendar. They are mostly on the north east side of the Mountains not far from the proposed Solar project site. The main trail that leads northwest toward Corn Springs will be destroyed by the project.

Ron Van Fleet, a Mojave Elder descendent of the last Traditional Mojave Chief Peter Lambert, explains that the Creator, Mastumho with his magic want stirred the contents of a three-legged pot or molcajete. He threw the contents behind him, thus creating the Milky Way, the entire universe, water and air. When he was finished, he placed the empty pot upside down on earth, with the three legs up, which created the three peaks of "Hamock Avi", the Mule Mountains (15 miles southwest of Blythe, CA). In the Mojave oral creation story Hamock Avi is similar to the Aztec Creation story in the Mule Mountains.

The molcajete (grinding mortar) site is located on the north side of the Bradshaw Trail Road on a small hill. It is approximately 4' deep and 15' in diameter.

The Mule Mountains were given this English name because they thought the Cahuillas said "Mule" when they said "mul-al" in reference to the molcajete Aztec name.

The Bureau of Land Management has designated the Mule Mountains as an Area of Critical Environmental Concern (ACEC) and is included in their maps because this area includes geoglyphs, hundreds of petroglyphs, cremation/burial sites, major trails and many other indigenous ritual artifacts.

Because of the Mule Mountains sacredness, we organized against construction on site and around them since the 70s. In 1975, San Diego Gas & Electric proposed to construct the Sun Desert Nuclear Power Plant that was going to be built within the same area as the proposed Rio Mesa Solar project site. After 5 years of protest by members of the Riverside County Tribes and environmentalist and our group, we were able to stop the construction of this nuclear plant. The SDG&E had already bought the John Norton 10,000-acre ranch that was to provide water to run the nuclear power plant. During Jerry Brown's first term as California governor, he was able to establish the California Atomic Energy Commission and they would schedule their meetings in Blythe, CA so that the community could be well informed of the pros and cons of the construction of the nuclear power plant that was eventually the first nuclear power plant to be stopped in the United States.

Again in 2001, the Pacific Gas & Electric was going to construct a natural gas power line called the North Baja Pipeline that was going to traverse through the base of the Mule Mountains and Palo Verde Peaks that would eventually destroy some of the sacred sites that are within the area. In June 2001, Native Americans from the Colorado River, Chumash, Chemehuevi, Mojave, Quechan, the EDAW Inc., representatives of the Bureau of Land Management (El Centro, CA & Yuma AZ offices), archaeological, anthropological consultants and our group toured the area. After seeing the significance and sacredness of the area, the Pacific Gas & Electric circumvented the sacred sites. In appreciation of our tour, Dr. James H. Cleland from the EDAW Inc. sent the following recommendation to our organization:

I would like to take this opportunity to wish you well in your future endeavors (1) to educate the public about the importance of cultural heritage and (2) to work within the context of environmental and historic preservation programs to protect these unique and non-renewable resource from unnecessary damage.

Currently the community of Mesa Verde that is 8 miles west of Blythe, has one of the highest per capita rate of Asthma, Valley Fever, Bronchitis and Pneumonia. This is all due to the fungus that is being disrupted in the pristine desert when they scraped all the soil and the fungus is released when the winds carry it and the people inhale it. Prisoners at Chuckawalla and Ironwood State are suffering an increase of Valley Fever. If more solar projects are constructed, the health for the surrounding area of the Palo Verde Valley will become more critical. The Palo Verde Times published an article on March 25 relating to the seriousness of the Valley Fever in the Quartzsite/Blythe area. The author was Jackie Deal, a registered nurse for 40 years.

The Crimson Solar project will be constructed on open lands at the base of the Northwest corner of the Mule Mountains in the Lower Colorado River Valley approximately 15 miles from the Colorado River. The United States Fish and Wildlife Service (USFWS) analysis states this area is an important migratory route for numerous species as well as breeding and wintering stopover destination. This area has been designated as a Globally Important Bird Area (see California Audubon http://ca.audubon/org/iba/). In addition, four National Wildlife Refuges (NWR) have been established to restore and protect habitat and wintering grounds for migratory birds and wildlife along the Colorado River.

Based on available information from Cibola NWR at least 288 bird species including numerous species of migratory passerine species (songbirds), upland species (quail, roadrunners, mourning and white-winged doves, waders/shorebirds and waterfowl (greater sandhill cranes, Canada and snow geese, ibis, egrets, herons, ducks), and raptors (buteos, accipiters, falcons, eagles, vultures) (see http://www/npwrc/usgs.gove.resource/birds/chekbird/r2/cibola.htm). The importance of this habitat for migratory birds is known, and is further highlighted by the use of the area by birds designated by the USFWS as Birds of Conservation Concern and by the California Department of Fish an Game as Species of Special Concern.

Given the area's importance for maintaining health and breeding fitness of migratory and resident birds, the USFWS and California Department of Fish and Game (CDFG) are concerned that avifauna protected by the Migratory Bird Treaty Act (MBTA), migrating Swainson's hawks(state listed as threatened under the California Endangered Species Act), and eagles protected by the MBTA, the Bald and Golden Eagle Protection Act and designated as fully protected under Section 3511 of the Fish and Game Code may be impacted by the construction and operations of the proposed Crimson Solar project.

Special status species at risk also include the state listed Gila Woodpecker, the nahualli (animist) of Quetzalcoatl the Creator (occurs on site) and elf owl (suitable habitat is on the site) and burrowing owls.

We do not oppose solar panels. We feel that they should be place in areas that have already been disturbed as well as placing them of rooftops and in urban areas where energy is mostly needed (warehouses, supermarkets, apartment complexes, abandoned air bases, and along the current electrical transmission lines). This will exclude the need for transmission lines which has now presented major terrorist threats like the blackout that occurred on September 8, 2011 in Mexico, Yuma, Imperial, San Diego and Riverside Counties.

We are opposing the construction of Crimson solar project because of their gross violations to the following Indigenous State, Federal, Mexico and United Nation laws that support our demands and why these projects should not be constructed within sacred areas:

*United Nations Declaration on the Right of Indigenous People. Resolution adapted by the general Assembly during the 107th plenary meeting, September 13, 2007. (61/295) (Includes: Article 11 that stipulates Indigenous archaeological rights.)
*Native American Sacred Places, March 6, 2003 (S.B. 18)
*Native American Sacred Lands Acr, June 11, 2003 (H.R. 2419)
*The Sacred Land Protection Act, July 18, 2002 (H.R. 5155)
*The Native American Sacred Sites Protection Act, February 22, 2002 (S.B. 1828)
*Accommodations of Sacred Sites and Federal Land, Signed by7 President Bill Clinton om May 24, 1996 (Executive Order 13007)
*Native American Graves Protection and Repatriation Act of 1990
*Archaeological Resource Protection Act of 1979
*American Indian Religious Freedom Act, August 11, 1978
*The Civil Right Act of 1968
*Antiquities Act of 1906

For all of these reasons, we are opposing the construction of the Crimson Solar Project and Right-of-way that is proposed to be placed within sacred sites and pristine desert environment.

Sincerely
Alfredo A. Figueroa, Founder
Alfredo G. Figueroa
Patricia F. Robles, Chairperson

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:42 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] We need the Crimson Solar project

---------- Forwarded message ----------
From: **KIRK NASON** <kirk_nason@hotmail.com>
Date: Sat, Apr 14, 2018 at 10:47 AM
Subject: [EXTERNAL] We need the Crimson Solar project
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>

CA, to go 100% clean energy needs more projects like crimson. Also to meet grid reliability we need massive battery storage projects as well.

Please approve this project

Regards,

Kirk J. Nason
714 321-7298
Excuse brevity & typos

Defenders of Wildlife
California Wilderness Coalition

April 5, 2018

Miriam Liberatore, project manager
RE Crimson Solar
Bureau of Land Management
3040 Biddle Road, Medford, OR 97504
Email: blm_ca_crimsonsolar@blm.gov

Re: Scoping comments on proposed RE Crimson Solar Project

Dear Ms. Liberatore;

Thank you for the opportunity to submit issue scoping comments to assist in guiding the analysis of the effects of the proposed Crimson Solar Energy Project (Project) under the National Environmental Policy Act (NEPA). These comments are submitted by Defenders of Wildlife (Defenders), and the California Wilderness Coalition (CalWild).

Defenders is a national conservation organization dedicated to the protection of native species of plants and animals and their habitats. Defenders has approximately 1.8 million members and supporters in the U.S. including approximately 120,000 in California. The California Wilderness Coalition (CalWild) is a nonprofit public benefit corporation organized under the laws of the State of California in 1976 and composed of hundreds of members that include conservation organizations, businesses and individuals.

The Project would be located within a 4,000-acre application area on public lands near Blythe, California, and would entail construction, operation, maintenance, and decommissioning a 350-megawatt solar photovoltaic facility and necessary ancillary facilities, including battery storage, project substations, access roads, operations and maintenance buildings, and lay down areas. The project footprint would be approximately 2,700-acres within the Riverside East Solar Energy Zone (SEZ).

Electricity generated would be delivered to the existing Colorado River Substation via a gen-tie transmission line approximately 3,000 feet in length. The Project right of way application predates both the Programmatic Solar Energy Development Plan (PSEDP) and Desert Renewable Energy Conservation Plan DRECP), and is considered by BLM to be an existing application and not necessarily subject to the provisions of these plans.

We recommend the NEPA analysis of the environmental effects of the Project include the following.

1. **The NEPA process**. The Project is not necessarily subject to the provisions of the PSEDP or DRECP regarding best management practices, impact avoidance and mitigation measures and Conservation Management Actions (CMAs) because of its early application date. An environmental impact statement (EIS) will be prepared for the Project as has been done for many other solar projects considered by BLM as existing applications.

Recommendation. The BLM should utilize the existing information in the PSEDP and DRECP regarding the Project site and lands affected by other nearby projects in developing a description of the affected environment, cumulative impacts, and specific measures to avoid, minimize and mitigate significant environmental impacts. The information in the PSEDP and DRECP comprises some of the best available science and information available. Additional site-specific information will be necessary to complete the NEPA analysis, such as that obtained from protocol surveys for special status species of plants and animals, cultural resources, etc.

The range of alternatives should be based on resource occurrence and sensitivity, with a goal of avoiding or minimizing impacts by modifying the project size and location accordingly. One of the alternatives should include compliance with the requirements for projects developed under the DRECP. The environmentally superior alternative should be one that avoids sensitive resources, including habitat linkages, the sand transport corridor and dunes, and microphyll woodlands to the maximum extent practicable which, in turn, would likely require fewer mitigation measures to reduce impacts to the less-than-significant level.

2. **Impact analysis and mitigation measures**. The Project is located south of I-10 within the Riverside East Solar Energy Zone (SEZ) and Development Focus Area (DFA) which is undergoing rapid change due to multiple large-scale PV solar projects and infrastructure. Besides the Project, others under application, permitted or under development both north and south of I-10 within the SEZ and DFA that affected largely undisturbed public land include:

- Colorado River Substation (existing)
- Desert Sunlight (existing)
- Genesis solar thermal (existing)
- Blythe Mesa four-mile long gen-tie (approved)
- Desert Harvest PV solar (approved)
- Blythe PV solar (under construction)
- McCoy PV solar (under construction)
- Desert Quartzite PV solar (proposed)
- Mule Mountain III PV solar (under application)
- Palen solar (under application)

Among the most common features affected by these projects is the Palen-Ford sand transport corridor and, to varying degrees, the presence of sand-based habitats that support the BLM Sensitive Mojave fringe-toed lizard. Habitat linkages across the I-10 corridor that provide for connectivity among populations of plants and animals may also be affected.

Recommendation. The cumulative effects analysis should be derived from information included in the PSEDP and DRECP, and NEPA documents associated with projects that have been approved by BLM, plus the incremental impacts of the Project.

Mitigation for unavoidable impacts to the sand transport corridor, Mojave fringe-toed lizard, desert tortoise, burrowing owl, and habitat features such as Microphyll woodlands, desert washes and habitat linkages, should conform to requirements for other similar projects that were established by either the California Energy Commission or the California Department of Fish and Wildlife. These requirements included compensatory mitigation for unavoidable impacts. If compensatory mitigation opportunities for unavoidable impacts are found to not be available, the project should be further modified to completely avoid those impacts.

3. **Habitat linkages and movement corridors**. The Project application area appears to fall within habitat linkages and movement corridors as mapped in the BLM's DRECP and shown on Figure H-1 in Appendix H: Eastern Riverside SEZ Linkages. Based on Figure H-1, the entire Project appears to be located within a dune/sand habitat linkage.

Recommendation. Consistent with our recommendation regarding using alternatives to avoid adverse impacts to sensitive resources, we recommend that when alternatives to the proposed project are developed, they should be designed specifically to avoid impacts to the mapped habitat linkages and wildlife movement corridors. Although the proposed project and some alternatives may adversely impact these linkages and movement corridors, at the minimum, adverse impacts should be avoided to the extent that the corridors remain functional in perpetuity, with sufficient habitat left intact to provide assurances that stochastic events and effects of climate change will not render the linkage and corridor non-functional. We recommend that impact and avoidance measures in the CMAs contained in the DRECP LUPA be applied to the Project (e.g., CMA LUPA-BIO-13).

4. **Bird mortality**. Bird mortality at various solar energy projects in the Mojave and Sonoran Deserts is under investigation by state and federal agencies. Some of the projects are located within the SEZ/DFA, which studies indicate is used by migratory birds traveling between the Colorado River and Salton Sea, as well as into the Western Mojave Desert. Migratory birds are protected under state and federal law, and those federally listed as threatened or endangered are protected under the Endangered Species Act.

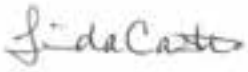
Bird mortality is known to occur at two projects in the SEZ, Desert Sunlight and Genesis. Mortalities at the Desert Sunlight include numerous species of water-related birds. They include the Yuma clapper rail, federally listed as endangered.

Recommendation. We recommend robust bird monitoring and reporting be required for the project as long as mortality remains higher than background levels. Furthermore, all sources of existing information on project design and documented mortality should be utilized developing conservation measures in a bird and bat conservation plan for the Project. Compensatory mitigation for bird mortality attributed to the Project should be required and associated with the habitat characteristically used by the affected bird groups.

This concludes our scoping comments for the Project. Thank you for the opportunity to participate in the environmental issue identification phase of the analysis.

Sincerely,

Jeff Aardahl
California Representative
Defenders of Wildlife
jaardahl@defenders.org



Linda Castro
Assistant Policy Director
California Wilderness Coalition
lcastro@calwild.org

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:42 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar Scoping Comments

Attachments: CNPS_CalWild_CrimsonSolar_ScopingComments.pdf

---------- Forwarded message ----------
From: **Nick Jensen** <njensen@cnps.org>
Date: Mon, Apr 16, 2018 at 6:13 PM
Subject: [EXTERNAL] Crimson Solar Scoping Comments
To: blm_ca_crimsonsolar@blm.gov
Cc: Linda Castro <lcastro@calwild.org>, Greg Suba <gsuba@cnps.org>

Dear Ms. Liberatore,

Please see the attached scoping comments for the RE Crimson Solar Project from the California Native Plant Society and the California Wilderness Coalition.

Please feel free to contact me with any questions.

Sincerely,

Nick

--

Nick Jensen, PhD

Southern California Conservation Analyst

California Native Plant Society

1500 North College Ave

Claremont, CA 91711

njensen@cnps.org

(530) 368-7839

Miriam Liberatore, Project Manager
RE Crimson Solar
Bureau of Land Management
3040 Biddle Road, Medford, OR 97504
Email: blm_ca_crimsonsolar@blm.gov

Scoping comments on the proposed RE Crimson Solar Project

Dear Ms. Liberatore,

Thank you very much for the opportunity to provide scoping comments on the proposed RE Crimson Solar Project (the Project) in Riverside County, California. As proposed, the Project includes the construction, maintenance, operation, and decommissioning of a 350-MW solar energy generating facility on approximately 2,700 acres of desert habitat. The Project is located on land owned and administered by the Bureau of Land Management (BLM). In compliance with the National Environmental Policy Act (NEPA) and California Environmental Quality Act (CEQA), the potential impacts of the Project will be evaluated in a joint EIS/EIR by the BLM and the California Department of Fish and Wildlife (CDFW). The Project application predates the Desert Renewable Energy Conservation Plan (DRECP), adopted in 2016, and the Programmatic Solar Energy Development Plan. It will thus be evaluated under California Desert Conservation Area (CDCA) land use plan and the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO), and applicable state and local laws. Depending on the findings of the EIS/EIR, amendments to the CDCA land use plan may be necessary.

The California Native Plant Society (CNPS) is a statewide, non-profit organization with 10,000 members distributed across 35 local chapters. The mission of CNPS is to conserve California native plants and their natural habitats, and to increase their understanding, appreciation, and horticultural use.

The California Wilderness Coalition (CalWild) is a nonprofit public benefit corporation organized under the laws of the State of California in 1976 and composed of conservation organizations, businesses and individual members. Through advocacy and public education, CalWild builds support for the protection of California's wildest remaining places, primarily those managed by the federal government.

Our concerns regarding the Project include, but are not limited to, impacts to rare plants, vegetation, jurisdictional waters, and ecological processes. Given the scale of the Project and existing site conditions, impacts to native plants and plant communities are unavoidable. Importantly, the Project is sited in the northern

Sonoran Desert near the area in which this desert intergrades with the Mojave Desert to the north. The deserts of Western North America represent one of Earth's last remaining large, intact ecosystems. These habitats are a reservoir of biodiversity, ecosystem services, and evolutionary processes. In the face of climate change, and a myriad of other impacts including renewable energy development, the maintenance of the primary roles of desert habitats is of utmost importance. Furthermore, renewable energy projects should be sited to avoid direct and indirect impacts to plant species (including transmission lines and roads), such as habitat reduction, alteration, fragmentation, exposure to contaminants or fires, and introduction of non-native species.

With that in mind, we recommend that the following potential impacts be evaluated comprehensively in the EIS/EIR.

1. **Impacts to Rare Plants.** Based on a review of existing sources (the California Natural Diversity Database[1], Consortium of California Herbaria[2], and CNPS Inventory of Rare and Endangered Plants[3]) the Project site is home to populations of Harwood's eriastrum (*Eriastrum harwoodii* [CRPR 1B.2, BLM Sensitive]) and Harwood's milk-vetch (*Astragalus insularis* var. *harwoodii*, CRPR 2B.2]). Additionally, based on a review of rare plants found in adjacent areas, the Project potentially supports suitable habitat for the following rare plants:

Common Name	**Scientific Name**	**CRPR**
gravel milk-vetch	*Astragalus sabulonum*	2B.2
pink fairy-duster	*Calliandra eriophylla*	2B.3
Emory's crucifixion-thorn	*Castela emoryi*	2B.2
sand evening-primrose	*Chylismia arenaria*	2B.2
Las Animas colubrina	*Colubrina californica*	2B.3
spiny abrojo	*Condalia globosa* var. *pubescens*	4.2
Abrams' spurge	*Euphorbia abramsiana*	2B.2
Utah vine milkweed	*Funastrum utahense*	4.2
ribbed cryptantha	*Johnstonella costata*	4.3
winged cryptantha	*Johnstonella holoptera*	4.3
Parish's desert-thorn	*Lycium parishii*	2B.3
roughstalk witch grass	*Panicum hirticaule* subsp. *hirticaule*	2B.1
desert unicorn-plant	*Proboscidea althaeifolia*	4.3
dwarf germander	*Teucrium cubense* subsp. *depressum*	2B.2
Chocolate Mountains tiquilia	*Tiquilia canescens* var. *pulchella*	3.2

[1] https://www.wildlife.ca.gov/Data/CNDDB
[2] http://ucjeps.berkeley.edu/consortium/
[3] http://www.rareplants.cnps.org/

Given that the Project will be evaluated under a joint CEQA/NEPA document, complete and comprehensive botanical surveys should be conducted in line with CDFW Botanical Survey Guidelines[4]. This also means that the impacts to all plants included on the CDFW Special Status Plant List[5] need to be evaluated, including those that occur on CRPR Ranks 2B, 3, and 4. In line with these guidelines, botanists should conduct inventories of all plants on the Project site. Also, surveys need to be conducted following adequate amounts of precipitation timed appropriately to ensure that rare plants are detectable. The list of rare plants with the potential to occur on the Project site includes numerous annuals that germinate following summer/fall precipitation. This means that surveys must be completed not only in the spring following adequate precipitation, but also in the fall following adequate precipitation. The detectability of special status plants with potential to occur on a project site can be verified by botanists visiting nearby reference populations of rare plants. The timing and details of visits to reference populations of special status plants should be detailed in the EIS/EIR. Lastly, details of the rare plant survey effort should also be included in the EIS/EIR including information on the dates of surveys, number of surveyors, names of surveyors, and the survey methods used.

For rare plants found on the site, the analysis of impacts from the Project needs to be conducted in combination with the impacts to the same species on other renewable energy project sites in the region. Numerous solar energy development projects that are at various stages in the development process from existing and operational to the early planning stages are located in the region surrounding the Project site. Given that the Project is located in a DRECP Development Focus Area (DFA), additional solar energy development projects may be sited adjacent to the 556Project, and the cumulative impacts to rare species in the region remain a primary concern. Solar energy development projects and associated infrastructure projects located close to the Project site include:

- Colorado River Substation (existing)
- Desert Sunlight (existing)
- Genesis solar thermal (existing)
- Blythe Mesa four-mile long gen-tie (approved)
- Desert Harvest PV solar (approved)
- Blythe PV solar (under construction)
- McCoy PV solar (under construction)
- Desert Quartzite PV solar (proposed)
- Mule Mountain III PV solar (under application)
- Palen solar (under application)

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[4] https://www.wildlife.ca.gov/Conservation/Survey-Protocols#377281280-plants
[5] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=109383&inline

An analysis of cumulative impacts should include the effects of already-implemented projects in addition to the effects of projects that will be implemented in the future. Care should also be taken to ensure that ecological processes that maintain the habitat for rare species are also maintained (e.g. aeolian transport of sand in the case of Harwood's eriastrum). Also, the Project should ensure the maintenance of biological corridors necessary for the movement of species in the face of climate change. The cumulative impact of the large number of proposed and already-implemented solar energy development projects in the region on ecological processes and biological corridors needs to be addressed. Lastly, we recommend that the Project maintain a 0.25-mile buffer for occurrences of rare plants, in line with the Conservation and Management Actions (CMAs) adopted in the DRECP.

2. **Impacts to Vegetation.** Based on a review of aerial imagery, the Project site contains numerous washes that contain "microphyll woodland" vegetation. Microphyll woodland vegetation types, including Blue Palo Verde-Ironwood Woodland (Parkinsonia florida-Olneya tesota), are rare (see CDFW's list of California Sensitive Natural Communities[6]), and play an important role as habitat for avian species. The long-term persistence of these habitats is maintained by active hydrological processes, which require intact stream courses and adjacent upland habitats.

Vegetation types on the Project site should be mapped to the Alliance level in accordance with CDFW's Vegetation Classification and Mapping Standards[7]. Mapping to the Alliance level is necessary to determine the potential impact to sensitive natural communities. Impacts to microphyll woodland vegetation should be avoided, employing a 200-foot setback, as is mandated in DRECP CMAs. Lastly, the methods used to classify and map vegetation types on the Project site should be clearly reported in the EIS/EIR.

3. **Impacts to jurisdictional waters.** The Project site includes numerous washes that are classifiable as jurisdictional waters of the State of California and/or the United States. The maintenance of washes and stream courses is essential to maintaining the hydrological function of desert ecosystems and sensitive habitats, such as Blue Palo Verde-Ironwood Woodland. In order to accurately document the episodic streams on the Project site we recommend that surveyors employ the Mapping Episodic Stream Activity (MESA)[8] protocols developed by CDFW and the California Energy Commission. The methods used to identify and map jurisdictional waters and wetlands on the Project site should be clearly reported in the EIS/EIR.

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[6] https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=153609&inline

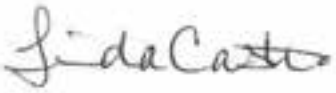
[7] https://www.wildlife.ca.gov/data/vegcamp/publications-and-protocols

[8] http://www.energy.ca.gov/2014publications/CEC-500-2014-013/CEC-500-2014-013.pdf

Once again, thank you for the opportunity to provide scoping comments on the RE Crimson Solar Project. Please feel free to contact us if you have any questions.

Sincerely,

Nicholas Jensen, PhD
Southern California Conservation Analyst
California Native Plant Society
1500 North College Ave
Claremont, CA 91711
(530) 368-7839
njensen@cnps.org



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COLORADO RIVER INDIAN TRIBES

Colorado River Indian Reservation

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April 16, 2018

Via E-Mail and U.S. Mail

Miriam Liberatore
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Bureau of Land Management
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Re: RE Crimson Solar Project NOI/NOP Scoping Comments

Dear Ms. Liberatore and Ms. Rodriguez:

Per the Bureau of Land Management's ("BLM") March 9, 2018 Notice of Intent ("NOI"), 47 Fed. Reg. 10,516, and per the California Department of Fish and Wildlife's ("CDFW") March 8, 2018 Notice of Preparation ("NOP"), the Colorado River Indian Tribes ("CRIT" or "Tribes") submit these comments to help guide the scoping and content of the Joint Environmental Impact Statement ("EIS")/ Environmental Impact Report ("EIR") and Possible Land Use Plan Amendment for the Proposed RE Crimson Solar Project ("Project") in Riverside County, CA. The Project, a 350-MW photovoltaic energy-generating facility with an optional 350-MW storage system, is proposed on 2,500 to 2,700 acres of public lands administered by the BLM within the California Desert Conservation Area ("CDCA") planning area. The Project would be located approximately 16 miles from the Colorado River Indian Reservation.

As a preliminary matter, the Colorado River Indian Tribes are a federally recognized Indian tribe comprised of over 4,440 members belonging to the Mohave, Chemehuevi, Hopi and Navajo Tribes. The almost 300,000-acre Colorado River Indian Reservation sits astride the Colorado River between Blythe, California and Parker, Arizona. The ancestral homelands of the Tribes' members, however, extend far beyond the Reservation boundaries. Significant portions of public and private lands in California, Arizona, and Nevada were occupied by the ancestors of the Tribes' Mohave and Chemehuevi members since time immemorial. These landscapes remain imbued with substantial cultural, spiritual, and religious significance for the Tribes' current members and future generations. For this reason, we have a strong interest in ensuring that

potential cultural resource and other environmental impacts associated the proposed Project are adequately analyzed and mitigated.

I. The Project is Likely to Significantly Impact Cultural Resources.

Because of the Tribes' past, present, and future connection to the land on which the Project is proposed, CRIT has grave concerns about the Project's potential for significant cultural resource impacts. The RE Crimson Solar Project is one of dozens of renewable energy projects either approved or under consideration by BLM, state, and local agencies in the area. The collective impact of this transformation of the desert has had, and will continue to have, considerable adverse impacts on the Tribes and the cultural, spiritual, and religious practices of CRIT members. CRIT continues to be concerned that federal and local governments intend to approve all renewable energy projects, no matter what the cost to affected tribes, native plants and animals, and the desert ecosystem as a whole.

The proximity of the proposed Project to the Mule Mountains, also known as Avi Ismalyk, is alarming to the Tribes. The dance circles, trails, petroglyphs, and intaglios associated with Avi Ismalyk play an integral role in Mohave cultural and spiritual beliefs, in addition to the plants and animals of the area. The landscape is identified in Mohave songs and stories. The Mule Mountains are already a designated Area of Critical Environmental Concern ("ACEC") and the need to protect the area and prevent irreparable harm are undeniable.

In addition, the Tribes remained troubled by the Project's potential to remove, damage, or destroy cultural resources and artifacts. These resources are sacred and finite. According to the belief system of CRIT's Mohave members, the disturbance of any cultural resources affiliated with their ancestors is taboo, and thus considered a severe cultural harm. CRIT therefore cannot support any project that will likely result in the disturbance or destruction of cultural resources and artifacts.

II. The DEIS/DEIR Must Broadly Consider Impacts to Cultural Resources

CRIT is concerned about the cultural harm that will result from both the unearthing and destruction of prehistoric archaeological resources and the Project's impacts on other cultural resources. In preparing EISs and EIRs for other solar energy facilities in the region, BLM, state, and local agencies have artificially constrained the definition of "cultural resources," thereby undermining the accuracy and quality of subsequent analysis.

In particular, BLM has taken the position that significant cultural resources are only those buildings, sites, structures, objects, and districts eligible for inclusion on the National Register of Historic Places ("NRHP"). However, National Environmental Policy Act ("NEPA") guidelines specify that EISs must address impacts to "historic *and* cultural resources" (40 C.F.R. § 1502.16(g) (emphasis added)), thus requiring a more expansive analysis than the one required by the National Historic Preservation Act ("NHPA"). Further, in preparing EIRs for other solar

energy facilities in the region, state and local agencies have sometimes also artificially constrained the definition of "historic resources," thereby undermining the accuracy and quality of their subsequent analysis. However, the California Environmental Quality Act ("CEQA") Guidelines explain that a historic resource need not be eligible for the California Register of Historical Resources ("CRHR") to be a "historic resource" under Public Resources Code sections 5020.1(j) or 5024.1; "historic resources" thus require a more expansive analysis than that required under the CRHR criteria. CEQA Guidelines § 15064.5(a)(4). Specifically, the DEIS/DEIR must take into consideration California Assembly Bill 52's amendments to CEQA by recognizing the proposed project's effect(s) on "tribal cultural resources" as defined in California Public Resources Code section 21074.

Such resources under either definition necessarily include viewsheds and landscapes, plants and animals used in and/or central to cultural and religious practices and creation stories, and religious and customary practices (e.g., hunting and gathering, religious ceremonies, and trail-walking). By using the correct definition of cultural resources for this Project, BLM and CDFW will ensure that impacts to a host of important tangible and intangible resources are properly considered.

In addition, the DEIS/DEIR must avoid conflating eligibility for the NRHP under the NHPA and significant adverse effect under NEPA. It must also avoid conflating eligibility for the CRHR and significant impacts under CEQA. Impacts to archaeological resources considered ineligible for listing on the NRHP or CRHR—perhaps because of their lack of integrity—may nevertheless be significant for NEPA and CEQA purposes.

III. The DEIS/DEIR Must Ensure that Potential Impacts to Known and Unknown Cultural Artifacts Are Analyzed and Avoided.

Given CRIT's ongoing experience with utility-scale solar development on land near its Reservation, the Tribes are concerned about the Project's likely impact on both known and unknown archaeological resources. Many of these cultural artifacts are intimately linked to current CRIT members, who consider their disturbance and/or damage to be a significant cultural harm. While cremation sites are of unique importance to the Tribes, other types of artifacts, including groundstones, ceramics, and lithics, are also held sacred. CRIT is also concerned about visual impacts to cultural resources, which have the potential to degrade significant cultural resource values.

BLM has typically relied on Programmatic Agreements or Memoranda of Agreement to comply with Section 106 of the NHPA for utility-scale solar projects, which often improperly defer consideration of cultural resource impacts until after a project has already been approved. A programmatic agreement is *not* appropriate for this Project, as effects on known historic properties can, and must, be fully determined prior to Project approval. 36 C.F.R. § 800.14(b)(1). All cultural resources should be surveyed, inventoried, and evaluated in a manner that does not harm the resources or remove them from the site prior to preparation of the DEIS/DEIR so that

the environmental analysis fully and adequately takes cultural resource impacts into account. BLM and CDFW must also ensure that cultural resource mitigation and treatment plans are in place prior to any ground disturbing activities at the site.

CEQA requires lead agencies to identify significant impacts to "historic resources" and mitigate these impacts. *See, e.g.*, CEQA Guidelines § 15064.5. Moreover, CEQA *requires* lead agencies to use preservation in place for archaeological resources if feasible, unless other mitigation would be more protective. CEQA Guidelines § 15126.4(b); *Madera Oversight Coal. v. County of Madera* (2011) 199 Cal.App.4th 48, 82-87. The law requires BLM and CDFW to fully analyze the Project's impacts to cultural resources before it publishes the Draft EIS/EIR and to prepare and present mitigation measures to avoid or lessen impacts on cultural resources.

The mitigation measures must first require avoidance of cultural resources. Only if avoidance is infeasible may the Project impact cultural resources. This feasibility assessment must be defined in the EIR/EIS as requiring a written evaluation, supported by substantial evidence, and available for tribal review and comment. During all activities that have the potential to impact cultural resources, including but not limited to grading and excavation, tribal monitors will be present. And if cultural resources are unearthed, the Tribes must be allowed to rebury them.

IV. The DEIS/DEIR Must Adequately Consider Cumulative Impacts to Cultural Resources.

The BLM must take a hard look at cumulative impacts to cultural resources. NEPA requires agencies to consider cumulative impacts, meaning "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. §§ 1508.7, 1508.25(c)(3). "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. CDFW is also required to consider cumulative impacts to cultural resources under CEQA. *See, e.g.*, CEQA Guidelines, §§ 15130, 15355. "Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, other current projects, and probable future projects. CEQA Guidelines § 15130(a)(3); Pub. Resources Code, § 21083(b)(2).

As CRIT has explained, the collective and continual destruction and removal of cultural resources from the Tribes' ancestral lands due to renewable energy projects has already caused tremendous spiritual harm to CRIT members. In addition to triggering extensive cultural resource removal, these renewable energy projects are often sited in a way that severs the connectivity between cultural resource sites—a connectivity that is vital to the traditional value of these cultural resources. In considering the potential cultural resources impacts of the RE Crimson Solar Project, BLM and CDFW must analyze those impacts in light of other past, present, and reasonably foreseeable future actions impacting cultural resources in this region.

BLM and CDFW must also describe the methodology used to assess cumulative impacts and list out the other projects considered in analyzing cumulative impacts.

Additionally, CRIT noted that the satellite image used in NOP Figure 1 showing the Project's location is significantly out of date. Current satellite imagery of the same area shows multiple large-scale solar developments close by. Using current satellite imagery is necessary to convey to decisionmakers and the public the Project's location and cumulative significance. The outdated satellite base image gives the impression that the RE Crimson Solar Project will be the only solar installation within the Project Location Map. This is extremely misleading. As can be seen in Attachment 1: Current Satellite Imagery, there are at least five separate solar installations within the Project Location Map's boundaries. Each of these installations has resulted in extensive cultural resource removal and has severed connectivity between the cultural resource sites. A first step to analyzing these impacts is having a map that is up to date.

Finally, CRIT is aware that a number of new projects have been proposed in the vicinity of the Project in the last three years. These must be listed and thoroughly studied in the cumulative impact section.

V. BLM Must Consider the Environmental Justice Impacts from the RE Crimson Solar Project.

The vast transformation of an entire cultural landscape has significant environmental justice implications. The renewable energy benefits of the Project will flow to energy customers in southern California and the shareholders of large energy companies. The impacts of the Project, however, will be uniquely felt by CRIT and other area tribes and their members whose interests in this area extend beyond economics to its cultural and spiritual value. As acknowledged by California Energy Commission Commissioner Karen Douglas in a siting proceeding for another utility-scale solar project proposed in this region, "Indian tribes maintain long-standing ancestral and traditional practices that connect their identities as Indian people to the environment, unlike other populations that do not have territories linked to their collective identities." Palen Solar Electric Generating System Revised PMPD at 6.3-60 to -61. Shifting the burden of renewable energy development to unique communities that have occupied this landscape since time immemorial, while providing such communities with no identified benefits, is the very definition of environmental injustice. BLM must both recognize and address such realities.

In addition, as part of the California Resources Agency, CDFW must comply with its Environmental Justice Policy. This document directs CDFW to "consider environmental justice in [its] decision-making process if [its] actions have an impact on the environment, environmental laws, or policies." Such actions specifically include discretionary decisions that affect the environment, such as CDFW's review of the Project. Consequently, the Tribes urge CDFW to appropriately consider environmental justice issues, including disproportionate cultural resource impacts on the Tribes, in its environmental review documents.

VI. The DEIS/DEIR Must Include Distributed Generation and Disturbed Lands Alternatives.

BLM and CDFW must take care in crafting its project objectives and "Purpose and Need" to ensure that the DEIS/DEIR properly considers an adequate range of alternatives. *Cal. Oak Foundation v. Regents of Univ. of Cal.* (2010) 188 Cal.App.4th 227, 277 ("CEQA clearly recognizes the agency will look to the proposed project's particular objectives when developing its range of project alternatives."); *Mt. Shasta Bioregional Ecology Center v. County of Siskiyou* (2012) 210 Cal.App.4th 184, 196-97 ("The process of selecting the alternatives to be included in the EIR begins with the establishment of project objectives by the lead agency."); *see also* CEQA Guidelines §§ 15124(b), 15126.6(f). For other large-scale solar energy projects in the Mohave Desert, however, agencies have artificially constrained their alternatives analyses by stating that the purpose and need for solar energy projects is to "respond to the Applicant's application" for a right of way grant. *See, e.g.*, DEIS for the McCoy Solar Energy Project at ES-2. But under Ninth Circuit precedent, BLM is prohibited from "adopting private interests to draft a narrow purpose and need statement that excludes alternatives that fail to meet specific private objectives." *National Parks & Conservation Ass'n v. Bureau of Land Management*, 606 F.3d 1058, 1072 (9th Cir. 2010). For this Project, BLM must identify the *public purposes* to be achieved, rather than simply reacting to the whims of the developer.

In addition, BLM has frequently stated that it is mandated to develop utility-scale renewable energy projects on public land in order to meet requirements set forth in the Energy Policy Act of 2005, Executive Order 13212, and Secretarial Order 3285A1. However, these federal laws and policies, while encouraging such development, do not require it, particularly when renewable energy projects will have significant and adverse environmental consequences. The "Purpose and Need" for the project should also include a commitment to protecting cultural and biological resources, as well as the visual integrity of the desert landscape.

For these reasons, CRIT urges BLM and CDFW to adopt project objectives and define the Project's "Purpose and Need" such that all allow for the consideration of a broad range of alternatives. In particular, the objectives should focus on the public benefits to be achieved: reduction in greenhouse gas emissions, increased energy independence, and economic development. Project objectives focused on these topics will allow the DEIS/DEIR to properly include both a distributed generation and disturbed lands alternative. Such Projects can achieve the same goals as utility-scale solar projects, but with far fewer impacts to cultural resources and other environmental resources. The Tribes also urge BLM to consider the environmental justice impacts of the proposed Project, as described in Section V, in its consideration of alternatives. One mechanism for starting to address the disproportionate benefits and impacts of utility-scale solar energy development is to encourage development of such projects in cooperation with federally recognized tribes. For this reason, the DEIS/DEIR should include a tribal lands alternative, which would involve construction of a similar project on reservations or federal lands acquired or leased in conjunction with a federally recognized tribe, as well.

VII. The NOI/NOP Describes Two Very Different Projects.

As written, the NOI/NOP describes the Project as a utility-scale solar PV and energy storage project. NOP at 3. However, the energy storage part of the project is later described as "optional." NOP at 4. The inclusion or exclusion of energy storage greatly changes the scale of the Project. If the Project is limited to the 350-MW solar PV facility, the most significant installation would be 175 2-MW increments measuring 40 by 25 feet. NOP at 4. On the other hand, if the storage system were included in the Project, this would add 3,000 enclosures each measuring 40 by 8 feet and 8.5 feet tall. NOP at 4.

The Tribes are concerned about the grading required for the storage system and the potential for this grading to have a greater impact on cultural resources than the grading required for the solar PV increments. Because the addition of the storage system nearly quadruples the amount of land used at the site, the DEIS/DEIR must fully examine the impacts of the Project both with and without the storage system.

VIII. More Information Is Needed Before the Tribes Can Comment on the Need for a CDCA Plan Amendment.

The NOI states that the EIS/EIR may contain a CDCA Plan Amendment and requests comments on the possible amendment. 47 Fed. Reg. at 10,517-18. The Tribes need more information before making any substantive comments on a potential amendment because it is not clear what would need to be changed in the CDCA Plan. CRIT strongly opposes any change to the CDCA Plan which would remove or weaken protections in this area.

In fact, CRIT believes that the Mule Mountains ACEC should be expanded, as the current designation is not broad enough to protect all resources. Numerous cremation sites have been identified in the area *outside* of the ACEC (*see* DRECP EIR/EIS, Appendix L at 1). The Mule Mountains hold nationally significant cultural resource values and the DRECP recognized that the site could reveal new information about past life in the area. *Id.* Failing to expand the boundaries of the ACEC will likely result in the loss of cultural resources of CRIT. This necessary expansion should be considered *before* BLM takes any action with respect to the Project. The CRIT Tribal Historic Preservation Officer has discussed this issue with Fort Mojave and Quechan, and understands that both tribes likewise support the expansion of this designation.

IX. BLM and CDFW Must Implement Early Consultation.

CRIT requested by letter government-to-government consultation with BLM on April 22, 2016 and with CDFW on September 25, 2017. CRIT has also developed and shared with both BLM and CDFW its Government-to-Government Consultation Policy and requested that prior to scheduling an in-person consultation with Tribal Council both agencies review and acknowledge

the Policy. To the Tribes' knowledge, neither BLM nor CDFW has acknowledged CRIT's Policy.

According to the NOI, "BLM will consult with Indian tribes on a government-to-government basis in accordance with Executive Order 13175 and other policies," presumably including the NHPA and its implementing regulations. 47 Fed. Reg. at 10,517. This language implies that BLM will begin consultation at some point in the future—perhaps after the DEIS/DEIR has been developed. But the regulations implementing Section 106 of the NHPA state that "[a]gencies should consider their section 106 responsibilities *as early as possible* in the NEPA process." 36 C.F.R. § 800.8(a)(1) (emphasis added); *see also id.* § 800.2(c)(2)(ii)(A) ("The agency official shall ensure that the section 106 process is initiated early in the undertaking's planning, so that a broad range of alternatives may be considered during the planning process for the undertaking."); *id.* § 800.2(c)(2)(ii)(A) ("Consultation should commence early in the planning process . . . .").

Though BLM has sent CRIT written notifications regarding the early stages of the application process, these documents and invitations to public meetings are not a substitute for BLM's Section 106 consultation obligations. And while BLM appears to believe that a November 28, 2016 meeting qualified as government-to-government consultation, this meeting does not. The BLM attendees at that meeting were unprepared to substantively respond to the points raised by the Tribes at that time, even though the Tribes had provided BLM with comment letters outlining the Tribes' primary concerns in advance. Without back-and-forth communication, such meetings do not meet the definition of government-to government consultation. For numerous renewable projects throughout the region, including the Genesis Solar Energy Project, the Modified Blythe Solar Energy Project, and the Six-State Solar Programmatic EIS, BLM utterly failed to engage CRIT in meaningful consultation regarding the impacts of the projects. Instead, the agency has resorted to generic form letters arriving late in the process to fulfill its responsibility under the NHPA and other federal policies.

CRIT requests that BLM review and acknowledge the Tribes' Consultation Policy and promptly engage with the Tribes on a meaningful, government-to-government level for this Project. Additionally, to the Tribes' knowledge, CDFW has not yet begun consultation on this Project, despite widespread awareness that this is an area of great cultural resource sensitivity. Thus, CRIT requests that CDFW promptly acknowledge the Tribes' Consultation Policy and then engage with the Tribes on a meaningful, government-to-government level for this Project, consistent with the policies expressed in the Tribes' Policy and Assembly Bill 52.

Finally, the DEIS/DEIR should also address Executive Order 13007, distinguish it from Section 106 consultation, and discuss how BLM will avoid adversely affecting the physical integrity, accessibility, and use of sacred sites in the Project area.

Thank you for considering CRIT's comments. To best understand how these comments are taken into account in the DEIS/DEIR, we request that BLM and CDFW provide written

responses to our concerns, either in a letter to the Tribe and/or in the DEIS/DEIR. Please copy Rebecca A. Loudbear, CRIT Attorney General, at rloudbear@critdoj.com on any written correspondence to the Tribe.

Respectfully,

ACTING

Dennis Patch
Chairman, Colorado River Indian Tribes

Attachment: Attachment 1: Current Satellite Imagery

cc: CRIT Tribal Council
Rebecca A. Loudbear, CRIT Attorney General
Bryan Etsitty, Acting Director, Tribal Historic Preservation Office

Attachment 1: Current Satellite Imagery (Source: Google Maps)

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:43 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] TWS and CWC scoping comments on Crimson Solar

Attachments: Crimson Solar Scoping Comments (TWS and CWC - 4-18-18 with attachments).pdf

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---------- Forwarded message ----------
From: **Alex Daue** <alex_daue@tws.org>
Date: Wed, Apr 18, 2018 at 1:46 PM
Subject: [EXTERNAL] TWS and CWC scoping comments on Crimson Solar
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>
Cc: "Miriam Liberatore (mliberat@blm.gov)" <mliberat@blm.gov>, Linda Castro <lcastro@calwild.org>, Sheara Cohen <sheara_cohen@tws.org>

Dear Ms. Liberatore,

Please accept the attached comments. We look forward to following up with you.

Sincerely,

Alex Daue

Assistant Director, Energy & Climate

The Wilderness Society | BLM Action Center

303.650.5715

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We protect wilderness and inspire Americans to care for our wild places

April 18, 2018

Submitted via email to (blm_ca_crimsonsolar@blm.gov)

Miriam Liberatore
Project Manager
Bureau of Land Management

Re: Crimson Solar Scoping Comments

Dear Ms. Liberatore,

The Wilderness Society and California Wilderness Coalition support responsible, well-planned and sited renewable energy development, including on appropriate public lands, as part of a strategy for addressing climate change, along with aggressive efforts to increase energy efficiency, build distributed generation such as rooftop solar, and reduce demand with demand-side management. Areas with important and sensitive resources and values are inappropriate for development, and disturbed and degraded lands, including both public and private lands, will best serve as areas for focusing renewable energy development away from areas of greatest importance or sensitivity for ecological and other resources and values.

We support the guided development approach established in BLM's Solar Programmatic Environmental Impact Statement (Western Solar Plan), including the focus on development in appropriate areas and with appropriate mitigation within Solar Energy Zones (SEZs). The Desert Renewable Energy Conservation Plan (DRECP) built on the Western Solar Plan by establishing a balanced plan for the California Desert, protecting areas of high conservation importance and facilitating development in Development Focus Areas (DFA). While the application for the proposed Crimson Solar Project (Crimson Solar) was submitted before the DRECP was finalized and thus is not required to comply with the DRECP, the project footprint is within the physical boundary of the Riverside East DFA. We understand that the developer has already significantly modified the project boundary to limit impacts to some important wildlife and habitat resources and values, which we appreciate.

All energy development should follow the mitigation hierarchy of avoiding, minimizing and mitigating impacts through compensatory, off-site mitigation. Implementation of the mitigation hierarchy is a fundamental requirement under the Federal Lands Policy and Management Act (FLPMA) and the National Environmental Policy Act (NEPA) to protect the diverse resources of our public lands.

These scoping comments focus on requirements the BLM has under federal laws for inventory and management of lands with wilderness characteristics; we also recommend that BLM develop an alternative that analyzes Crimson Solar under the DRECP. Other groups are submitting comments that address potential impacts wildlife and other resources and values, and we strongly recommend that the BLM address those important issues as well.

Unfortunately, most of the Crimson Solar project area overlaps with the Mule Mountains BLM and Citizen lands with wilderness characteristics (LWC) unit, as shown in the attached map (Attachment 1). In general, energy development is not appropriate in LWC because of the sensitive and important resources and values found in LWC, and we recommend that BLM and energy developers avoid development in LWC.

However, because Crimson Solar is within the boundary of the Riverside East DFA which was designated as part of the balanced DRECP, BLM may be able to approve the project in an acceptable way so long as mitigation for impacts to LWC is required (and other resource impacts are appropriately addressed).

I. BLM must ensure the lands with wilderness characteristics inventory is up to date for the Crimson Solar project area and analyze potential impacts

a. LWC inventory requirements

FLPMA requires BLM to inventory and consider lands with wilderness characteristics during the land use planning process. 43 U.S.C. § 1711(a); s*ee also Ore. Natural Desert Ass'n v. BLM,* 625 F.3d 1092, 1122 (9th Cir. 2008) (holding that "wilderness characteristics are among the values the FLPMA specifically assigns to the BLM to manage in land use plans"). Lands with wilderness characteristics are identified as roadlessness, naturalness, and having outstanding opportunities for solitude or outstanding opportunities for a primitive and unconfined type of recreation. See, BLM Manual 6320, pp. 5-9.

BLM's guidance for implementing this requirement of FLPMA is currently set forth in BLM Manual 6310. BLM must ensure that all LWC inventories are conducted compliant with this manual, including the documentation of the inventory findings. Manual 6310 reiterates that, "[r]egardless of past inventory, the BLM must maintain and update as necessary, its inventory of wilderness resources on public lands." BLM Manual 6310 at .06(A).

In addition to FLPMA requiring the agency to maintain an inventory of lands with wilderness characteristics, an accurate and comprehensive inventory of lands with wilderness characteristics is necessary to inform management alternatives, impact analysis and decision-making under the National Environmental Policy Act (NEPA). NEPA, 42 U.S.C. § 4321 *et seq*., requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 C.F.R. § 1502.15; *see also Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988) ("without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA").

b. BLM is required to respond to wilderness inventory information submitted by the public.

We appreciate that BLM has inventoried many lands with wilderness characteristics (LWC) units through development of the DRECP, as required by FLPMA. We also appreciate that BLM found wilderness characteristics in the majority of the Crimson Solar project area, as documented in the agency's inventory reports for inventory units CDCA WIU 351 and 351A and shown in the attached map (Attachment 1). However, the California Wilderness Coalition has submitted LWC inventory information for the project area that found additional lands with wilderness characteristics, which BLM has not yet responded to as far as we're aware. As shown in the detailed LWC inventory report for the Mule Mountains unit completed by the California Wilderness Coalition (Attachment 2), additional areas outside the BLM inventory do in fact have wilderness characteristics – meeting the minimum size requirement, being primarily affected by the forces of nature, and providing outstanding opportunities for solitude and primitive recreation. The unit also has supplemental values, including hosting several species of plants and animals such as the endangered desert tortoise and a plethora of others. The area also has an abundance of cultural resources and extensive woodlands along its washes that are a haven for songbirds and other creatures.

The California Wilderness Coalition inventory information meets the minimum standards for review of new information set forth in BLM Manual 6310:

i. a map of sufficient detail to determine specific boundaries of the area in question;

ii. a detailed narrative that describes the wilderness characteristics of the area and documents how that information substantially differs from the information in the BLM inventory of the area's wilderness characteristics; and

iii. photographic documentation.

BLM Manual 6310 at .06(B)(1)(b). When BLM receives information that meets these minimum standards, the agency is directed to review the information "as soon as practicable," "make the findings available to the public," and "retain a record of the evaluation and the findings as evidence of the BLM's consideration." *Id.* at .06(B)(2). If BLM took these steps, the agency did not make California Wilderness Coalition aware that it had reviewed the citizen inventory or shared its findings.

BLM must respond to public input on affected wilderness resources in order to meet the "hard look" requirement of NEPA. *See* 42 U.S.C. § 4332(2)(C). Numerous courts have applied the hard look mandate to overturn agency decisions that ignored substantive, relevant wilderness information provided by the public, including citizen-submitted wilderness inventories. *See, e.g.*, *Or. Natural Desert Ass'n v. Rasmussen,* 451 F. Supp. 2d 1202, 1211-13 (D. Ore. 2006) (holding that BLM violated the hard-look requirement of NEPA when it dismissed a citizen-submitted inventory "[w]ith a broad brush"); *SUWA v. Norton*, 457 Supp. 2d 1253, 1263-65 (D. Utah 2006) ("…Utah BLM ignored significant new information…information provided by the Southern Utah Wilderness Alliance…presented a textbook example of significant new information about the affected environment (the wilderness attributes and characteristics…)"). BLM must therefore update its LWC inventory for the Mule Mountains unit to take into account the California Wilderness Coalition's inventory of the unit; we expect that when BLM does so, the agency will update its findings to confirm that those additional portions of the unit do have wilderness character.

We have identified errors in several of BLM's LWC inventory reports for the DRECP area that, when corrected, require acknowledgment of additional areas as lands with wilderness characteristics. As stated above, FLPMA requires BLM to inventory and consider LWC in the planning process, and IM 2011-154 and subsequent Manuals 6310 and 6320 contain the mandatory guidance for implementing that requirement. Although BLM has conducted wilderness inventories for decades, IM 2011-154 and Manual 6310 clarify when and how lands with wilderness inventories should occur while providing detailed instructions in both delineating wilderness inventory units and assessing the presence or absence of wilderness characteristics present therein. These updated policies were issued in 2011-2012 (IM 2011-154 was published in July 2011 with detailed instructions for inventory and management of LWC similar to Manuals 6310 and 6320, and Manuals 6310 and 6320 were released in March 2012).

While many of the LWC inventories conducted as part of the DRECP planning effort occurred after the issuance of Manual 6310, many of the policies and procedures for identifying lands with wilderness characteristics that are described in that Manual are not adhered to in the subsequent inventories. These include factors such as polygon size for units adjacent to existing protected areas, drawing unit boundaries based on arbitrary features such as section lines, and disqualification of units based on the appearance of linear features in satellite imagery that are not actually disqualifying development or impacts on the ground. Therefore, BLM must ensure it has an accurate inventory for the project area by reviewing and considering the inventory information submitted by the California Wilderness Coalition.

c. BLM must analyze impacts to lands with wilderness characteristics as part of the Crimson Solar EIS

NEPA is our "basic national charter for the protection of the environment." 40 C.F.R. § 1500.1 NEPA achieves its purpose through "action forcing procedures. . . requir[ing] that agencies take a hard look at environmental consequences." Id.; Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350 (1989) (citations omitted). This includes the consideration of best available information and data, as well as disclosure of any inconsistencies with federal policies and plans.

BLM has identified lands with wilderness characteristics in the project area, documented in the agency's inventory reports for inventory units CDCA WIU 351 and 351A. As stated above, we believe there are additional lands in the project area that meet the criteria for lands with wilderness characteristics which the agency must also consider. All areas found to possess wilderness characteristics must be analyzed in the impact analysis in the EIS.

NEPA requires federal agencies to consider "any adverse environmental effects which cannot be avoided." 42 U.S.C. § 4332(C)(ii). Effects that must be considered include "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8.

Therefore, BLM must analyze the potential impacts to lands with wilderness characteristics from Crimson Solar, as well as the beneficial impacts that avoiding lands with wilderness characteristics would have on other resources, including scenic viewsheds, cultural resources, wildlife habitat, recreation opportunities and nonmarket economic values.

II. BLM is required to consider ways to avoid, minimize and offset impacts to lands with wilderness characteristics

The BLM is subject to a broad range of authorities supporting mitigation measures to avoid and minimize impacts, and to offset unavoidable impacts. FLPMA requires the BLM to manage for multiple use and sustained yield, and to avoid unnecessary or undue degradation of resources and values.[1] NEPA and associated Council on Environmental Quality (CEQ) regulations require the BLM to analyze potential impacts and consider ways to avoid, minimize and mitigate impacts – in accordance with the mitigation hierarchy.[2] BLM has identified lands with wilderness characteristics in the project area which must be considered in the context of the mitigation hierarchy.

a. BLM should consider ways to avoid and minimize impacts to lands with wilderness characteristics

We understand that the project developer has already significantly adjusted the project footprint to limit impacts to sensitive ecological resources, which we appreciate. We recommend that the BLM and the project developer consider ways to avoid impacts to LWC as much as possible by further adjusting the project footprint to limit the overlap with LWC. As shown in Attachment 1, the land north and east of the current project boundary does not include LWC, and we recommend that the BLM consider expanding the project area into this region to allow constricting the project area in the areas where it overlaps with LWC.

[1] *See* 43 C.F.R. §§ 1701, 1732(b).
[2] 40 C.F.R. §§ 1508.8, 1502.14, 1502.16.

We recognize that adjusting the project footprint to reduce impacts to one resource (LWC) may result in increased impacts to other resources and values (e.g. wildlife habitat). We also recognize that the Desert Quartzite solar project covers some of the land north and east of Crimson Solar, which affects project siting flexibility. Because we are not familiar with the other resources and values present in the land north and east of the existing project application, we underscore that BLM should ensure that any project footprint adjustments balance reduction of LWC impacts with potential increases in impacts to other resources and values, and recommend that BLM ultimately select a project footprint that provides the best balance with regards to limiting impacts across important resources and values.

BLM should also require on-site minimization of impacts through use of Best Management Practices for construction, operation and maintenance.

b. BLM and the project developer should commit to compensatory mitigation to offset any unavoidable impacts to lands with wilderness characteristics

Given that the agency's current inventory of lands with wilderness characteristics encompasses much of the project area, it seems inevitable that there will be unavoidable impacts to LWC from Crimson Solar. Therefore, BLM and the project developer should commit to offsetting them through compensatory mitigation. The Western Solar Plan established several measures for avoiding, minimizing and mitigating impacts to LWC which BLM and the project developer should use to address potential impacts from Crimson Solar. Western Solar Plan Record of Decision pp. 54-56; excerpt included as Attachment 3.

Two examples of compensatory mitigation for impacts to LWC from other energy development on public lands illustrate how compensatory mitigation can address impacts to LWC. For the McCoy Solar Project, the construction of Unit 2 would cause the loss of 1,089 acres of LWC. To address these impacts, the final decision documents required that the Notice to Proceed for Unit 2 will provide that, before any ground disturbance occurs in the area inventoried to have wilderness characteristics, McCoy Solar shall pay BLM to fund work to mitigate these impacts and that the work shall be completed no later than 18 months from the commencement of construction for the relevant portion of Unit 2. McCoy Solar Project Protest Resolution Agreement pp. 2-3. The mitigation shall be focused in the Big Maria Mountains Wilderness Area, Palen-McCoy Wilderness Area or other designated wilderness areas in general proximity to the project, as identified with BLM. Mitigation will be implemented by:

- Removal and restoration of approximately 15 miles of unauthorized vehicle routes;
- Conversion of approximately 3 miles of vehicle route into a hiking trail; and
- Installation of vehicle barriers and signing along publicly accessible portions of the wilderness boundaries.

The final decision documents further required that McCoy Solar shall make a not-to-exceed payment of $251,000 to fund the mitigation. Such payment shall be made prior to any ground disturbance in the area inventoried to have wilderness characteristics and will complete McCoy Solar's obligations regarding this mitigation measure.

In a second example, BLM's Record of Decision for the TransWest Express Transmission Project required that unavoidable impacts to LWC be offset by either 1) purchasing and protectively managing private land inholdings from willing sellers in existing Wilderness Areas and Wilderness Study Areas (WSAs); or 2) completing restoration projects inside existing Wilderness Areas and WSAs. TransWest Express ROD pp. F-20-F-21.

We look forward to working with BLM and the project developer to offset any unavoidable impacts to LWC through compensatory mitigation.

III. BLM should develop an alternative that analyzes Crimson Solar under the DRECP

Although Crimson Solar is a "grandfathered" project and thus is not required to comply with the DRECP decisions and policies, we strongly recommend that BLM develop an alternative that analyzes Crimson Solar under the DRECP and compares the impacts to resources and values to the impacts under other action alternatives.

The DRECP was designed to facilitate responsible development in DFAs by focusing agency resources on permitting projects in DFAs, tiering to the DRECP NEPA analysis to increase permitting efficiency, and ensuring that potential impacts are addressed through use of Conservation Management Actions and the mitigation hierarchy.

By developing an alternative that analyzes Crimson Solar under the DRECP, BLM can determine whether permitting the project using the DRECP decisions and policies would provide improved outcomes for both resource impacts and efficient project permitting. If BLM finds that permitting Crimson Solar under the DRECP decisions and policies would on balance lead to improved outcomes, we recommend that BLM select this alternative as the agency-preferred alternative.

We appreciate the opportunity to comment and look forward to working with you.

Sincerely,

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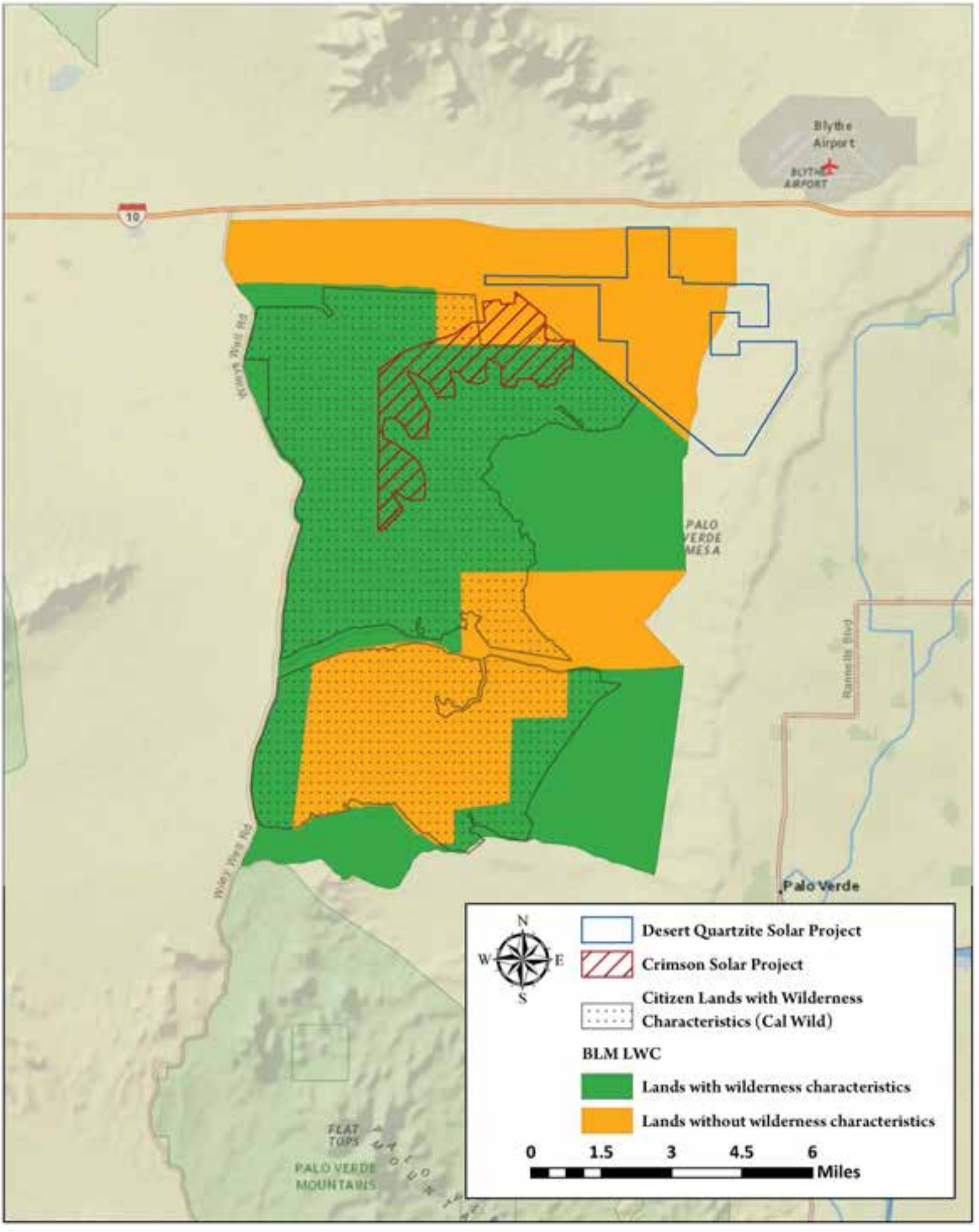
Attachments:

- Attachment 1: Map of overlap of Crimson Solar with Mule Mountains LWC unit
- Attachment 2: California Wilderness Coalition inventory report for Mule Mountains LWC unit
- Attachment 3: Excerpt from Western Solar Plan ROD – mitigation for impacts to LWC

Attachment 1

Lands with Wilderness Characteristics overlap with California Solar Projects



Attachment 2

CALIFORNIA WILDERNESS COALITION

The Voice for Wild California

Lands with Wilderness Characteristics Recommendations for the Desert Renewable Energy Conservation Plan Process: Mule Mountains Lands with Wilderness Characteristics

Mule Mountains LWC, Photo by Cameron McLeod

Lands with Wilderness Characteristics Recommendations for the Desert Renewable Energy Conservation Plan Process: Mule Mountains Lands with Wilderness Characteristics

Prepared by Ryan Henson, California Wilderness Coalition, 3313 Nathan Drive, Anderson, CA 96007, 530-365-1455, rhenson@calwild.org

The purpose of this report is to document that the area in question meets the criteria laid out in BLM Manual's 6310 and 6320 as Lands with Wilderness Characteristics (LWC). This information should be considered new information, as the BLM has yet to conduct and/or publish a full field inventory of this unit to document the wilderness characteristics of the unit and/or to assess whether boundary adjustments need to be made to better meet the intent of the BLM's LWC policies.

Methodology

The Mule Mountains LWC was initially selected by Ryan Henson for on-the-ground surveys after being deemed sufficiently primitive through the careful review of high-resolution aerial photographs provided by the Terrain Navigator Pro and Google Earth pro subscription services. The area was then surveyed in the field to determine if it met the definition of LWC using the criteria detailed in BLM Manual 6310 and 6320. The survey was conducted by Cameron McLeod. After a careful field review using BLM protocols, it was determined that the area met the definition of LWC.

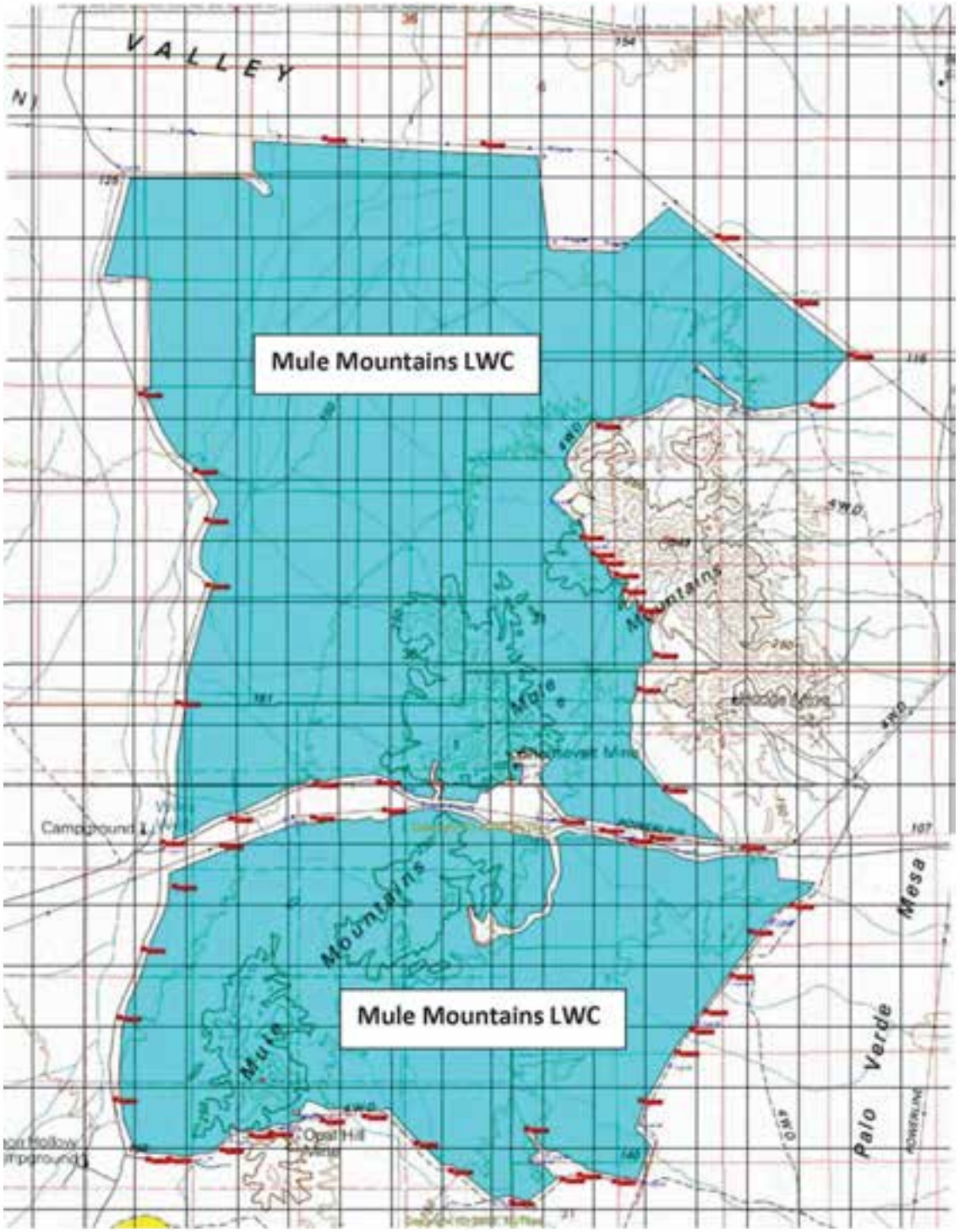
Overview and boundary delineation

As is shown on the maps included in this narrative, the Mule Mountains LWC is:

- Approximately 24,577 acres in size in two units (Northern unit at 16,186 acres and the Southern unit at 8,391 acres);
- Less than a mile north of the Palo Verde Mountains Wilderness and 2.4 miles east of LWC lands adjacent to the Little Chuckwalla Mountains Wilderness that the BLM found eligible;
- Located in Riverside County; and
- Managed by the Palm Springs-South Coast Field Office.

The Northern LWC unit is bounded on the north and east by unnamed four-wheel drive routes and mining scars, while the western boundary is defined by Wiley Well Road. The southern boundary is defined by a powerline and the Bradshaw Trail. Mining damage has been cherrystemmed.

The boundaries of the Southern LWC unit are defined on the north by a powerline and the Bradshaw Trail, on the east and south by unnamed four-wheel drive routes, and on the west by Wiley Well Road. As with the northern unit, mining damage has been cherrystemmed.



The units are dominated by the Mule Mountains and the bajadas and washes flowing down from it. Elevations in the units range from 885 to 613 feet, with an average of 718 feet.[1]

According to the California Department of Fish and Wildlife's (CDFW) Natural Diversity Database, the following species of interest have been either been recorded or have suitable habitat in the area: Abrams' spurge, American badger (a state species of special concern), bitter hymenoxys, black-tailed gnatcatcher, burrowing owl (a state species of special concern), California leaf-nosed bat, California mellitid bee, cave myotis, Colorado River cotton rat (a state species of special concern), Colorado Valley woodrat, Couch's spadefoot (a state species of special concern), Crissal thrasher (a state species of special concern), desert beardtongue, desert tortoise (a state and federal threatened species), dwarf germander, Emory's crucifixion-thorn, Gila woodpecker (a state endangered species), gravel milk-vetch, Harwood's eriastrum, Harwood's milk-vetch, hoary bat, Le Conte's thrasher (a state species of special concern), loggerhead shrike (a state species of special concern), merlin (a state watch list species), Mojave fringe-toed lizard (a state species of special concern), pallid bat (a state species of special concern), pallid San Diego pocket mouse (a state species of special concern), pink fairy-duster, prairie falcon, Riverside cuckoo wasp, roughstalk witch grass, Townsend's big-eared bat (a state candidate threatened and species of special concern) and vermilion flycatcher (a state species of special concern).[2] Both units are also designated critical habitat for the desert tortoise, and they contain eight distinct plant communities.[3] The area also has extensive woodlands along its washes. These woodland thickets are a haven for songbirds and other creatures. There is also some evidence that bighorn sheep use the mountains.[4] A remarkable 44% of the LWC is composed of north-facing slopes.[5] In the Northern Hemisphere, north-facing slopes tend to be cooler and to hold moisture longer than other aspects. This is especially important in arid landscapes.

Description of wilderness characteristics

I. Mule Mountains LWC meets the minimum size criteria for roadless lands

The Mule Mountains LWC is composed of two single, contiguous blocks of roadless BLM land. BLM's Manual 6310 states that a "way" maintained solely by the passage of vehicles does not constitute a "road" for purposes of inventorying wilderness characteristics. Further, the fact that a "way" is used on a regular and continuous basis does not make it a road. A vehicle route that was constructed by mechanical means but is no longer being maintained by mechanical methods

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[1] GIS analysis completed by Kurt Menke of Bird's Eye View GIS on 12/10/13.
[2] http://imaps.dfg.ca.gov/viewers/cnddb_quickviewer/app.asp
[3] Menke, 12/10/13.
[4] Clinton W Epps, "Population Processes in a Changing Climate: Extinction, Dispersal, and Metapopulation, Dynamics of Desert Bighorn Sheep in California" (Ph.D. diss., University of California, Berkeley, 2004), page 19.
[5] Ibid.

is not a road. A road, by comparison, is a vehicle route that has "been improved and maintained by mechanical means to ensure relatively regular and continuous use" (Manual 6310, p. 11). All significant disturbances have been cherrystemmed out of the boundaries. As the California Wilderness Coalition's (CWC) survey, described below, reveals, the Mule Mountains LWC only contains ways. All photo points referred to in the narrative below can be seen in the attached photo points sheet for the Mule Mountains.

II. Mule Mountains LWC is primarily affected by the forces of nature

The Mule Mountains LWC has been affected primarily by the forces of nature and all human impacts within the unit are substantially unnoticeable. We offer several photographs, below, of the natural landscape. There are several old vehicle tracks and other minor disturbances that are recovering to a natural state through erosion, revegetation and a lack of subsequent disturbance.

III. Mule Mountains LWC provides outstanding opportunities for solitude and primitive recreation

The most subjective and frequently abused definition of "wilderness" involves the question of whether or not a roadless area provides "outstanding opportunities for solitude or a primitive and unconfined type of recreation." America—including its public lands—is a nation dominated by roads. Roadless areas of sufficient size to meet the definition of wilderness therefore provide the best, most outstanding opportunities still available in this country for both solitude and primitive recreation.

In our view, nothing destroys the wilderness character of an area like development within that area. Mere noises or views of development elsewhere, outside of a wild area's boundaries, while admittedly unpleasant to some, has no bearing whatsoever on the wild character of a stretch of land. Congress has proven this point many times over by designating countless wilderness areas near highways, mines and other major external developments. In the 1990 Statewide Wilderness Study Report the BLM placed an inordinate emphasis on the sights and sounds originating from roads, mines, railroads, military bases, etc.–all outside of the WSAs in question of course--that allegedly affected the WSAs' wilderness character. The actual undeveloped character of the land itself within a WSA's boundaries, and the capability of undeveloped land to provide for solitude and recreation, appeared to be an afterthought for the agency.

BLM Manual 6310 provides clear direction on the inappropriateness of considering outside impacts, such as external sights and sounds, to discount the wilderness characteristics inside an area. Unless developments are "pervasive and omnipresent," BLM is obligated to ignore outside impacts when assessing wilderness characteristics for an area. The BLM training module for 6310 provides good context – it shows a photograph of a designated wilderness in southern

California and notes that it was taken from an interstate highway, several feet away from the boundary. The point BLM is making is that to disqualify an area based on adjacent/outside impacts, "it has to be more pervasive and omnipresent than that." (See slide 8 of BLM LWC training module IIE). A wilderness area in every state includes boundaries that are adjacent to well-used roads–evidence to reinforce why the BLM may not employ a higher bar in LWC inventories.

Relevant 6310 policy excerpts include:

> 6310.2(B)(iii)–Naturalness -
> Outside Human Impacts. Human impacts outside the area will not normally be considered in assessing naturalness of an area. If, however, a major outside impact exists, it should be noted in the overall inventory area description and evaluated for its direct effects on the area.
>
> 6310.2(c)(i)(1)–Solitude -
> Only consider the impacts of sights and sounds from outside the inventory area on the opportunity for solitude if these impacts are pervasive and omnipresent.
>
> 6310.3(b)–Boundary Delineation -
> When establishing the boundary, do not create a setback or buffer from the physical edge of the imprint of man.
>
> 6310.2(e)–Boundary Delineation -
> An area can have wilderness characteristics even though every acre within the area may not meet all the criteria. The boundary should be determined largely on the basis of wilderness inventory roads and naturalness rather than being constricted on the basis of opportunity for solitude or primitive and unconfined recreation. The location of boundaries should primarily be set to exclude the unnatural portions of the area.

Since roads are the norm in America today, roadlessness is a rare treasure indeed. While the average road density for non-wilderness BLM lands in the CDCA is 3.09 miles of roads and ways per square-mile, the roadless area, by definition, has a road density of 0 miles within its boundaries.[3] By contrast, the average road density for BLM non-wilderness lands within 5 miles of the LWC is 0.72 miles of roads and ways per square-mile.[4] This roadlessness is obviously good for solitude, primitive recreation and species of plants and wildlife that are sensitive to human disturbance. Visitors to the LWC have over 38.4 square-miles of roadless

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[3] Ibid.
[4] Ibid.

land to explore. Such a landscape can provide outstanding opportunities for solitude for any reasonable person who seeks it out.

IV. Mule Mountains LWC has supplemental values that would enhance the wilderness experience and should be recognized and protected

As is stated above, the Mule Mountains LWC hosts several species of plants and animals, including the desert tortoise and a plethora of others. The area also has extensive woodlands along its washes. These woodland thickets are a haven for songbirds and other creatures.

These supplemental natural values should be preserved along with the rest of the area's wilderness characteristics.

Summary Conclusion

The forgoing narrative provides new information, including maps and photographs, documenting the fact that the Mule Mountains LWC unit meet wilderness criteria. Our on-the-ground inventory of the roadless lands shows that the area clearly possesses wilderness characteristics. For example, it is:

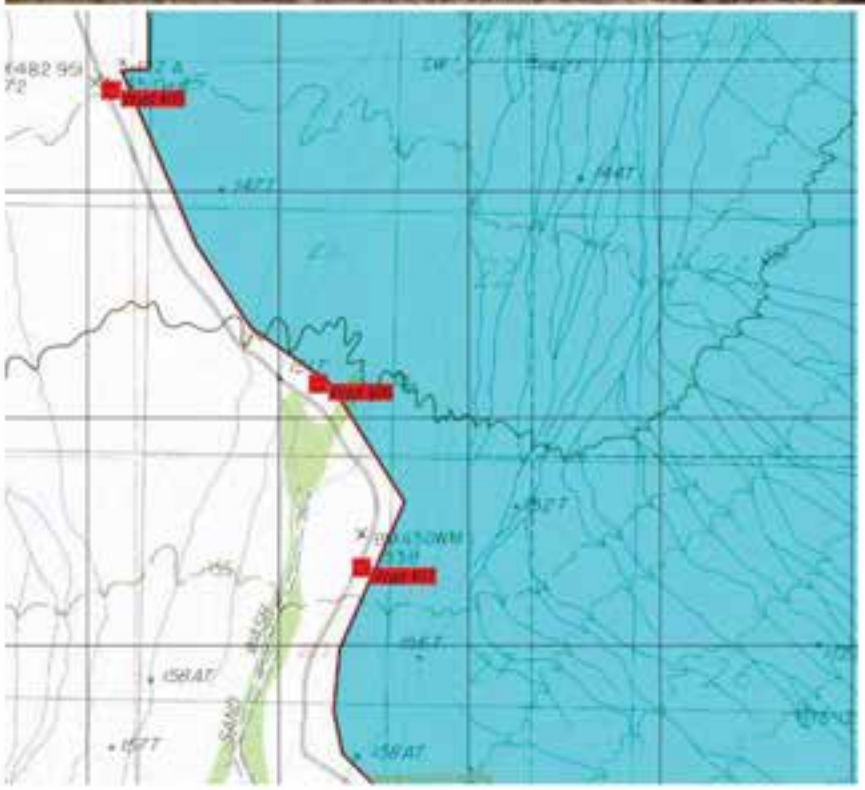
- Composed of federal public land;
- Near two other large roadless areas;
- Primarily affected by the forces of nature;
- Capable of providing solitude and opportunities for primitive recreation; and
- In possession of supplemental values, including recreational, scientific, cultural and wildlife values.

Taken in the context of the larger California desert landscape that is experiencing pressure from energy development, urbanization, off-road vehicle use and a host of other activities, protecting the LWC will not only provide people with the opportunity to experience this naturally beautiful landscape on its own terms, but it would also help to maintain the ecological integrity of the entire region. The staff and supporters of the CWC believe that the area deserves to be recognized as having WC by the BLM, and we hope that the agency will manage it in such a way as to protect and restore those values.

Photo points

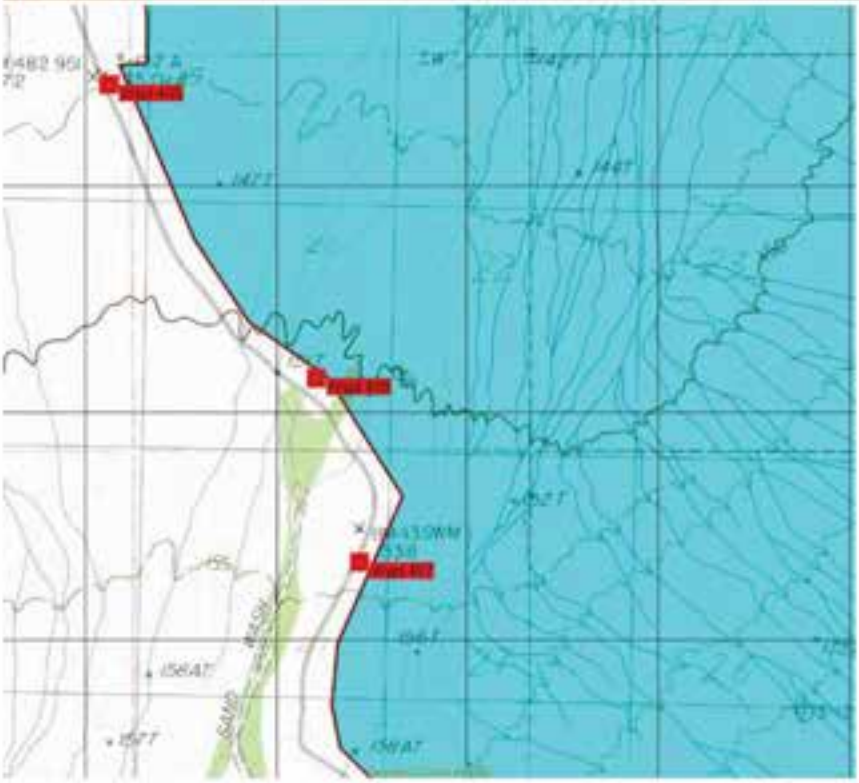
Note: Duplicative photographs or those of extremely poor quality are not shown

Waypoint 405: A view east into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 406: A view east into the LWC unit. Note that it is primarily affected by the forces of nature. Portions of the area contain extensive woodlands.

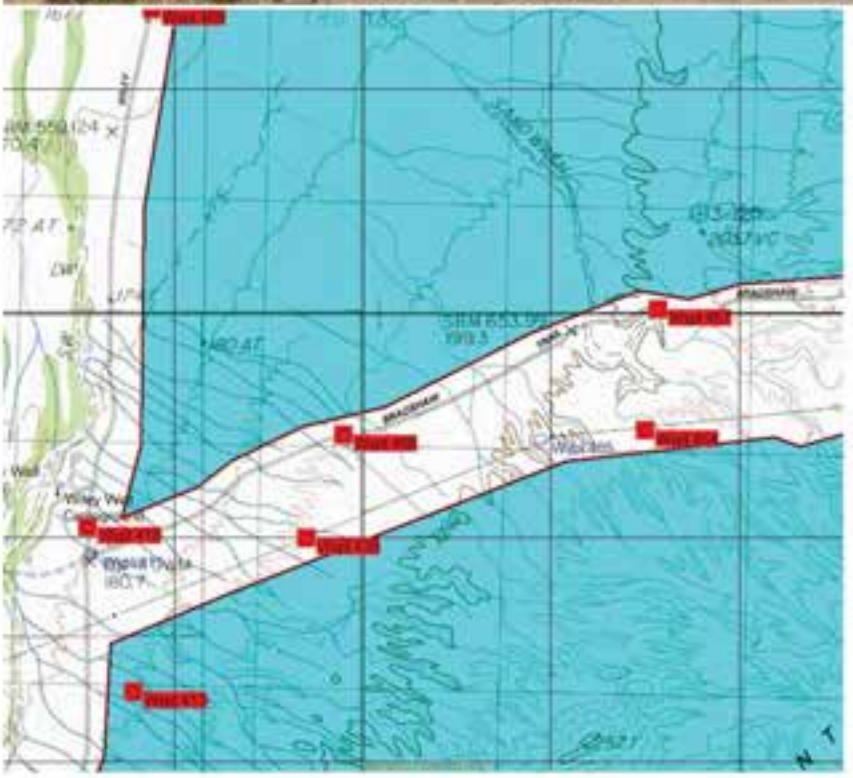
Waypoint 407: A view east into the LWC unit. Note that it is primarily affected by the forces of nature. Old vehicle tracks parallel the existing road. These illegal tracks do not meet the definition of a "road."



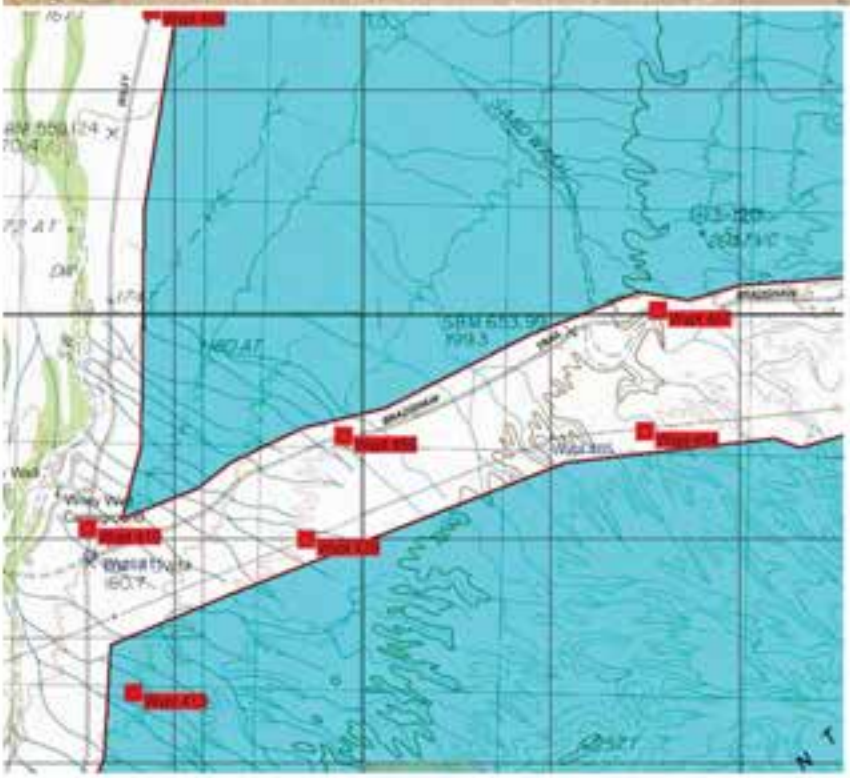
Waypoint 408: A view east into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 409: A view east into the LWC unit. Note that it is primarily affected by the forces of nature, except for some bicycle tracks.

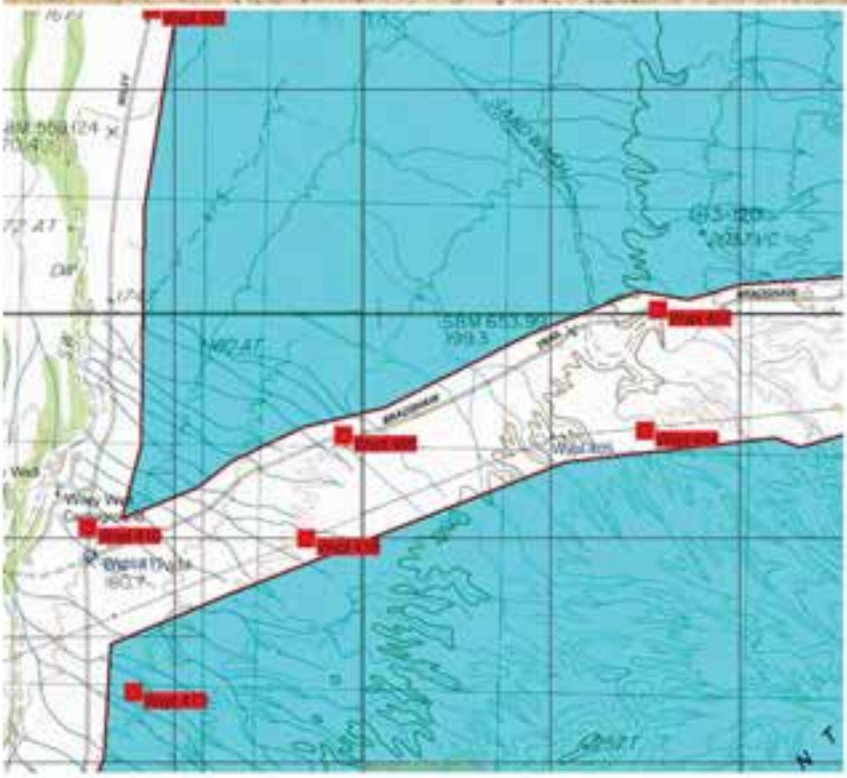
Waypoint 410: A view northeast into the LWC unit. Note that it is primarily affected by the forces of nature.



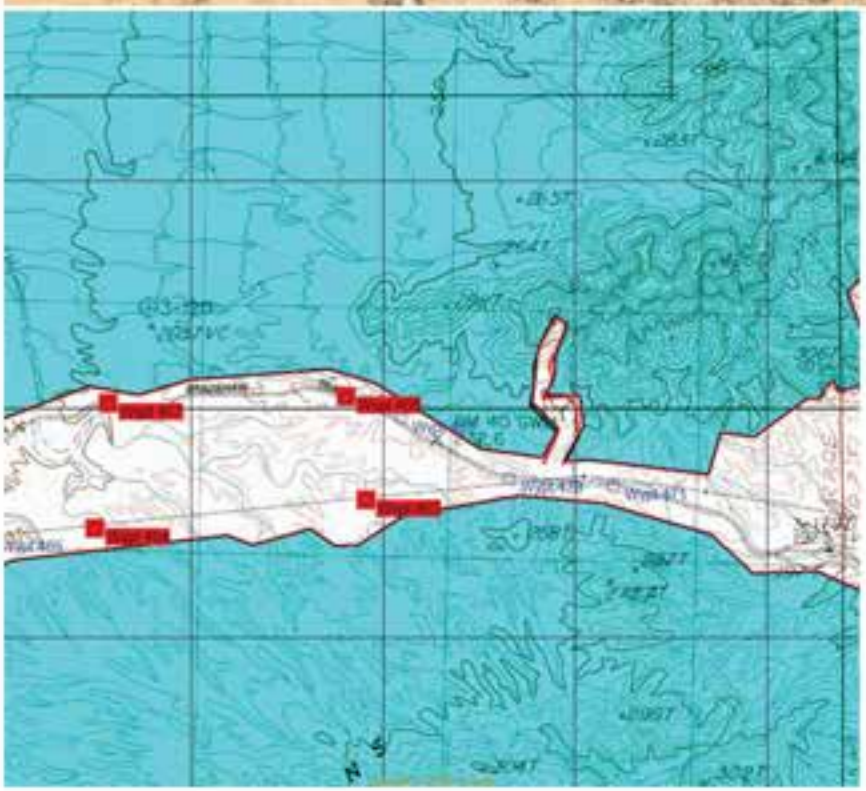
Waypoint 466: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 467: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 468: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 473: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 474: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 475: A view northwest into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 476: A view northwest into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 478: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 479: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 480: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 481: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

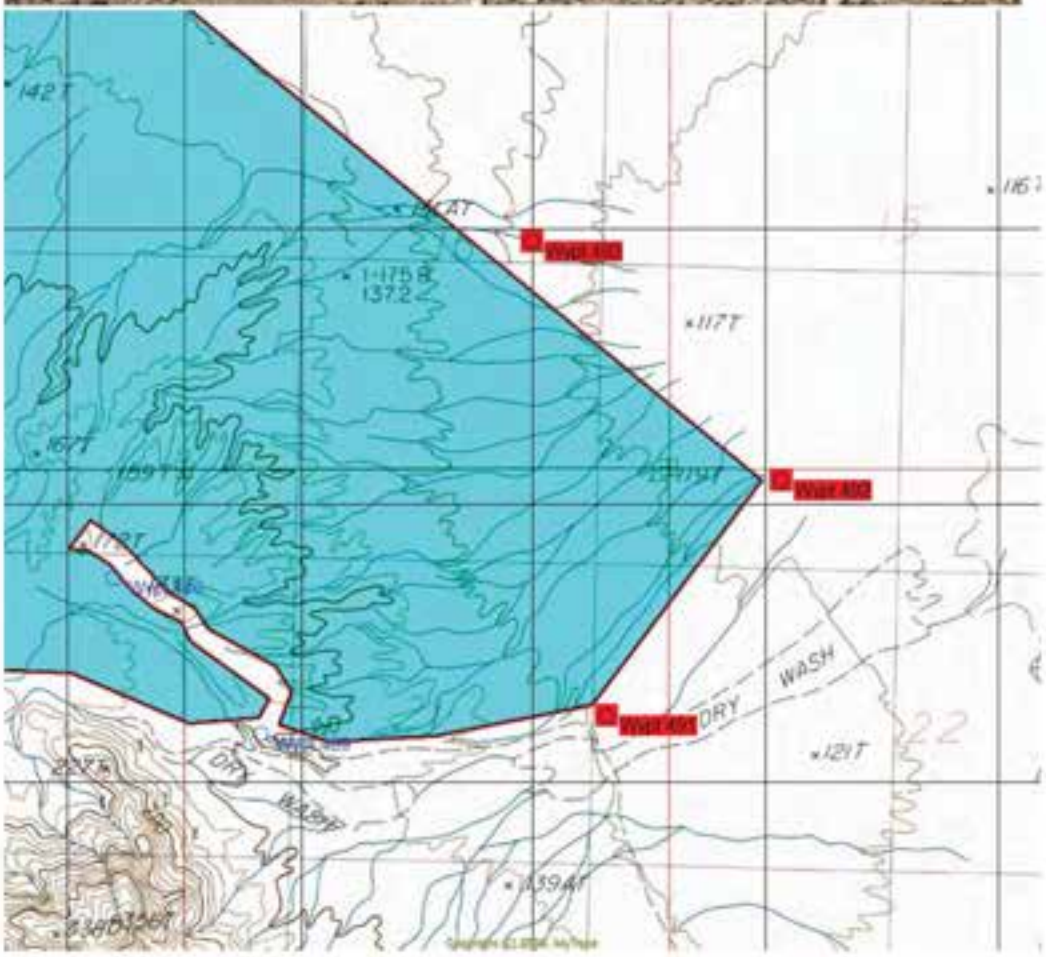
Waypoint 483: A view northwest into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 484: As these burrows demonstrate, the area teems with life.

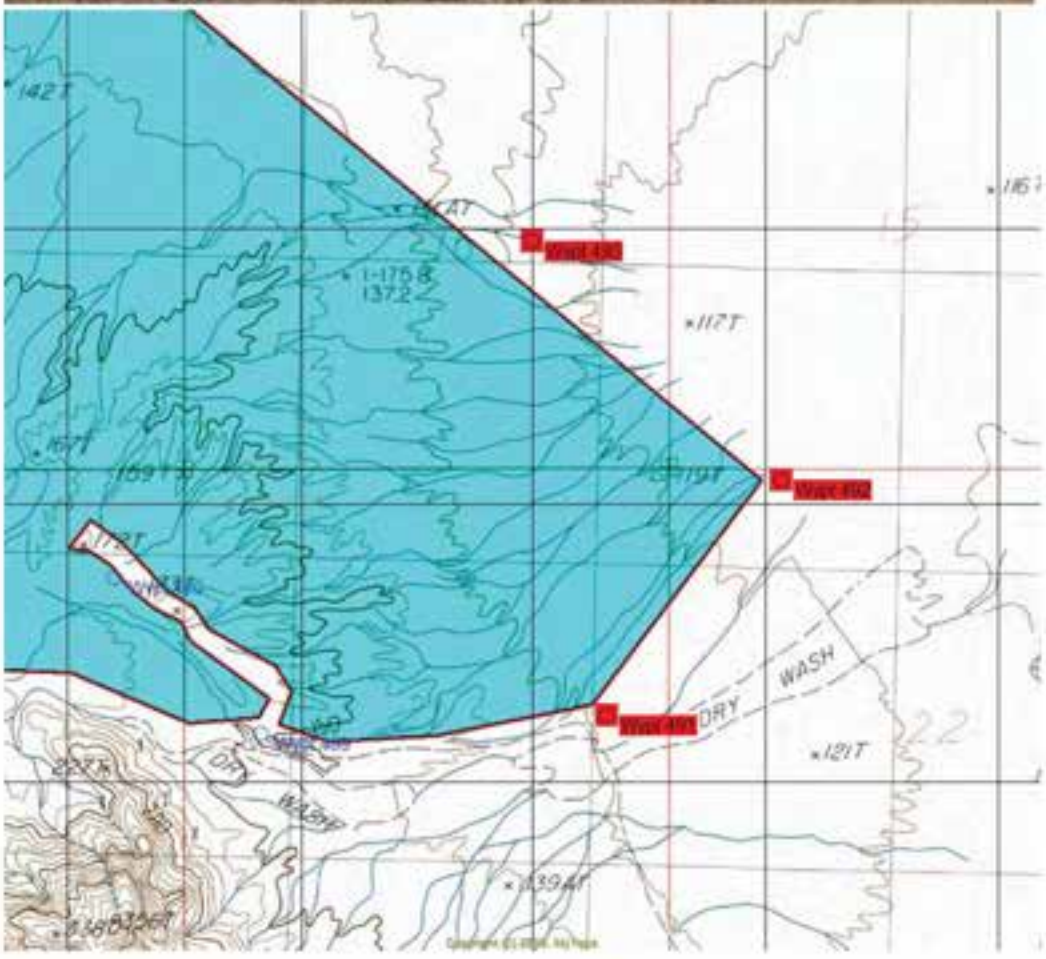
Waypoint 486: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 488: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

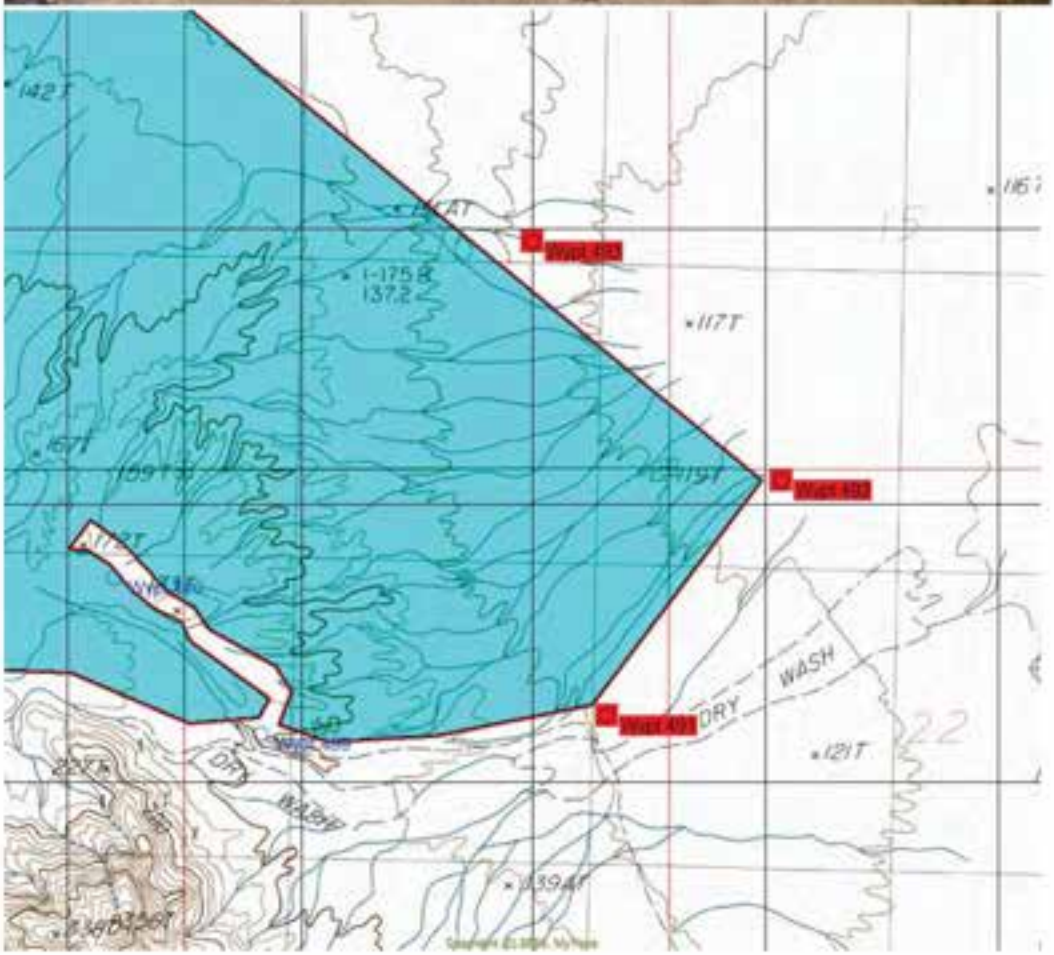
Waypoint 491: A view northwest into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 492: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

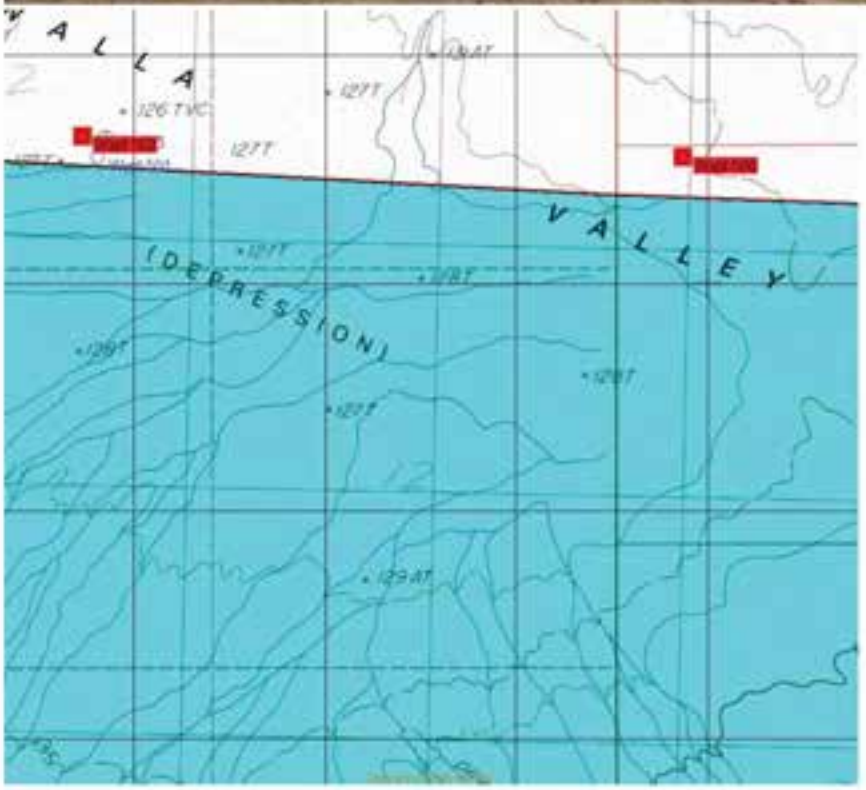


Waypoint 493: A view southwest into the LWC unit at a pristine wash. Note that it is primarily affected by the forces of nature.



Waypoint 494: A view southwest into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 500: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.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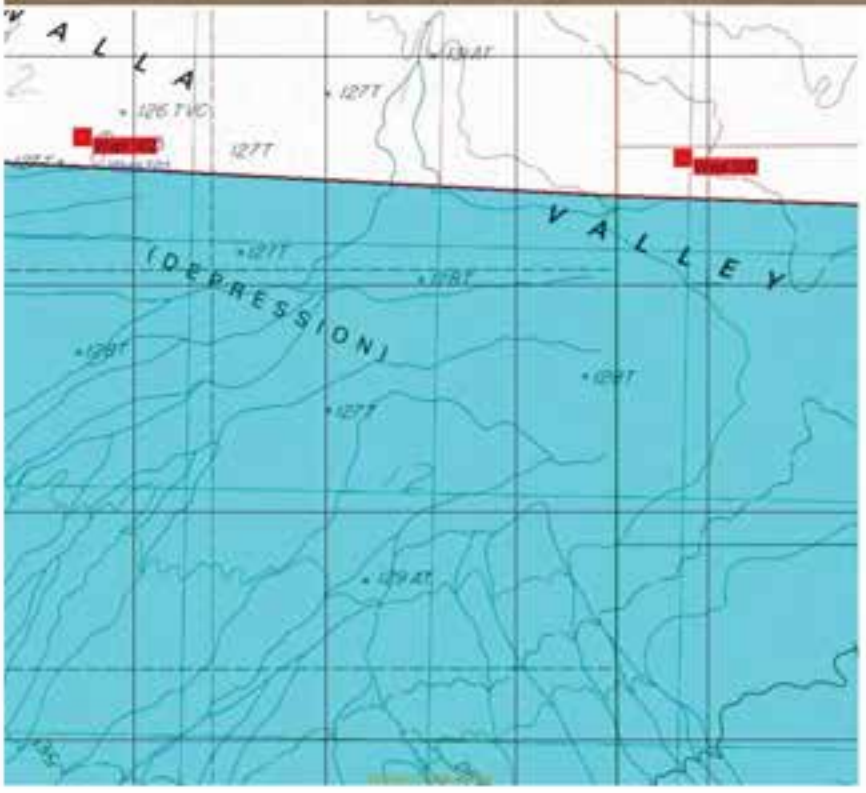
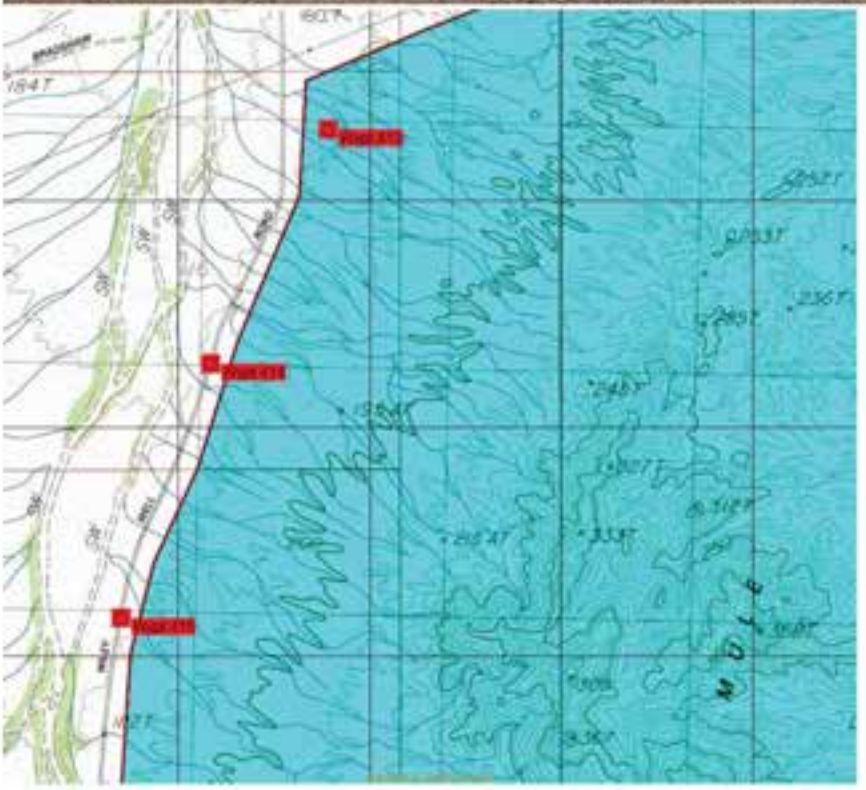
Waypoint 502: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 413: A view south into the LWC unit. Old vehicle routes parallel the main road. These tracks do not meet the definition if a "road."



Waypoint 414: A view east into the LWC unit. Old vehicle routes parallel the main road. These tracks do not meet the definition if a "road." Note the plant life growing in the tracks.

Waypoint 415: A view east into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 416: A view east into the LWC unit. Note that it is primarily affected by the forces of nature. As is noted above, old vehicle tracks parallel the main road. These tracks do not meet the definition of a "road."

Waypoint 418: As is noted above, old vehicle tracks parallel the main road. These tracks do not meet the definition of a "road."

Waypoint 419: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 420: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 422: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 423: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 427: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 430: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 431: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 432: A view north into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 434: A view north into the LWC unit. Note that it is primarily affected by the forces of nature. Also, note the ecologically-significant woodlands that occur in the area.

Waypoint 435: A view north into the LWC unit. Note that it is primarily affected by the forces of nature. The tire tracks shown here are immediately adjacent to the road.

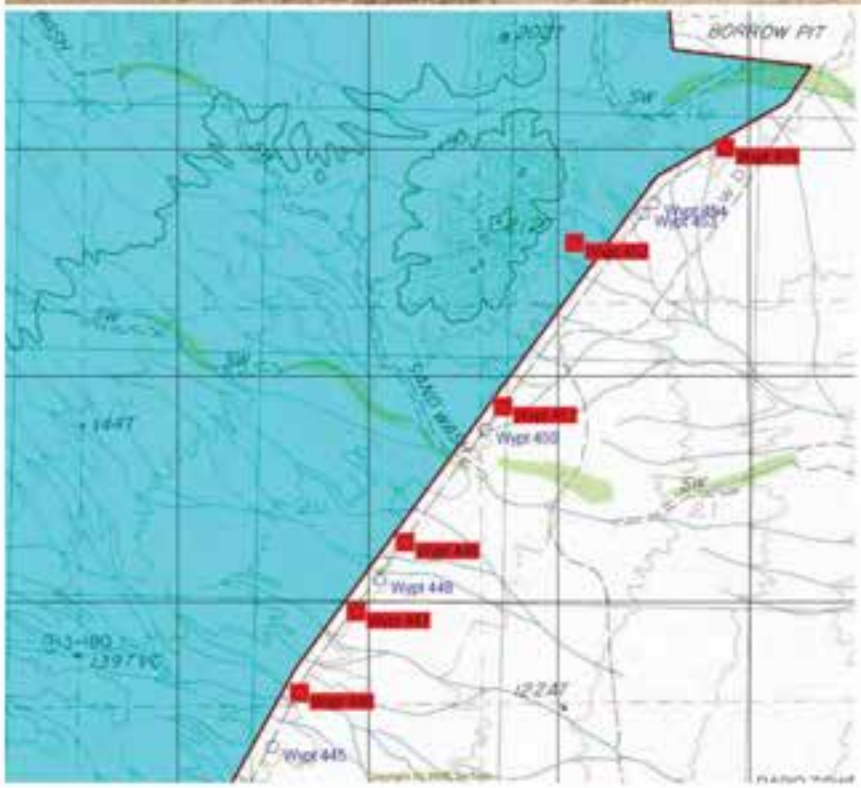
Waypoint 438: A view north into the LWC unit. Note that it is primarily affected by the forces of nature. Also, note the ecologically-significant woodlands that occur in the area.

Waypoint 441: A view northwest into the LWC unit. Note that it is primarily affected by the forces of nature.

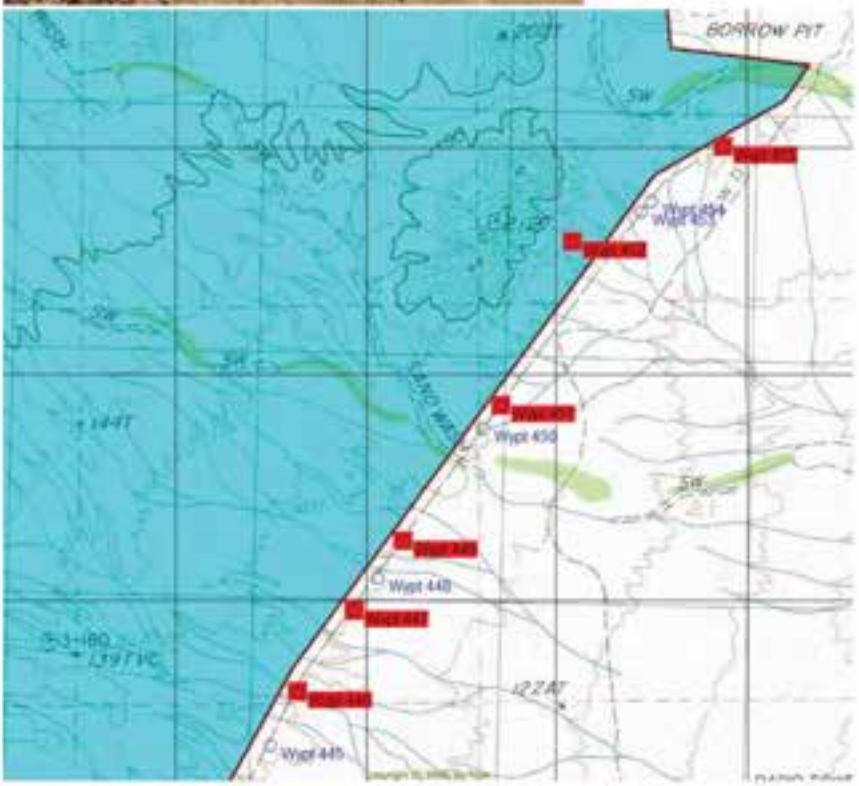
Waypoint 444: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 446: A view west into the LWC unit. Note that it is primarily affected by the forces of nature. Also, note the ecologically-significant woodlands that occur in the area.

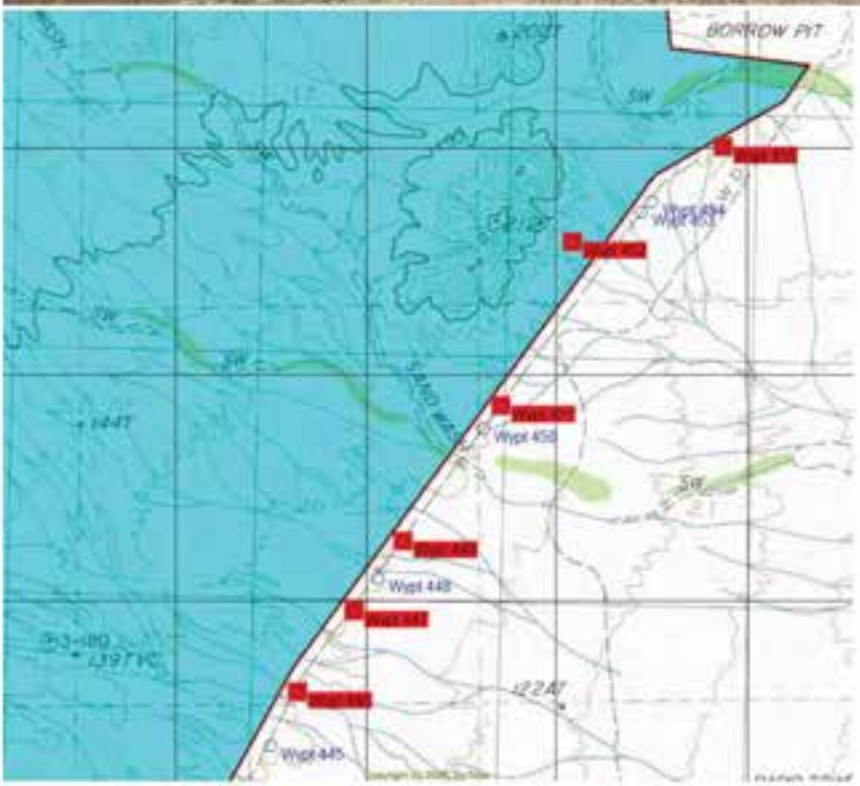
Waypoint 447: A view west into the LWC unit. Note that it is primarily affected by the forces of nature. Also, note the ecologically-significant woodlands that occur in the area.



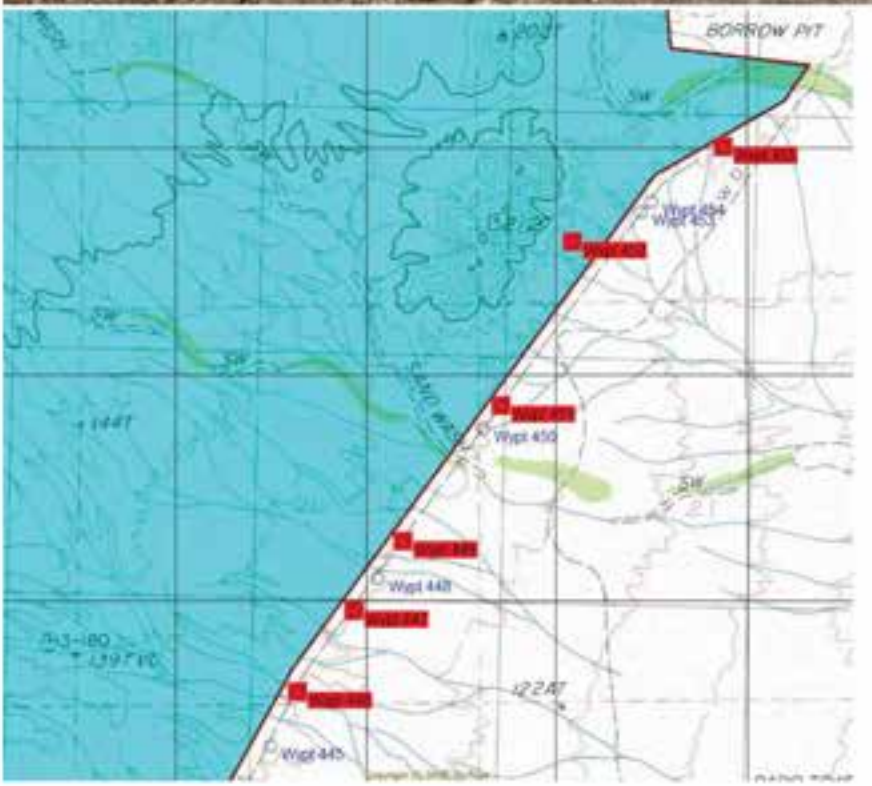
Waypoint 449: The woodlands in the Mule Mountains teem with life, as is shown by these tracks in the sand.



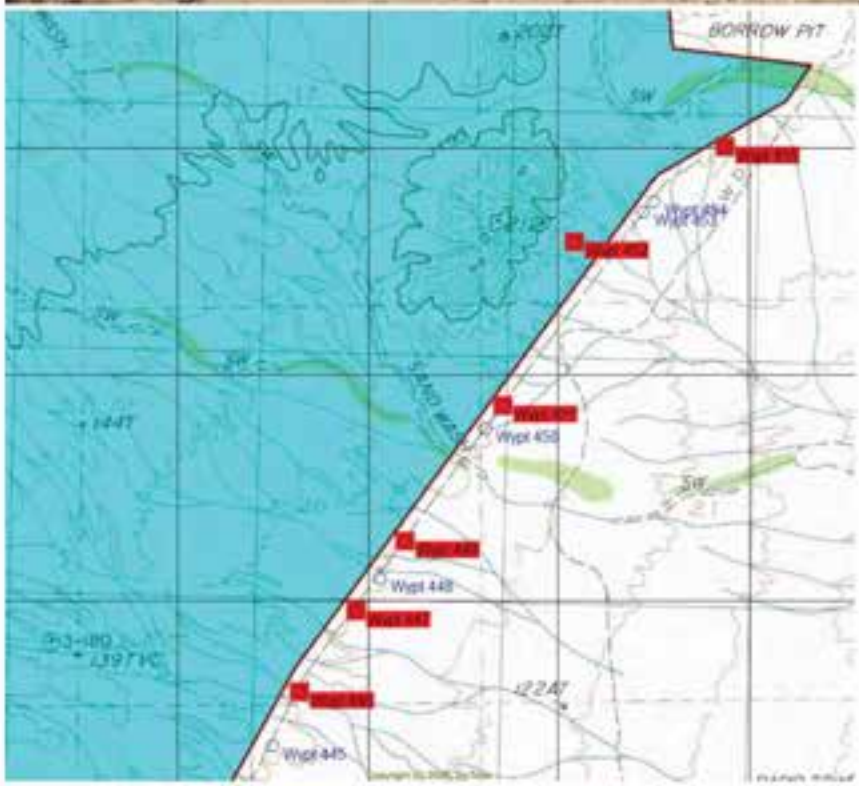
Waypoint 451: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.



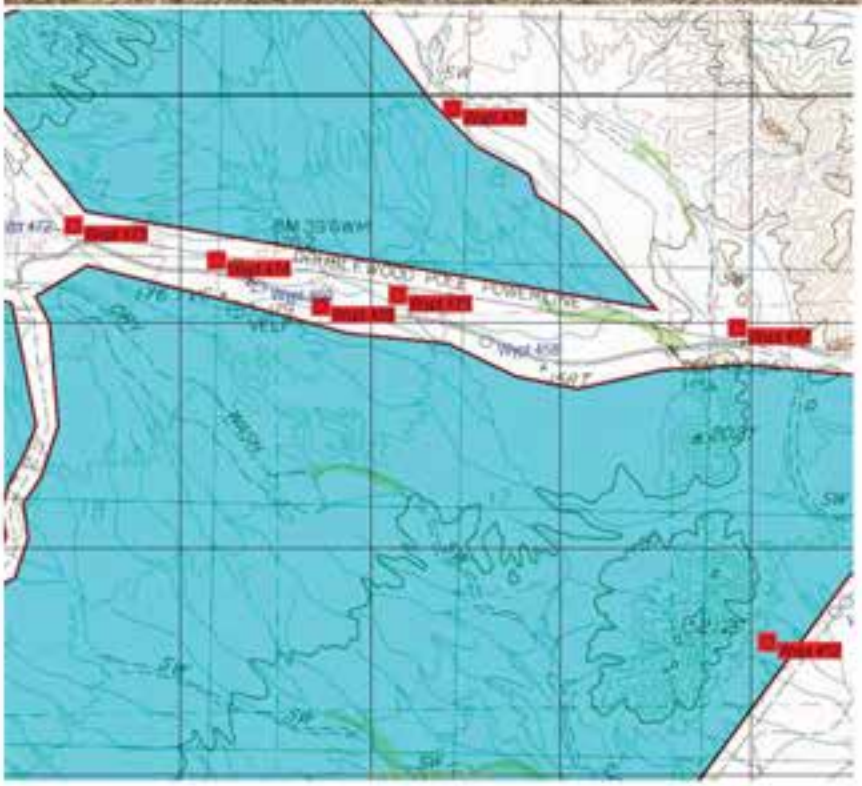
Waypoint 452: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.



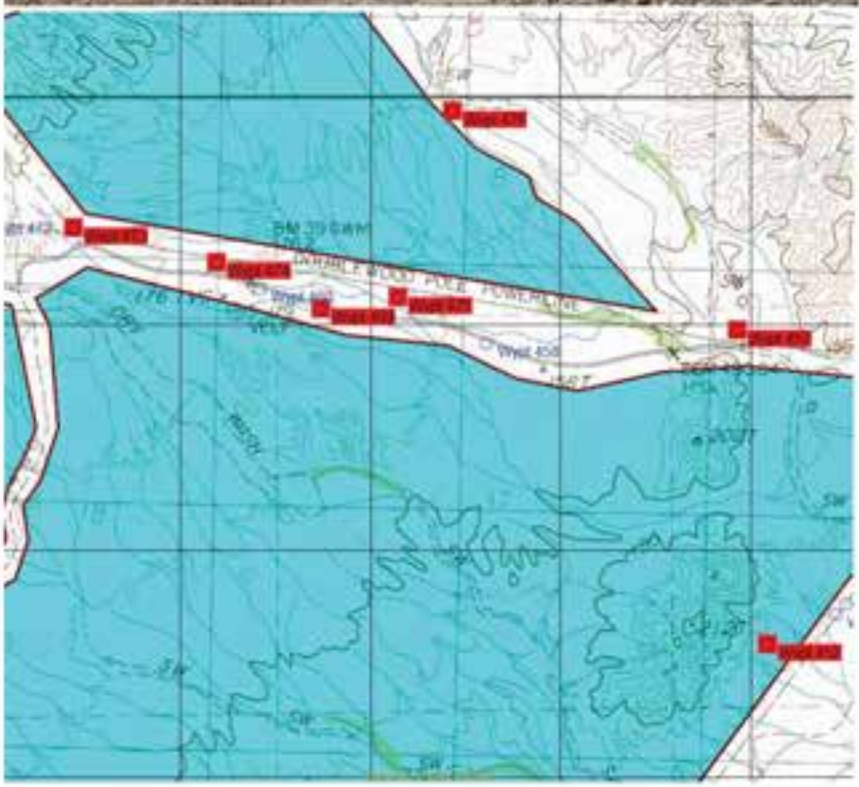
Waypoint 455: A view west into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 457: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.

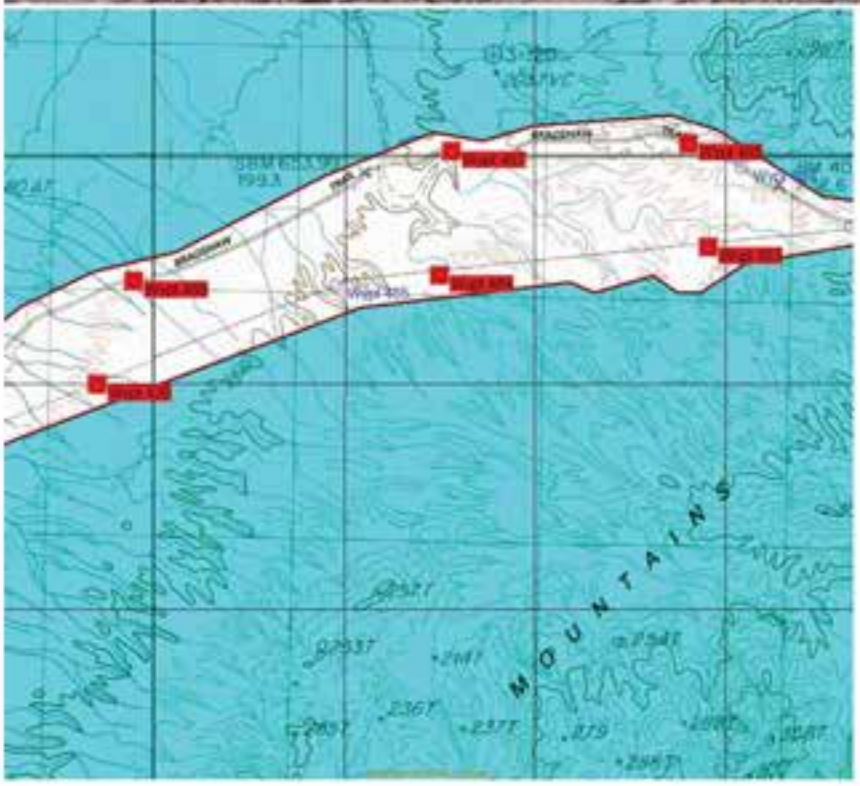


Waypoint 459: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.

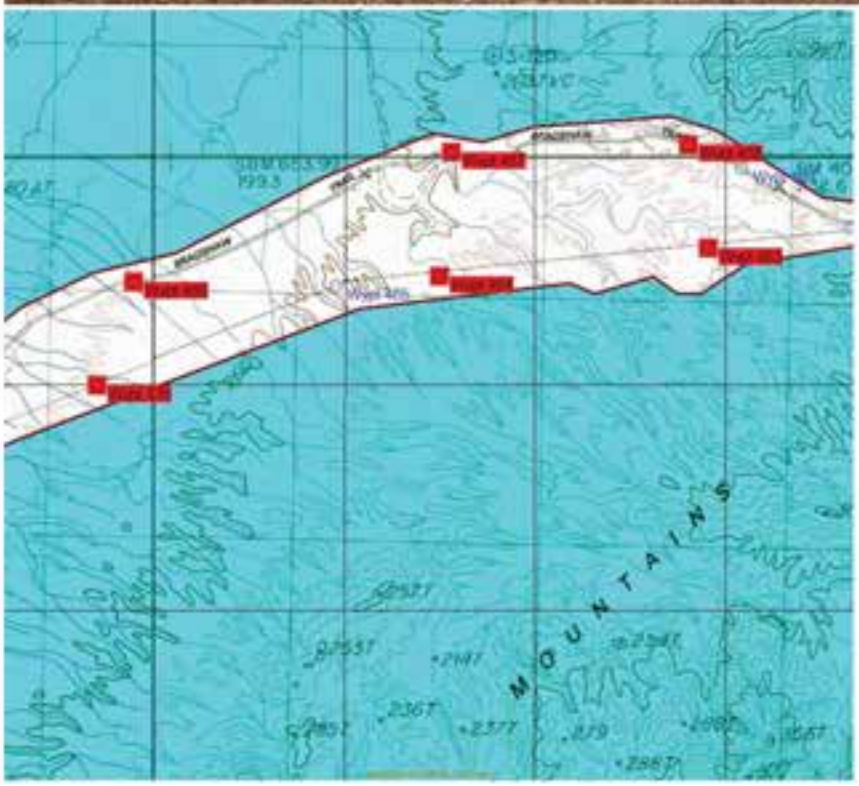


Waypoint 463: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.

Waypoint 464: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.



Waypoint 439: A view south into the LWC unit. Note that it is primarily affected by the forces of nature.



Attachment 3

Attachment 3 – excerpt from Western Solar Plan Record of Decision (pp. 54-56)

A.4.1.2 Design Features for Specially Designated Areas and Lands with Wilderness Characteristics

The following design features have been identified to avoid, minimize, and/or mitigate potential impacts on specially designated areas and lands with wilderness characteristics from solar energy development identified and discussed in Sections 5.3.1 and 5.3.2 of the Draft and Final Solar PEIS.

A.4.1.2.1 General

LWC1-1 Protection of existing values of specially designated areas and lands with wilderness characteristics shall be evaluated during the environmental analysis for solar energy projects, and the results shall be incorporated into the project planning and design.

(a) Assessing potential impacts on specially designated areas and lands with wilderness characteristics shall include, but is not limited to, the following:

• Identifying specially designated areas and lands with wilderness characteristics in proximity to the proposed projects. In coordination with the BLM, developers shall consult existing land use plans and updated inventories.
• Identifying lands that are within the geographic scope of a proposed solar project that have not been recently inventoried for wilderness characteristics or any lands that have been identified in a citizen's wilderness proposal in order to determine whether they possess wilderness characteristics. Developers shall consider including the wilderness characteristics evaluation as part of the processing of a solar energy ROW application for those lands without a recent wilderness characteristics inventory. All work must be completed in accordance with current BLM policies and procedures.
• Evaluating impacts on specially designated areas and lands with wilderness characteristics as part of the environmental impact analysis for the project and considering options to avoid, minimize, and/or mitigate adverse impacts in coordination with the BLM.

(b) Methods to mitigate unavoidable impacts on specially designated areas and lands with wilderness characteristics may include, but are not limited to, the following:

• Acquiring wilderness inholdings from willing sellers.
• Acquiring private lands from willing sellers adjacent to designated wilderness.
• Acquiring private lands from willing sellers within proposed wilderness or Wilderness Study Areas.
• Acquiring other lands containing important wilderness or related values, such as opportunities for solitude or a primitive, unconfined (type of) recreation.
• Restoring wilderness, for example, modifying routes or other structures that detract from wilderness character.
• Contributing mitigation monies to a "wilderness mitigation bank," if one exists, to fund activities such as the ones described above.
• Enacting management to protect lands with wilderness characteristics in the same field office or region that are not currently being managed to protect wilderness character. Areas that are to be managed to protect wilderness characteristics under this approach must be of sufficient

size to be manageable, which could also include areas adjacent to current WSAs or adjacent to areas currently being managed to protect wilderness characteristics.

A A.4.1.2.2 Site Characterization, Siting and Design, Construction

LWC2-1 Solar facilities shall be sited, designed, and constructed to avoid, minimize, and/or mitigate impacts on the values of specially designated areas and lands with wilderness characteristics.

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:42 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] USEPA Scoping Comments - Crimson Solar

Attachments: USEPA Scoping Comments - Crimson Solar 4.18.18.pdf

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---------- Forwarded message ----------
From: **Liberatore, Miriam** <mliberat@blm.gov>
Date: Wed, Apr 18, 2018 at 2:10 PM
Subject: Fwd: [EXTERNAL] USEPA Scoping Comments - Crimson Solar
To: BLM_CA CrimsonSolar <blm_ca_crimsonsolar@blm.gov>, Cristina Gispert <CGispert@esassoc.com>

---------- Forwarded message ----------
From: **Plenys, Thomas** <Plenys.Thomas@epa.gov>
Date: Wed, Apr 18, 2018 at 12:22 PM
Subject: [EXTERNAL] USEPA Scoping Comments - Crimson Solar
To: "Liberatore, Miriam" <mliberat@blm.gov>

Hi Miriam,

Please find attached EPA's scoping comments for Crimson Solar. Thank you again for the opportunity to provide our input.

Just let me know if you have any questions.

Thanks again,

Tom

Tom Plenys
U.S. EPA, Region IX

Environmental Review Section
75 Hawthorne Street, ENF-4-2
San Francisco, CA 94105

Phone: 415-972-3238

--

Miriam Liberatore

Planning and Environmental Coordinator

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

Phone: 541-618-2412

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

APR 18 2018

Miriam Liberatore
Project Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504

Subject: Scoping comments for the proposed Crimson Solar Project, Riverside County, California

Dear Ms. Liberatore:

The U.S. Environmental Protection Agency (EPA) has reviewed the Federal Register Notice published on March 9, 2018 requesting comments on the Bureau of Land Management's (BLM) decision to prepare a joint Environmental Impact Statement/Environmental Impact Report (DEIS) for the subject project. Our comments are provided pursuant to the National Environmental Policy Act (NEPA), Council on Environmental Quality (CEQ) regulations (40 CFR Parts 1500-1508) and our NEPA review authority under Section 309 of the Clean Air Act.

EPA serves as a Cooperating Agency for this project and has appreciated the opportunity to highlight our concerns and recommendations to BLM during a March 2016 site visit and the September 2017 pre-application meeting.

EPA continues to support renewable energy resource development. Using renewable energy resources, such as solar power, can help the nation meet its energy requirements without generating greenhouse gas emissions. To assist in the scoping process, we have identified several issues for your attention in the preparation of the EIS:

Purpose and Need
The DEIS should clearly identify the underlying purpose and need for the project and for which alternatives are being proposed (40 CFR 1502.13). When formulating the need, identify and describe the underlying problem, deficiency, or opportunity that the action is meant to address. For example, this section should clearly indicate the factors that are used to evaluate the size of the project, in terms of megawatts and land acreage, in relation to achieving the underlying need. Describe the criteria used to determine the minimum project size that would be considered feasible. The DEIS should discuss the proposed project in the context of the larger energy market that this project would serve; identify potential purchasers of the power produced; and discuss how the project will assist the State, and other potential purchasers of the energy, in meeting their renewable energy portfolio standards and goals.

Alternatives Analysis
A reasonable range of alternatives will include alternative options for avoiding environmental impacts. Reasonable alternatives could include, but are not necessarily limited to, alternative configurations and mountings, alternative capacities, and alternative photovoltaic (PV) and energy storage technologies. The CEQ Regulations for implementing NEPA state that alternatives should include appropriate mitigation measures not already included in the proposed action or alternatives (40 CFR 1502.14(f)). As

part of the development of alternatives, we recommend that BLM consider the latest science that was used to develop the Desert Renewable Energy Conservation Plan (DRECP), as well as any additional recent scientific studies, and consider evaluating an action alternative that would comply with the DRECP Conservation Management Actions (CMA). We recommend that the DEIS include a 'crosswalk' table highlighting how each alternative would meet or not meet the criteria for each CMA. Additionally, a reduced size alternative would allow the developer greater flexibility to avoid any environmentally sensitive areas and should be considered. The DEIS should provide a discussion of the reasons for the elimination of alternatives which are not evaluated in detail.

Water Resources

Water Supply and Water Quality

Estimate the quantity of water the project will require during the construction phase and during operations (cleaning the PV panels during routine maintenance, administration and sanitation uses in offices, etc.). Describe the source of this water and potential effects on other water users. If groundwater will be used, identify the potentially-affected groundwater basin(s) and impacts to groundwater recharge, springs or other surface water bodies, biologic resources, and the potential for subsidence. If water will be supplied from an off-site source, analyze environmental impacts associated with the transport and storage of such an alternative water supply. Identify available technologies to minimize or recycle water, and utilize xeric native plants in any landscaping around buildings. Describe water reliability for the proposed project and clarify how existing and/or proposed sources may be affected by changing precipitation patterns.

Clean Water Act Section 404

It appears, based on the National Wetlands Inventory[1], that there are wetland features in the vicinity of the project location, including riverine and fresh water ponds. Avoidance of wetlands/waters of the U.S is strongly recommended. If avoidance is not possible, we recommend consulting early with the U.S. Army Corps of Engineers (Corps) to determine if the proposed project requires a Section 404 permit under the Clean Water Act. If so, it is advisable to craft the NEPA alternatives consistent with the alternatives analysis required under CWA Section 404 to demonstrate the project's compliance with the CWA Section 404(b)(1) Guidelines. In comparing alternatives, we recommend the discussion include the acreages and channel lengths, habitat types, values, and functions of the waters that would be affected. We recommend including a verified jurisdictional determination from the Corps in the DEIS, as necessary.

Avoiding Desert Washes Regardless of Jurisdiction

In additional to avoiding wetlands and waters of the U.S., we recommend careful micro-siting of project components to avoid ephemeral drainages or desert washes to the maximum extent possible. These waters are being cumulatively impacted by the numerous large-scale solar projects in the desert. Desert washes perform a diversity of hydrologic, biochemical, and geochemical functions that directly affect the integrity and functional condition of higher-order waters downstream. Healthy ephemeral waters with characteristic plant communities control rates of sediment deposition and dissipate the energy associated with flood flows. Ephemeral washes also provide habitat for breeding, shelter, foraging, and movement of wildlife. Many plant populations are dependent on these aquatic ecosystems and adapted to their unique conditions. These values are present regardless of whether the washes are deemed jurisdictional waters of the U.S. under Section 404 of the Clean Water Act.

[1] https://www.fws.gov/wetlands/data/mapper.html

We recommend: 1) avoiding placement of support structures in washes; 2) utilizing existing natural drainage channels on site, such as earthen berms or channels, rather than concrete-lined channels; 3) committing to the use of natural washes, in their present location and natural form, and the avoidance of microphyll woodlands; 4) including adequate natural buffers, for flood control, to the maximum extent practicable and applying the recommended buffer distances, as prescribed by the DRECP CMAs, for the four primary drainages that transect the project site, 5) minimizing the number of road crossings over washes and designing necessary crossings to provide adequate flow-through during storm events, and 6) avoiding complete clearing and grading of the site by evaluating the mounting of PV panels at sufficient height above ground to maintain natural vegetation and reduce impacts to drainages. EPA is concerned about the effect on site hydrology due to changes to the microtopography and the potential for increased erosion and sedimentation, particularly in light of the extensive animal burrow networks on site.

As PV technology improves, less land is needed per megawatt generated. During past solar site visits, we have seen large acreage graded that ultimately was no longer needed to meet the megawatt goals for a project. This land now sits idle, fenced in and may take decades to restore. To avoid a similar outcome, we recommend a mitigation measure or permit condition that would require a phased approach to construction that ensures only the necessary acreage is built upon.

Sizing Stormwater Infrastructure

We recommend that the BLM assess the impacts of changing precipitation patterns on the project. There may be important design considerations needed to accommodate future anticipated effects such as increased intensity and severity of storms, which would require an appropriately-sized stormwater management system.

Desert Biodiversity/Aquatic Resources

Cumulative impacts to biological resources can be substantial in desert habitats. Unless projects establish strict conservation goals for desert aquatic resources, renewable energy production may come at the expense of desert biodiversity. Less than 1% of the vegetation in deserts is riparian (streamside), yet most desert animal species, whether birds, mammals, reptiles or amphibians, rely on riparian habitat for at least part of their life cycle. In arid areas, disturbed vegetation is slow to recover.

We recommend that this project consider feasible methods to avoid grading areas and removing vegetation prior to PV array installation. We support further evaluation of a "low-impact design" that the applicant is considering, in consultation with resource agencies, to avoid and minimize impacts to site hydrology, vegetation and habitat to the greatest extent possible. In particular, we note the challenge this site poses given the extensive network of animal burrows just below the surface throughout the site. We recommend practices that minimize disturbance of desert pavement, preserve habitat, and prevent erosion be incorporated into the project. Vegetation clearing, grading and compaction could result in a disruption of geomorphic process (e.g. sand transportation) essential to the function and integrity of certain desert habitats (e.g. sand dunes). Confirm, in the DEIS, the extent to which MFTL desert dune and non-sand dune habitat will be impacted.

Discuss impacts associated with an increase of shade on vegetation and species in the desert environment, and impacts associated with constructing fences around the project site. Soils under PV arrays are frequently sterilized with pesticides to prevent weed growth, which prevents the natural revegetation of native plants that could minimize erosion and provide wildlife habitat. We encourage wildlife-friendly fencing and the elimination of fencing altogether in the four primary drainages that transect the project site to allow for unimpeded flows during precipitation events.

The DEIS should include assurances that the design of the transmission line would be in compliance with current standards and practices that reduce the potential for raptor fatalities and injuries. The commonly referenced source of such design practices is found within the Avian Power Line Interaction Committee documents: *Suggested Practices for Avian Protection on Power Lines: State of the Art in 2006* manual and *Mitigating Bird Collisions with Power Lines: The State of the Art in 2012*.

Protected Species

The DEIS should identify all petitioned and listed threatened and endangered species and critical habitat that might occur within the project area. The document should identify and quantify which species or critical habitat might be directly or indirectly affected by each alternative. We recommend that the DEIS include a biological assessment, as well as a description of the progress or outcome of consultation with the USFWS under Section 7 of the Endangered Species Act. The DEIS should indicate what measures will be taken to protect important wildlife habitat areas from potential adverse effects of proposed activities.

The DEIS should describe how the corridor width for desert tortoise habitat and connectivity between the project site and the Mule Mountains was determined. A 1.5 mile corridor width for desert tortoise habitat connectivity was prescribed for the Silver State solar project (between the project boundary and the Lucy Gray Mountains) after a much narrower corridor was initially proposed. We suggest drawing on the experiences from that project and discussing, in the DEIS, how conclusions for the Crimson project may or may not differ, in comparison.

Analysis of impacts and mitigation on listed species should include: (1) baseline conditions of habitats and populations of the covered species; (2) a clear description of how avoidance, mitigation and conservation measures will protect and encourage the recovery of the covered species and their habitats in the project area; and (3) monitoring, reporting and adaptive management efforts to ensure species and habitat conservation effectiveness.

Invasive Species

Executive Order (E.O.) 13112, *Invasive Species* (February 3, 1999), mandates that federal agencies, whose actions may affect the status of invasive species, use their relevant authorities to prevent their introduction, provide for their control, and minimize the economic, ecological, and human health impacts that invasive species cause. The DEIS should describe how the project will meet the requirements of E.O. 13112. We recommend including an invasive plant management plan for the monitoring and control noxious weeds.

Air quality

We recommend the DEIS provide a detailed discussion of ambient air conditions (baseline or existing conditions), National Ambient Air Quality Standards (NAAQS) and nonattainment areas, and potential air quality impacts of the project, including cumulative and indirect impacts, for each fully evaluated alternative. Estimate criteria pollutant and greenhouse gas emissions for the construction phase, as well as for the operational phase from maintenance activities and ancillary operations. Construction-related mitigation measures should be considered.

Local significance thresholds for air quality may be exceeded during construction based on past solar project estimates. Given the potential for concurrent construction schedules for Crimson and other proposed projects in the area (e.g. Desert Quartzite, Palen), we recommend that BLM closely coordinate

with the Mojave Desert Air Quality Management District and provide an update on such coordination in the DEIS. Reasonable mitigation measures to reduce fugitive dust should be implemented, for the benefit of localized receptors such as construction workers and nearby residents, and to minimize potential exposure to *Coccidioides immitis* (see Valley Fever comment below).

Valley fever
The project site is located in an area that the Centers for Disease Control has classified as "suspected endemic" for *Coccidioides immitis*, a fungus causing Valley Fever in humans.[2] Ground disturbing activities associated with the proposed action may result in dispersal of *Coccidioides* spores. A discussion of this potential health and safety impact can be included in the DEIS. Measures can be identified to prevent or reduce the risk of exposure to workers and local residents.

Hazardous Waste and Pesticides
The DEIS should address potential direct, indirect and cumulative impacts of waste generation, including hazardous waste, from construction and operation of the solar farm as well as the proposed battery storage facility. The document should identify projected waste types and volumes, including from maintenance vehicles, and identify expected storage, disposal, and management. Identify the applicability of federal hazardous waste requirements. The generation of hazardous waste should be minimized. If PV panel trackers will utilize hazardous materials such as refrigerants, discuss and evaluate potential impacts from accidental or unexpected releases on environmental resources. Alternative tracking methods that minimize hazardous materials use should be evaluated. Identify whether any pesticides, including herbicides or rodenticides, would be used at the project site.

Environmental Justice
DEIS should assess impacts to local communities consistent with Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (February 11, 1994). The DEIS should address the potential for disproportionate adverse impacts to minority and low-income populations, and the approaches used to foster public participation by these populations. Assessment of the project's impact on minority and low-income populations should reflect coordination with those affected populations.

Cultural Resources and Tribal Consultation
The discussion of cultural resources in the DEIS should evaluate how both construction and operation activities may impact such resources, including Native American cultural resources. We recommend that the DEIS document any tribal consultations and any activities or mitigation measures to address any concerns identified by tribal governments.

Cumulative Impacts
Describe the methodology used to assess cumulative impacts. We recommend that the BLM consider the methodology developed jointly by EPA, the Federal Highway Administration, and the California Department of Transportation[3]. While this methodology was developed for transportation projects, the principles and steps in this guidance offer a systematic way to analyze cumulative impacts for any project.

There are currently many solar energy projects in operation, or being proposed and constructed, on public and private lands in the desert southwest. Consider impacts from nearby solar projects (e.g.

[2] See: http://www.cdc.gov/fungal/diseases/coccidioidomycosis/causes.html
[3] Available at: http://www.dot.ca.gov/ser/cumulative_guidance/approach.htm.

Desert Quartzite, Blythe, McCoy, Palen, Blythe Mesa), in addition to other developments in the area, on the resources that would be affected by the proposed project, as well as general resource trends. As mentioned, desert washes, ecosystems and air quality are experiencing cumulative effects from multiple large solar installations in the desert and this is relevant to the cumulative impact assessment.

Mitigation, Monitoring and Enforceability

The EPA recommends the DEIS include specific mitigation measures and a Mitigation Monitoring and Reporting Program. Mitigation measures are generally effective if they contain the following: Why: state the objective of the mitigation measure and why it is recommended; What: Explain the specifics of the mitigation measure and how it will be designed and implemented and identify measurable performance standards by which the success of the mitigation can be determined and provide for contingent mitigation as appropriate if monitoring reveals that the success standards are not satisfied; Who: Identify the agency, organization or individual responsible for implementing the measure; Where: Identify the specific location of the mitigation measure; When: Timing and schedule for implementation.

We recommend that all mitigation measures and the Mitigation Monitoring and Reporting Program be adopted in the ROD and be included as conditions in construction contracts and any other approvals or enforceable agreements (such as final design approval or enforceable terms, conditions and stipulations in the ROW grant), as appropriate, to minimize adverse environmental impacts to the greatest extent possible.

We appreciate the opportunity to provide comments on the preparation of the DEIS. If you have any questions, please contact me at (415) 972-3238 or plenys.thomas@epa.gov.

Sincerely,

Tom Plenys
Environmental Review Section

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:43 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar comments from Desert Tortoise Council

Attachments: Crimson Solar.4-20-2018.pdf

---------- Forwarded message ----------
From: **Ed LaRue** <ed.larue@verizon.net>
Date: Thu, Apr 19, 2018 at 3:39 PM
Subject: [EXTERNAL] Crimson Solar comments from Desert Tortoise Council
To: blm_ca_crimsonsolar@blm.gov, Magdalena.rodriguez@wildlife.ca.org

Dear Ms. Liberatore and Rodriguez,

Please find attached our comments on the proposed Crimson Solar Project. We ask that the Desert Tortoise Council be considered an Affected Interest for this and all other BLM and CDFW projects affecting the desert tortoise.

Thanks

Ed LaRue

****

Edward L. LaRue, Jr., M.S.

Desert Tortoise Council, Ecosystems Advisory Committee

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****

DESERT TORTOISE COUNCIL
4654 East Avenue S #257B
Palmdale, California 93552
www.deserttortoise.org
eac@deserttortoise.org

Via email only

20 April 2018

Miriam Liberatore, Project Manager
Bureau of Land Management
3040 Biddle Road
Medford, OR 97504
Email: blm_ca_crimsonsolar@blm.gov

Magdalena Rodriguez, Project Manager
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Ste C220
Ontario, CA 91764
Email: Magdalena.rodriguez@wildlife.ca.org

RE: Scoping Comments on Joint Draft Environmental Impact Statement/Environmental Impact Report (Draft EIS/EIR) for the RE Crimson Solar Project and Input on Potential Plan Amendments to the California Desert Conservation Area Plan

Dear Ms. Liberatore and Ms. Rodriguez,

The Desert Tortoise Council (Council) is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Scoping Comments for Crimson Solar Project

We appreciate this opportunity to provide comments on the above-referenced project. Given the location of the proposed project in habitats occupied by Agassiz's desert tortoise (*Gopherus agassizii*), our comments pertain to enhancing protection of this species during activities authorized by Bureau of Land Management (BLM) and California Department of Fish and Wildlife (CDFW). We would also like to thank Ms. Liberatore for providing us with baseline information and maps showing the proposed solar facilities.

1. The Council supports alternatives to reduce the need for additional solar energy projects in the Mojave Desert. That alternative is rooftop solar. The City of Los Angeles has implemented a rooftop solar Feed-in Tariff (FiT) program, the largest of its kind in America. The FiT program enables the owners of large buildings to install solar panels on their roofs, and sell the power they generate back to utilities for distribution into the power grid. This approach puts the generation of electricity where the demand is greatest, in populated areas. It may also reduce transmission costs, the number of affected resources that must be analyzed under the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), and mitigation costs. The Draft EIS/EIR should include an analysis of where the energy generated by this project would be sent and the needs for energy in those targeted areas that may be satisfied by rooftop solar.

2. We request that an alternative be analyzed in the Draft EIS/EIR where electricity generation via solar energy is located much closer to the areas where the energy use has the greatest demand, including urban/suburban areas. Additionally, BLM's purpose and need statement in the Draft EIS/EIR should be broad enough to encourage solar energy development through the feasible alternatives of rooftop solar as well as better solar farm locations, and not so narrow that it precludes these alternatives.

3. We are very concerned with the placement of this 2,500-acre solar facility in a relatively narrow, five-to-six mile wide corridor located between the Mule Mountains to the south and Interstate 10 to the north. While the footprint of the proposed facility may occupy about half of this corridor that is used by the tortoise and other species of wildlife for connectivity between populations, its placement in the center fragments this corridor and may substantially reduce or destroy its function in the future as a wildlife corridor. We strongly request that the environmental consequences section of the Draft EIS/EIR include a thorough analysis of this indirect effect (40 Code of Federal Regulations 1502.16) and appropriate mitigation to maintain the function of population connectivity for the Agassiz's desert tortoise and other wildlife species.

4. The U.S. Fish and Wildlife Service (USFWS) defines "action area" in 50 Code of Federal Regulations 402.2 and their Desert Tortoise Field Manual (USFWS 2009) as "all areas to be affected directly or indirectly by proposed development and not merely the immediate area involved in the action (50 CFR §402.02)." To facilitate compliance with the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA), it is imperative that project proponent coordinate early with the USFWS and CDFW to determine what the action area is for this project. We believe the action area must include areas located east and west of the connectivity corridor that would be cut in half if the project is developed as currently proposed. It is necessary that the project proponent perform protocol level surveys (USFWS 2017) that determine tortoise densities and distribution in the USFWS-identified action area. CDFW may require similar or more detailed surveys. The results of this consultation should be included in the Draft EIS/EIR.

5. Given the above concerns, we expect that the Draft EIS/EIR will assess a range of alternative sites including other locations than the one depicted in Figure 1 of the notice. Too often proponents present only one intended location for a particular project, which undermines the

intent of selecting sites that may have minimal environmental impacts compared to the subject property. Please see our comment above about including an alternative that locates energy development in locations close to where it will be used.

6. Although the proposed site is located within a Development Focus Area (DFA) as defined by the Desert Renewable Energy Conservation Plan (DRECP) and Solar Energy Zone (SEZ) as defined by the Programmatic Solar Energy Development Plan (PSEDP), we are nevertheless concerned that the proposed location given in Figure 1 is five to six miles south of Interstate 10 in habitats that are very likely occupied by tortoises and in relatively pristine condition. The Draft EIS/EIR should include: (1) current data on and analysis of the presence and densities of special status species, particularly Agassiz's desert tortoise; (2) habitat quantity and quality in the action area; (3) the functions/viability of the populations in the action area with respect to current conditions and future development scenarios including viability of and connection with adjacent populations; and (4) appropriate actions to fully mitigate these effects to population viability, connectivity, and habitat loss/degradation.

7. There are specific survey protocols for Agassiz's desert tortoise (USFWS 2017), special status plant species (BLM 2009, CDFG 2009), and burrowing owl (CDFW 2012a), among others, that must be implemented to ensure that the Draft EIS/EIR is using reports employing the latest standards from qualified consultants for proposed energy projects that may affect these and other rare species. The literature review for rare species must provide current data including a review of the most recent version of the California Natural Diversity Data Base (CNDDB; CDFW 2018) and an assessment for each species as to their potential occurrence on the subject property.

8. The Draft EIS/EIR, based on the results of the tortoise protocol surveys, must discuss the displacement of tortoises from the impact area. Will these tortoises be relocated into adjacent areas or are they to be translocated into distant areas? The Draft EIS/EIR should present the intended approach to relocating/translocating displaced tortoises. Additionally, there should be an analysis of previous translocation efforts, such as at Fort Irwin National Training Center and more recently at Twentynine Palms Marine Corps Base, to ensure that translocation standards are up-to-date and acceptable to both USFWS and CDFW.

9. It is essential that qualified biologists address the likelihood of occurrence of all special status plant and animal species included in the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO Plan; BLM 2002). Following the literature review, field surveys during appropriate seasons for detection of identified plants and animals must be performed. The Draft EIS/EIR must address how this project fits within the management structure of the NECO Plan, and provide maps of Agassiz's desert tortoise Critical Habitat (USFWS 1994a), Areas of Critical Environmental Concern (ACECs), and other protective management areas designated in the DRECP, such as National Conservation Lands (NCLs).

10. We note that the DRECP (BLM 2016) considers 11 criteria for siting renewable energy facilities. These criteria include selecting lands with (1) disturbed or contaminated lands; (2) less ecologically intact lands; (3) non-critical habitat or non-crucial habitat linkage area; (4) not legislatively or legally protected lands; (5) few focal or covered species dependent upon lands; (6) more fragmented ownership; (7) proximity to transmission lines/grid/local communities needing electricity; (8) not immediately adjacent to residential areas; (9) away from crucial

military or commercial flight areas; (10) not previously acquired for the protection of imperiled species, benefit of military training, or long-term conservation; and (11) minimal impact to currently permitted or authorized uses. The Draft EIS/EIR must evaluate this project for each criterion particularly for Agassiz's desert tortoise and if a majority of the criteria is not met, reject this location for the project.

11. There are a dozen existing, approved, and pending renewable energy projects in the area between Blythe and Desert Center that must be included in the cumulative effects analysis of the Draft EIS/EIR. We also expect that the environmental documents will provide a detailed analysis of the "heat sink" effects of solar development on adjacent desert areas and particularly Agassiz's desert tortoise in addition to climate change. The document should also consider recently developed solar fields where soils have been bladed versus those facilities where the vegetation has been mowed and allowed to revegetate the area. In the latter case, it may be appropriate to allow tortoises to enter into the facilities and re-establish residency under the solar panels as vegetation recolonizes the area. This option should be designed as an experiment to add to the limited data on this approach to determine the extent of effects on Agassiz's desert tortoise populations and movements/connectivity.

12. The Mojave Desert Land Trust (MDLT) has acquired more than 200 parcels in the region that are managed for Agassiz's desert tortoise and other special status species. The management of these parcels is outlined in CDFG (2012b). When Frazier Haney, MDLT's Director of Land Conservation responded to our email on 3/29/2018, he stated, "Although Crimson solar would not directly impact our [MDLT] lands, since it is not directly adjacent or even within a few miles, I do believe there would be indirect effects from additional disturbance causing weeds, predator subsidy, and air quality problems, among the most pressing." As such, the Council expects that the Draft EIS/EIR will address these potential indirect impacts to the management of mitigation parcels by MDLT.

Input on Potential Plan Amendments to the California Desert Conservation Area Plan

In BLM's Notice of Intent for this project, BLM stated that it is seeking public input on any potential plan amendments to the CDCA Plan. We offer the following information in response to that request.

<u>Brief History of Major CDCA Plan Amendments</u>

In 2002, the BLM in California adopted the NECO Plan and the Northern and Eastern Mojave (NEMO) Plan, and in 2006, the West Mojave (WEMO) Plan. These three Plan Amendments to the California Desert Conservation Area (CDCA) Plan (BLM 1980) contained limited on-the-ground management actions for the Mojave desert tortoise. They identified public lands that were similar in size and location to designated Critical Habitat Units (CHUs). BLM's intent for these identified lands, called Desert Wildlife Management Areas (DWMAs) was to maintain much of the existing quantity of habitat for the Mojave desert tortoise while making the DWMAs available for other uses under BLM's multiple use mandate in the Federal Land Policy Management Act (FLPMA). The concept in these Plan Amendments was to reduce the amount of future human activities that resulted in new areas of surface disturbance for new discrete authorized projects that directly or indirectly contributed to tortoise mortality. This concept, while well intended, was without scientific support, and the Plan did not propose to use science to determine if this concept would be successful.

Status of the Populations of the Mojave Desert Tortoise

BLM's implementation of a conservation strategy for the Mojave desert tortoise in the CDCA through implementation of its previous Plan Amendments through 2014 has resulted in the following changes in the status for the tortoise throughout its range and in California from 2004 to 2014 (Table 1; USFWS 2015). There are 17 populations of Mojave desert tortoise described below that occur in the CHUs and Tortoise Conservation Areas (TCAs); 14 are on lands managed by the BLM; 8 of these are in the CDCA.

Table 1. Summary of 10-year trend data for 5 Recovery Units and 17 CHUs/TCAs for Agassiz's desert tortoise (= Mojave desert tortoise). The table includes the area of each Recovery Unit and CHU/TCA, percent of total habitat for each Recovery Unit and CHU/TCA, density (number of breeding adults/km^2 and standard errors = SE), and the percent change in population density between 2004 and 2014. Populations below the viable level of 3.9 breeding individuals/km^2 (10 breeding individuals per mi^2) (assumes a 1:1 sex ratio) and showing a decline from 2004 to 2014 are in red.

Recovery Unit Designated Critical Habitat Unit/Tortoise Conservation Area	Surveyed area (km^2)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km^2 (SE)	% 10-year change (2004–2014)
Western Mojave, CA	**6,294**	**24.51**	**2.8 (1.0)**	**–50.7 decline**
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	**11,663**	**45.42**	**4.0 (1.4)**	**–36.25 decline**
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	**4,160**	**16.2**	**4.5 (1.9)**	**+325.62 increase**
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	**3,446**	**13.42**	**1.9 (0.7)**	**–67.26 decline**
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah Valley, CA	2,447	9.53	2.3 (0.9)	–56.05 decline
Upper Virgin River	**115**	**0.45**	**15.3 (6.0)**	**–26.57 decline**
Red Cliffs Desert	115	0.45	15.3 (6.0)	–26.57 decline
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	**25,678**	**100.00**		**–32.18 decline**

Important points from this table include the following:

Change in Status for the Mojave Desert Tortoise Range-wide

- Ten of 17 populations of the Mojave desert tortoise declined from 2004 to 2014.

- Eleven of 17 populations of the Mojave desert tortoise are no longer viable. These 11 populations represent 89.7 percent of the range-wide habitat in CHUs/TCAs.

Change in Status for the Mojave Desert Tortoise in California

- Eight of 10 populations of the Mojave desert tortoise in California declined from 29 to 64 percent from 2004 to 2014 with implementation of tortoise conservation measures in the NECO, NEMO, and WEMO Plans.

- Eight of 10 populations of the Mojave desert tortoise in California are no longer viable. These eight populations represent 87.45 percent of the habitat in California that is in CHU/TCAs.

- The two viable population of the Mojave desert tortoise in California are declining. If their rates of decline from 2004 to 2014 continue, these two populations will no longer be viable in about 2020 and 2031.

Change in Status for the Mojave Desert Tortoise on BLM Land in California

- Eight of eight populations of Mojave desert tortoise on lands managed by the BLM in California declined from 2004 to 2014.

- Seven of eight populations of Mojave desert tortoise on lands managed by the BLM in California are no longer viable.

Change in Status for Mojave Desert Tortoise Populations in California that Are Moving toward Meeting Recovery Criteria

- The only population of Mojave desert tortoise in California that is not declining is on land managed by the National Park Service. It increased 178 percent in 10 years.

DRECP Plan Amendment

In 2016, the BLM adopted the DRECP, which is another Plan Amendment, to allow for large-scale renewable energy development in the CDCA. The DRECP had several objectives regarding the management of desert tortoise conservation areas (TCAs, formerly called DWMAs); however, the focus of habitat management was no additional net loss of habitat quantity in the TCAs from the existing conditions. Thus, management actions to improve the status of the Mojave desert tortoise in the 2016 Plan Amendment were similar to those in the 2002 and 2006 CDCA Plan Amendments even though the USFWS' 2015 report documented continuing substantial declines in Mojave desert tortoise population densities in California from applying these management actions.

The Endangered Mojave Desert Tortoise

The Council believes that the Mojave desert tortoise meets the definition of an endangered species. In the FESA, Congress defined an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range…" In the CESA, the California legislature defined an "endangered species" as a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant, which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes (California Fish and Game Code § 2062). Because most of the populations of the Mojave desert tortoise were non-viable in 2014, most are declining, and the threats to the Mojave desert tortoise are numerous and have not been substantially reduced throughout the species' range, the Council believes the Mojave desert tortoise should be designated as an endangered species by the USFWS and CDFW.

Agassiz's desert tortoise is now on the list of the world's most endangered tortoises and freshwater turtles. It is in the top 50 species. The International Union for Conservation of Nature's (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers Agassiz's desert tortoise to be Critically Endangered (Turtle Conservation Coalition 2018). It is one of three turtle and tortoise species in the United States to be critically endangered.

The summary of data above indicates that BLM's current management actions for the Mojave desert tortoise are inadequate to help recover the desert tortoise. BLM has been ineffective in halting population declines, which has resulted in non-viable populations. The Council believes that these management actions are inadequate in preventing the extirpation of the Mojave desert tortoise in California.

Federal Land Policy and Management Act

In 1976, Congress passed the FLPMA and established the CDCA Plan "to provide for the immediate and future protection and administration of the public lands in the California desert within the framework of a program of multiple uses and sustained yield, and the maintenance of environmental quality." Congress further declared "the California desert environment is a total ecosystem that is extremely fragile, easily scarred, and slowly healed; the use of all California desert resources [including rare and endangered species of wildlife, plants, and fishes] can and should be provided for in a multiple use and sustained yield management plan to conserve these resources for future generations…"

Congress wrote a lengthy definition of "multiple use" for the management of public lands and their various resource values. The definition included "… the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and non-renewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

Congress defined "sustained yield" as the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use. The Mojave desert tortoise and its habitats are renewable resources.

The definition of "environmental quality" is a set of properties and characteristics of the environment, either generalized or local, as they impinge on human beings and other organisms. It is a measure of the condition of an environment relative to the requirements of one or more species and or to any human need or purpose. Thus, BLM must consider the quality or condition of the environment of the Mojave desert tortoise with respect to the species' requirements for persistence and must maintain this habitat quality.

The Council believes that BLM's management of the Mojave desert tortoise and its habitats in California is not in compliance with FLPMA or the purposes for establishing the CDCA. The large number of non-viable populations and downward trend in population densities for the Mojave desert tortoise in the CDCA are the data that confirm non-compliance with the "immediate and future protection of public lands," "conserving resources for future generations," and definitions of multiple use, sustained yield, and environmental quality.

Section 7(a)(1) of the Endangered Species Act

Section 7(a)(1) of the Endangered Species Act states that all federal agencies "…shall… utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act." In Section 3 of the ESA, "conserve," "conserving," and "conservation" mean "to use and the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this Act are no longer necessary. Such methods and procedures include, but are not limited to, all activities associated with scientific resources management such as research, census, law enforcement, habitat acquisition…"

The Council believes that the data above demonstrate that BLM's management of the Mojave desert tortoise and its habitat under the CDCA Plan and Plan Amendments has not been effective in meeting BLM's Section 7(a)(1) mandate of carrying out programs for its conservation. To meet its Section 7(a)(1) responsibilities, the BLM needs to adopt and implement the management actions of the one population of the Mojave desert tortoise in California that is increasing. This population is managed by the National Park Service. The NPS' land management practices are closer to managing areas of land as reserves, which is what the 1994 Recovery Plan (USFWS 1994b) described as part of the recovery strategy for the Mojave desert tortoise. While BLM designated DWMAs as one part of the recovery strategy, it did not implement the other parts of the recovery strategy. According to the Recovery Plan, DWMAs were to be managed as reserves; that is, they were areas of land to keep, save, preserve, or protect. BLM did not identify and implement needed recovery actions within each DWMA to manage the DWMAs as protected areas for the Mojave desert tortoise.

Request for Plan Amendment

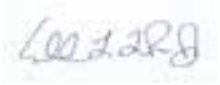
The Council believes that the BLM should prepare, adopt, and implement a Plan Amendment to revise the management of the Mojave desert tortoise and desert tortoise habitat in the CHUs/TCAs for the following reasons:

- Most or all of the Mojave desert tortoise populations in the CDCA are below the level of viable populations and are declining;
- the Mojave desert tortoise in the CDCA represents a significant portion of the range of the species;
- the Mojave desert tortoise meets the definition of endangered under both FESA and CESA and should be managed as an endangered species even though the USFWS and CDFW's have not officially updated its status;
- the declining numbers and densities and large percentage of non-viable populations of Mojave desert tortoise in California indicate that planning and management actions by the BLM have been ineffective in halting the decline of the tortoise and degradation of its habitat;
- BLM has responsibilities under FLPMA regarding the CDCA and its management for "immediate and future protection of public lands," "conserving resources for future generations," and definitions of multiple use, sustained yield, and environmental quality; and
- BLM has section 7(a)(1) responsibilities under FESA and needs to comply with these under the FESA.

For these reasons, the Council formally requests that BLM propose a Plan Amendment to the CDCA Plan that will result in increases in population densities and quickly reverse the non-viable status of tortoise populations in the CDCA. Such a Plan Amendment must be scientifically based in its determination of appropriate and effective management actions, implementation of these management actions, monitoring of their effectiveness and compliance, and implementing adaptive management. This action must be implemented as soon as possible to prevent the extirpation of the Mojave desert tortoise in California. The Council is available to help the BLM in its development of such a Plan Amendment.

We appreciate this opportunity to provide input and trust that our comments will further protect tortoises during authorized project activities. Herein, we ask that the Desert Tortoise Council be identified as an Affected Interest for this and all other BLM projects that may affect species of desert tortoises, and that any subsequent environmental documentation for this particular project is provided to us at the contact information listed above.

Regards,



Edward L. LaRue, Jr., M.S.
Desert Tortoise Council, Ecosystems Advisory Committee, Chairperson

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From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:44 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Scoping comments on the Crimson Solar Project (CACA 051967)

Attachments: Crimson-Solar-Scoping-BRW-WWP.pdf; NREL-duck-curve.pdf; Avian-Solar_CWG_May_2016_Workshop_Slides.pdf

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---------- Forwarded message ----------
From: **Laura Cunningham** <lcunningham@westernwatersheds.org>
Date: Mon, Apr 23, 2018 at 3:04 PM
Subject: [EXTERNAL] Scoping comments on the Crimson Solar Project (CACA 051967)
To: blm_ca_crimsonsolar@blm.gov, mliberat@blm.gov, srazo@blm.gov, dherrema@blm.gov
Cc: Basin and Range Watch <emailbasinandrange@gmail.com>

Please accept the attached comments on the Crimson Solar Project from Basin and Range Watch and Western Watersheds Project.

Thank you,

--

Laura Cunningham

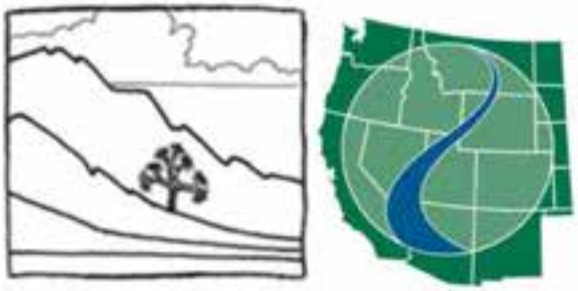
California Director

Western Watersheds Project

PO Box 70

Beatty NV 89003

(775) 513-1280



Basin and Range Watch

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Western Watersheds Project
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email: lcunningham@westernwatersheds.org
web site: www.westernwatersheds.org
Working to protect and restore Western Watersheds and Wildlife

April 20th, 2018

To: Bureau of Land Management, Palm Springs Field Office,

1201 Bird Center Drive, Palm Springs, CA

Email sent to: blm_ca_crimsonsolar@blm.gov, mliberat@blm.gov, srazo@blm.gov and dherrema@blm.gov

Subject: Scoping comments on the Crimson Solar Project (CACA 051967)

Basin and Range Watch is a 501(c)(3) non-profit working to conserve the deserts of Nevada and California and to educate the public about the diversity of life, culture, and history of the ecosystems and wild lands of the desert. Federal and many state agencies are seeking to open up millions of acres of unspoiled habitat and public land in our region to energy development. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems, open spaces, and quality of life for local communities. We support energy efficiency, better rooftop solar policy, and distributed generation/storage alternatives, as well as local, state and national planning for wise energy and land use following

the principles of conservation biology. We have visited the site of the proposed Crimson Solar Project.

Western Watersheds Project is a nonprofit environmental conservation group dedicated to protecting and restoring watersheds and wildlife throughout western public lands.

We support solar energy and renewable energy in order to offset the dangerous trends of increasing greenhouse gas emissions. But we have comments on how to better site these utility-scale projects in the places that minimizes impacts to natural and cultural resources of the deserts, analyze alternatives that would avoid impacts to natural communities and sensitive species.

Disorganized Scoping Process

The scoping Notice of Intent for the Crimson Solar Project was released on March 9, 2018 and one meeting was scheduled for April 3rd in Palm Springs. But the Bureau of Land Management (BLM) said the comment deadline was April 9th. As BLM is aware, they are required to accept comments two weeks after the last scoping meeting. BLM later scheduled two additional scoping meetings, the last on April 12th which would have made the comment deadline April 26th. But BLM has a PowerPoint presentation posted on the BLM website saying the comments will be accepted on the 23rd. This is not correct. Plus, the presentation is difficult to locate and BLM never corrected some of their pages that say the comment deadline was extended. The pages still list April 9th as the deadline. Most people will not have the patience or knowledge to know the comment has been extended. BLM refused to post this information after 4 requests from us. BLM should extend this comment period for two more weeks to compensate for the disorganized announcements.

Purpose and Need

The Crimson Solar Project would develop 2,700 acres of Colorado Desert habitat. The project will have impacts on sand transport, Mojave fringe-toed lizards, microphyll woodlands, cultural landscapes, archeology sites, air quality, public health and access and visual resources.

The Purpose and Need Statement should include a need to protect cultural, biological, hydrological, visual, and air quality. The Purpose and Need Statement should also include a need to protect the resources on this site and in Chuckwalla Valley by examining Distributed Generation and Brownfield alternatives.

Any Bureau of Land Management Purpose and Need Statement should not interpret the following orders to justify the project. These orders do not have to apply to the region:

Executive Order 13212 mandates transmission of energy in a *"safe and environmentally sound manner"*. But as we have seen from past approved BLM projects, large environmental

issues have created problems for wildlife, visual resources, cultural resources and many of the projects such as the Ivanpah Solar Electric Generating System Project have not delivered the promised capacity from the developer. Some photovoltaic projects are now curtailed to alleviate an over- generation problem from an the build-out of large-scale solar energy. The environmental impacts need to be considered more strongly, and conservation made a priority.

Secretarial Order 3285A1 is from 2010 and establishes the development of renewable energy as a priority for the Department of Interior (DOI), but it never says how much of that goal has been fulfilled since 2010. Thousands of megawatts of renewable energy have already been built on public lands. This order also does not specifically say that the location of the Crimson Project is required to meet this goal.

The Memorandum of Understanding between California and the DOI is for California Orders AB32 and SBX2. AB 32 requires California to reduce its GHG emissions to 1990 levels by 2020. These orders do not require the renewable energy to come from the Crimson site or even from public lands in general. These goals could be fulfilled with built environment alternatives and brownfield alternatives.

Competitive Processes, Terms and Conditions for Leasing Public Lands for Solar and Wind Energy Development – While this is for all public lands, it was really designed for Solar Energy Zones and similar designations. The Crimson Solar Project application is an old one from Sonoran West Solar Holdings LLC and predates the Western Solar Plan and there are no requirements for the BLM to approve a project based on these orders.

We request that the Purpose and Need statement be rewritten to emphasize BLM's commitments to protect valuable resources on public lands. A solar project of this size cannot avoid impacts to important resources.

The project is home to **BLM Sensitive Species**. The Mojave fringe-toed lizard and the Harwood's milkvetch are two BLM Sensitive Species. The BLM is required to protect BLM Sensitive Species as defined in BLM Manual 6840 (Special Status Species Management). The objectives of the BLM sensitive species policy are twofold, as follows:

> *1. To conserve or recover species listed under the Endangered Species Act of 1973 (ESA; 16 USC, Section 1531 et seq.), as amended, and the ecosystems on which they depend so that ESA protections are no longer needed for these species;*
>
> *2. To initiate proactive conservation measures that reduce or eliminate threats to BLM sensitive species to minimize the likelihood of and need for listing of these species under the ESA.*

The Crimson Solar Project site also will potentially impact species protected under the **Endangered Species Act**. These species include the Desert tortoise and the Yuma clapper rail. The BLM has a commitment to follow guideline of the Endangered Species Act. Signed into law

in 1973, *the original goal of the Endangered Species Act (ESA) was to preserve and recover key domestic species from the brink of extinction.*

Resources on the site are also protected by the **Archeological Resources Protection Act of 1979**. This statute (16 U.S.C. 470aa-470mm; Public Law 96-95 and amendments to it) was enacted:

> *...to secure, for the present and future benefit of the American people, the protection of archaeological resources and sites which are on public lands and Indian lands, and to foster increased cooperation and exchange of information between governmental authorities, the professional archaeological community, and private individuals.*

The **Migratory Bird Treaty Act of 1918** was an *Establishment of a Federal prohibition, unless permitted by regulations, to "pursue, hunt, take, capture, kill, attempt to take, capture or kill, possess, offer for sale, sell, offer to purchase, purchase, deliver for shipment, ship, cause to be shipped, deliver for transportation, transport, cause to be transported, carry, or cause to be carried by any means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird, included in the terms of this Convention . . . for the protection of migratory birds . . . or any part, nest, or egg of any such bird." (16 U.S.C. 703)*

Land Use Plan/ The California Desert Conservation Area: The lands lie within the California Desert Conservation Area legislated under the Federal Land and Policy Management Act (FLPMA). The region is designated as Class M which is designated for a *"controlled balance between higher intensity use and protection"* A variety of uses are listed in this class and the problem is that designating up to 6 square miles as a Right of Way for ONLY solar energy is inconsistent with Class M (Moderate Use) designation. The solar project would be more appropriate on lands with Class I (Intensive Use) designation – that is "lands managed for concentrated use to meet human needs".

The Council on Environmental Quality recently issued guidelines on August 1st, 2016 that urges Federal Agencies to consider the **impact of a proposed project on climate change**. The memorandum urges federal agencies to consider the project's GHG emissions. This should be factored in as the "construction carbon footprint." The amount of C02 sequestration lost in bulldozing the site for construction should also be considered. How much caliche and organic matter will be removed? Please calculate the amount of C02 released by all of this construction using the guidance document.[1]

---

1 https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf

The Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) is a landscape-scale, multi-agency planning effort that protects and conserves natural resources while simultaneously balancing human uses of the California portion of the Sonoran Desert ecosystem. The plan is another layer of California desert conservation and all conservation designations should be reviewed and included in the Crimson Solar Project review.

The Desert Renewable Energy Conservation Plan (DRECP) was approved in 2016 and is now under review again from the current administration. While the project lies in a Development Focus Area, the application predates the DRECP. The region is under no requirement to see this development under the DRECP.

Alternatives

The BLM can justify a No Action Alternative simply by examining the need by utilities for additional utility scale solar projects on public lands. The BLM should also examine the feasibility and problems with a plan to integrate 350 megawatts of battery storage on site.

The Draft Environmental Impact Statement should consider an alternative that utilizes degraded brownfields and distributed generation. Under the National Environmental Policy Act, agencies are required to consider alternatives outside of their jurisdiction. A no large-scale energy alternative can be justified with the California Energy Efficiency Strategic Plan (CEESP). This plan already exists as California state law and it can be fully implemented now.[2] It is a state plan that prioritizes implementing rooftop solar and energy efficiency prior to developing large-scale, remote solar and wind projects.

The Overgeneration Problem in California Due to Large-scale Solar Projects

The Need for this project is questionable, as it adds a large cumulative impact to grid congestion in California. The state is currently experiencing a worsening glut of solar power at peak times on the transmission grid system, as measured by the California Independent System Operator.[3] This has been shown as the Duck Curve, where renewable energy generation exceeds demand in the middle of the day, then causes the need to ramp up generation at the end of the day after the sun sets with inefficient natural gas peaker plants. At times, as much as 13,000 MW is needed in 3 hours in the evening hours, as solar projects go offline at night.

The National Renewable Energy Laboratory (NREL) examined the problem (Denholm et al. 2015, p. 8): "NREL has also examined higher renewable penetration scenarios in California using PLEXOS with a Western Interconnection database derived from the Western Electricity Coordinating Council (WECC) Transmission Expansion Policy Planning Committee (TEPPC), with additional modification based on the LTPP database (Brinkman et al. 2015). The NREL study examined cases where California achieves greater than 50% reduction in electric sector carbon dioxide emissions by 2030 with a variety of renewable energy technologies and flexibility

[2] www.basinandrangewatch.org/DRECP-CEESP-Alternative.html

[3] https://www.caiso.com/documents/flexibleresourceshelprenewables_fastfacts.pdf

assumptions, such as increased export limits and reduced minimum local generation requirements. Total annual curtailment estimates range from 0.2% (with a balanced portfolio in a more flexible grid) to almost 10% (with a high-solar portfolio in a less flexible grid)."

In other words, increased curtailment of solar projects (shutting them off during peak times) is likely under higher penetration of photovoltaics onto the California grid, despite storage options.

With increasing penetration of photovoltaic solar energy onto the grid, will instability problems be alleviated with battery storage?

Can an on-site battery storage project alleviate this problem? How many megawatt-hours of storage will these batteries provide?

Would the battery facility need to be cooled? How much energy would be required to do so? This is a hot desert with summer temperatures reaching 118 degrees F at times. How will this heat affect battery efficiency?

To conserve habitat, the BLM should consider a No Action Alternative based on local small-scale distributed battery technology in urban centers. Battery storage is making advances for smaller-scale solar energy and would not require such a large facility that would need cooling. Batteries will create a waste/recycling issue as well and the BLM should be asking if batteries will be recycled.

Environmental Consequences

Biological Resources

Avian Mortality/Lake Effect

There are some updated numbers that confirm there are significant numbers of bird mortalities found at solar projects. Photovoltaic project companies are turning in many of these numbers. Since the projects are very large, these numbers only likely represent a smaller percentage of what is actually taking place.

Updated information about avian-solar interactions by US Fish and Wildlife Service shows this is a concern. Solar projects can have significant impacts to sensitive species, and those listed under the federal Endangered Species Act.

Data reported and gathered from seven solar projects in the southern California desert and arid grassland habitats from 2012 through April 2016 show that 183 bird species have been killed at solar projects, a number that rises with new information. 3,545 individual birds were reported dead at solar projects, from a mix of incidental finds and systematic surveys (Dietsch 2016). This is likely an underestimate.

Birds that are of concern have been found dead at solar projects, and may be impacted by the Crimson Solar Project, including these Birds of Conservation Concern:

- Federal Endangered/Threatened – Yuma Ridgeway's (Clapper) rail (*Rallus obsoletus obsoletus*), Willow flycatcher (*Empidonax traillii*), and Yellow-billed cuckoo (*Coccyzus americanus*).
- Birds of Conservation Concern – Western grebe (*Aechmophorus occidentalis*), Horned grebe (*Podiceps auritus*), Eared grebe (*P. nigricollis*), American white pelican (*Pelecanus erythrorhynchos*), Burrowing owl (*Athene cunicularia*), and Calliope hummingbird (*Selasphorus calliope*).

Each of these Birds of Conservation Concern has been found in or in the vicinity of Chuckwalla Valley as migrants, permanent residents (in the case of the burrowing owl). Polarized light may attract birds to photovoltaic solar projects as they mistake the panels for water. US Fish and Wildlife Service says many of these birds of conservation concern may be at risk. A dead Blue-footed booby was even found on one of the solar projects south of the Salton Sea in Imperial Valley. For photovoltaic projects, avian mortality is caused by collision and possibly dehydration.

Because the proposed Crimson Solar Project would be situated in a significant location for migrating birds in the Pacific Flyway, we believe that the cumulative impacts that the project will cause along with other solar projects in the region would not be worth the approval of the project.

Desert Kit Fox

Desert kit fox (*Vulpes macrotis*) saw an outbreak of K9 distemper, possibly due to the poor mitigation for the Genesis Solar Project, which is located about 10 miles west of the proposed Crimson Solar Project in Chuckwalla Valley. This should be considered as a major potential impact from developing an energy project here.

Desert Bighorn Sheep and Burro Deer Wildlife Linkage

According to the Fish and Wildlife Service, the area is bordered on the west by the Chuckwalla ACEC, on the south by the Palo Verde Wilderness, and on the north by the Palen-McCoy Wilderness. Current management in the area includes the Mule Mountain Wildlife Habitat Management Area (WHMA) and Bighorn Sheep WHMAs under the Northern and Eastern Colorado Desert Coordinated Management Plan (NECO) and the Mule Mountain ACEC, a cultural resources ACEC. [4]

4

https://www.fws.gov/carlsbad/PalmSprings/DRECP/Appendix%20L_Bureau%20of%20Land%20Management%20Worksheets/Appendix%20L_BLM%20Worksheets%20-%20ACEC_Part5_5.pdf

The area contains wildlife linkage habitat between the Chuckwalla ACEC/ Palo Verde Wilderness and the Palen-McCoy Wilderness. The California Department of Fish and Game has identified the area as being critical for burro deer (*Odocoileus hemionus eremicus*) connectivity in eastern Riverside County.

Under the Northern and Eastern Colorado Desert Coordinated Management Plan the region is currently managed as a Bighorn Sheep Wildlife Habitat Management Area (WHMA) and as the Mule Mountain WHMA.

Special Status animal species

Within the Mule Mountain ACEC include Couch's spadefoot toad (*Scaphiopus couchii*), Mojave fringe-toed lizard (*Uma scoparia*), chuckwalla (*Sauromalus ater*), Townsend's big-eared bat (*Corynorhinus townsendii*), pallid bat (*Antrozous pallidus*), pocketed free-tailed bat (*Nyctinomops femorosaccus*), cave myotis (*Myotis velifer*), occult little brown bat (*Myotis lucifugus occultus*), California leaf-nosed bat (*Macrotus californicus*), fringed myotis (*Myotis thysanodes*), prairie falcon (*Falco mexicanus*), mountain plover (*Charadrius montanus*), Gila woodpecker (*Melanerpes uropygialis*), yellow warbler (*Setophaga petechia*), rosy boa (*Lichanura trivirgata*), Leconte's thrasher (*Toxostoma lecontei*), Yuma mountain lion (*Felis concolor browni),* burro deer, bighorn sheep (*Ovis canadensis nelsoni*), desert tortoise (*Gopherus agassizii*), and Colorado Valley wood rat (*Neotoma albigula venusta*).

The Mule Mountains are known to contain major bat colonies including a maternity roost for California leaf-nosed bats.

Desert tortoise

Desert tortoise are present on the site, especially on the south side up near the Mule Mountains. The project will impact individual animals as well as connectivity habitat.

Mojave fringe-toed lizard

A corridor of sand south of Interstate 10 is the eastern extension of the Palen-Ford sand transport corridor and is Mojave fringe-toed Lizard habitat. The north part of the project site contains the fine-grained sand habitat for this species. Development of the project will have direct impacts to the species as well as disrupt sand transport corridors. A cumulative analysis should be prepared for the impacts of this project as well as for all the other projects being built in the region. About 100 Mojave fringe-toed lizards were killed for the Devers Palo Verde Transmission Project in the region.

Microphyll Woodlands

Southern portions of the proposed project area contain extensive significant microphyll woodland and known habitat for several rare species including the California State Endangered Gila woodpecker. Microphyll woodland is a NECO sensitive plant community. The Draft EIS should consider impacts the California State Endangered Gila woodpecker and the Endangered elf owl (*Micrathene whitneyi*).

Visual Resources

The project will be visible from the Mule Mountains ACEC and the McCoy Mountains Wilderness Area. It will also be visible from residential areas. Due to the immense size of the project, impacts to VRM Class I and 2I standards should be analyzed in the Draft EIS.

VRM Class I Objective: To preserve the existing character of the landscape. Allowed Level of Change: This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.

VRM Class II Objective: To retain the existing character of the landscape. Allowed Level of Change: The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

East Riverside Solar Energy Zone/Development Focus Area

While this zone has been approved, BLM did a poor job on analyzing the region in the Solar Programmatic Environmental Impact Statement and Desert Renewable Energy Conservation Plan. The Crimson Solar Project should be reviewed with a full 90 day Environmental Impact Statement.

Socio-Economics/Environmental Justice

How will the project impact property values and quality of life of adjacent residents in Mesa Verde? Will the dust impact their health? Will the project hurt property values? A full analysis of the negative impacts this project would have on the community should be prepared.

Cultural Resources

The project would be located adjacent to the Mule Mountain Area of Critical Environmental Concern which was designated to protect cultural resources. The visual impacts of the project should be evaluated as a threat to the "cultural landscape" of the region.

The Mule-McCoy Linkage area has shown to be rich in cultural resources. Transportation and trade trails follow the bases of the mountains and branch out across the valley floors

interconnecting the mountain range routes. Out in the valley center where wind-blown sand moves across the flats, these trails lose their physical visage but remain marked by their artifact scatters, such as pot drops (ceramic sherd scatters), lithic scatters, rock features, and isolated groundstone artifacts. Cremation sites are often revealed as dune sands move about. Desert Pavement features are extremely stable and preserve artifacts *in situ* for thousands of years.

Nearly all of the sites recorded in the area as prehistoric have been described as having potential for subsurface manifestation. In addition to their individual research potential properties, the distribution of many of these sites in conjunction with other prehistoric sites recorded between Desert Center and Blythe may provide links between vestiges of the Coco-Maricopa trail system as well as clues to activities associated with transportation along that route. As such, these sites could be considered as part of a complex archaeological district that would include evidence of trade, travel, interaction among the several cultural groups associated with the area (Cahuilla, Chemehuevi, Mojave, Serrano), resource use along travel routes, seasonality of habitation, and trail spurs between the primary coastal-interior route and the springs and associated rock art sites in the bordering mountain ranges.

Nextera's mitigation for cultural resources destruction for the Genesis Project has had extreme shortcomings. The project destroyed an entire archaeological village site on Ford Dry Lake. Preliminary surveys were apparently inadequate to detect this.

The BLM will need to consult with the Cahuilla, Chemehuevi, Mojave, and Serrano nations to address their concerns. Many of these people feel the entire region is a "cultural site" including the view-scape, the water and the biological resources.

Conclusion

Please select a No Action/No Project Alternative for this project. It will add to the cumulative impacts that so many of these large-scale projects have caused in the region. There are several, more environmentally friendly alternatives to this kind of development in our deserts.

Sincerely,

Kevin Emmerich

Director
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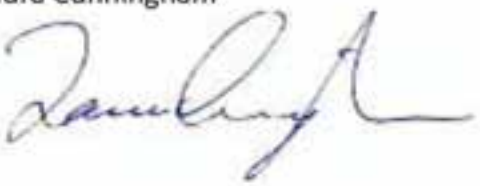
Laura Cunningham



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November 2015

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Prepared under Task No. TM13.5020

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Abstract

In 2013, the California Independent System Operator published the "duck chart," which shows a significant drop in mid-day net load on a spring day as solar photovoltaics (PV) are added to the system. The chart raises concerns that the conventional power system will be unable to accommodate the ramp rate and range needed to fully utilize solar energy, particularly on days characterized by the duck shape. This could result in "overgeneration" and curtailed renewable energy, increasing its costs and reducing its environmental benefits. This paper explores the duck chart in detail, examining how much PV might need to be curtailed if additional grid flexibility measures are not taken, and how curtailment rates can be decreased by changing grid operational practices. It finds that under business-as-usual types of assumptions and corresponding levels of grid flexibility in California, solar penetrations as low as 20% of annual energy could lead to marginal curtailment rates that exceed 30%. However, by allowing (or requiring) distributed PV and storage (including new installations that are part of the California storage mandate) to provide grid services, system flexibility could be greatly enhanced. Doing so could significantly reduce curtailment and allow much greater penetration of variable generation resources in achieving a 50% renewable portfolio standard. Overall, the work described in this paper points to the need to fully integrate distributed resources into grid system planning and operations to allow maximum use of the solar resource.

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1 Introduction

In 2013, the California Independent System Operator (CAISO) published a chart showing the potential for "overgeneration" occurring at increased penetration of solar photovoltaics (PV).[1] The "duck chart"[2] shows the potential for PV to provide more energy than can be used by the system, especially considering the host of technical and institutional constraints on power system operation.

During overgeneration conditions, the supply of power could exceed demand, and without intervention, generators and certain motors connected to the grid would increase rotational speed, which can cause damage. To avoid this, system operators carefully balance supply with demand, increasing and reducing output from the conventional generation fleet.[3] The overgeneration risk occurs when conventional dispatchable resources cannot be backed down further to accommodate the supply of variable generation (VG). Overgeneration has a relatively simple technical solution, often referred to as curtailment. Curtailment occurs when a system operator decreases the output from a wind or PV plant below what it would normally produce. For wind, this is performed by changing the energy captured from the wind (by changing the blade pitch angle) (Aho et al. 2012). For solar, generation is curtailed by either reducing output from the inverter or disconnecting the plant altogether. This of course requires a plant or system operator to have physical control of the generation resource, which is typically available for large renewable power plants but uncommon for smaller systems, particularly distributed or rooftop systems. While curtailment is technically easy, it has the obvious undesirable trait of reducing the economic and environmental benefits of VG. Each unit of VG curtailed represents a unit of energy not sold on to the grid and a unit of fossil fuel not avoided. As the amount of curtailment increases, the overall benefits of additional solar may drop to the point where additional installations are not worth the cost (Cochran et al. 2015).

Neither the potential for overgeneration, nor the resulting curtailment of variable generation resources is a new concern (Bird et al. 2014). However, the significant attention paid to the duck chart signals an important change in attitude toward integration of variable generation (VG). The duck chart represents perhaps the first major acknowledgement by a system operator that solar energy is no longer a niche technology (at least in California) and that curtailment will be a significant issue in the not-too-distant future. The chart has also raised general awareness of the issues associated with renewable curtailment and system flexibility.

The duck chart is largely illustrative in nature, representing only one day of the year, and it does not quantify the actual curtailment that may occur at increased penetration of solar energy. Nor does the chart reflect the impact of mitigation options.

In this work, we examine how the duck chart shape illustrates potential overgeneration risks in California at increased penetration of PV. We first review previous analyses of the impact of PV

[1] https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf
[2] The name is derived from its resemblance to the profile of a duck.
[3] Throughout this document, we use the term system operator to refer to the balancing area authorities responsible for balancing supply and demand through generator scheduling and dispatch. In California, the largest of these is the CAISO, but there are several other system operators, including Los Angeles Department of Water and Power, Imperial Irrigation District, Balancing Authority of Northern California, and Turlock Irrigation District.

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on load in California and potential PV curtailment at increased penetration. We then use a production cost model to quantify the amount of overgeneration that can result from the increased PV without measures to increase system flexibility. Finally, we show how the duck shape can be accommodated with different measures to increase flexibility—including flexibility that is provided by the PV itself under appropriate market rules—and how overgeneration risks can be dramatically reduced by introducing multiple flexibility measures.

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2 Background: Why Ducks Lead to Overgeneration

The CAISO duck chart itself illustrates the general challenge of accommodating solar energy and the potential for overgeneration and solar curtailment. In the chart, each line represents the net load, equal to the normal load minus wind and PV generation. The "belly" of the duck represents the period of lowest net load, where PV generation is at a maximum. The belly grows as PV installations increase between 2012 and 2020. While the amount of PV in 2020 is not shown directly, it can be estimated by comparing the 2012 curve to the 2020 curve. In this case, the normal load (i.e., no PV and adjustments for load growth) at about 1-2 p.m. on March 31, 2020 appears to be about 22,000 megawatts (MW), while PV is generating about 10,000 MW, leaving about 12,000 MW to be met with other resources. In this case, PV provides perhaps 45% of the total demand in this one hour. The duck chart also points to the period of overgeneration risk, which could result in curtailed energy.

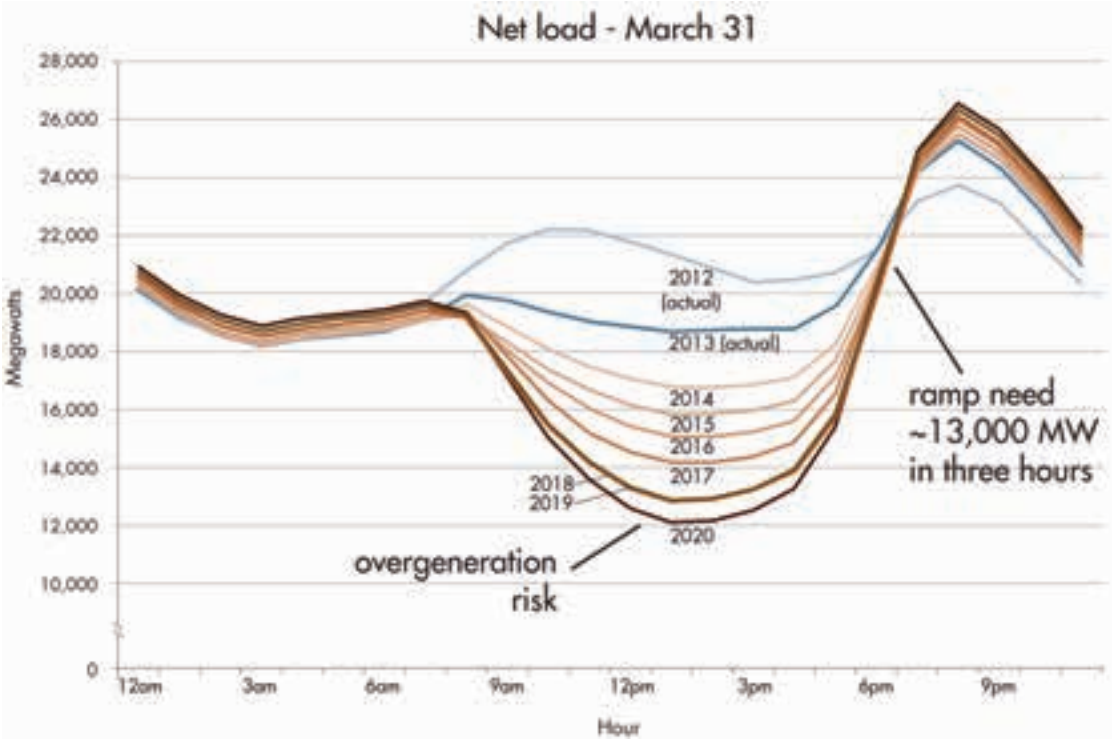

Figure 1. The CAISO duck chart

Source: CAISO 2013

The CAISO duck chart document does not explicitly quantify the amount of expected curtailment during this period, but it describes two main causes:

> The first occurs as the ISO [independent system operator] prepares to meet the upcoming upward ramps [using conventional generation] that occur in the morning and in the late afternoon. The existing fleet includes many long-start resources that need time to come on line before they can support upcoming ramps.

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> Therefore, they must produce at some minimum power output levels in times when this electricity is not needed.[4]

The second source of overgeneration and curtailment "occurs when output from any non-dispatchable/must-take resource further increases supply in times of low electricity need, typically in the nighttime hours. Historically, this condition was most likely to occur in the early morning hours when low demand combines with electricity and generation brought on line to prepare for the morning ramp." This second challenge includes the need to accommodate output of all generation resources such as wind and hydro, and plants that produce heat and electricity. Overgeneration can also result from "must-run" plants that are needed for local voltage support and reliability issues, and also from a number of institutional constraints, such as long-term contracts and self-scheduling from certain power plants (GE Energy 2015; Bouillon 2014).

Combined, these issues create an operational challenge which can be described as the "minimum generation" problem which represents the technical and economic limits of thermal and hydro power plants to reduce output or turn off, especially during relatively short periods, such as the few hours of peak solar output. Other factors can produce curtailed VG, including transmission constraints, and at increased penetration of VG, conventional generators that must be online to maintain system stability. (This latter issue is discussed in Section 6).

Because of the economic challenges posed by curtailment, it becomes important to examine how much curtailment may occur, as well as methods to reduce curtailment. The ability to accommodate VG is largely determined by the flexibility of the power grid, and flexibility can be changed over time. Examining the relationship between system flexibility and curtailment can help determine the potential contribution of solar to meeting the energy requirements of a region such as California.

[4] https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

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3 Previous Analysis of the California Duck and Estimates of Overgeneration

There are a number of discussions of the California duck chart, and several estimates of curtailment that may result in California from increased penetration of PV. Several of these discussions are part of larger planning and integration studies that consider broader impacts of VG on the system (e.g., system economic and environmental benefits), areas of operational challenges (e.g., additional reserve requirements), and integration costs. Integration studies, along with general grid planning studies use grid-simulation tools that model the operation of the entire generation fleet (Sterling et al. 2013). These have a number of names, including "production cost" and "security-constrained unit commitment and economic dispatch" models (Denholm et al. 2014).[5]

We use the term production cost model (PCM) to represent the class of models that simulate the chronological operation of the power grid, determining which power plants to commit and dispatch during each time interval on the basis of forecasted fuel costs, heat rates and other operational characteristics. In each time interval, the model selects the least-cost mix of generators needed to meet load while maintaining adequate reserves to meet contingency events and other reserve requirements. Such models typically simulate the grid for one year of operation in 8,760 one-hour time steps. PCMs calculate the total cost of system operation, including cost of fuel and cost of operation and maintenance.[6] To model the grid realistically, these tools require extensive databases of generator properties, transmission capacity, and system operational requirements, such as reserve requirements. In theory, a properly designed and implemented PCM simulation should produce results (such as generator dispatch, emissions, and total production costs) close to the dispatch resulting from the market operations or dispatch software used by independent system operators or balancing areas to actually control the grid. However, PCMs cannot completely simulate market environments because they typically do not capture self-scheduling, bilateral contracts, scarcity pricing, bidding strategies, and other factors that can alter system dispatch from the "least-cost" dispatch produced by a model.

An early attempt to model the increased penetration of PV in California using a production cost model is Denholm et al. (2008). This work uses the PROSYM PCM and demonstrates a "proto-duck" chart showing a deep drop in mid-day net demand (Figure 2) that is similar to that in the CAISO duck chart. The net load during this two-day period is from slightly later in the spring (May 6–7), and with the higher solar output, represents the lowest net load of any point during the year. Despite the lower net load and higher ramp range compared to the CAISO duck chart, this analysis did not demonstrate any significant overgeneration or PV curtailment. This is due to a variety of favorable assumptions, including "frictionless" exchange of energy with the surrounding regions without restrictions other than the thermal limits of the transmission network. At the highest level of penetration, nearly half of the incremental PV generation in

[5] Various entities, including independent system operators use these models to simulate system operations for planning purposes. However these are a number of differences between how these models work and the market management software used for actual unit commitment and dispatch. An example is the generation of the commitment and dispatch "stack" (or merit order). Production cost models use plant-level estimates of variable costs while ISO operations use market bids from individual generators

[6] Production cost models only consider the variable costs of operating the system. Fixed costs (capital costs, fixed O&M) are not considered.

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California is displacing out-of-state generation. In addition, while the model did include standard generator parameters (e.g., minimum generation and start-time constraints), it did not consider any institutional, contractual, or local reliability constraints that may exist within California.

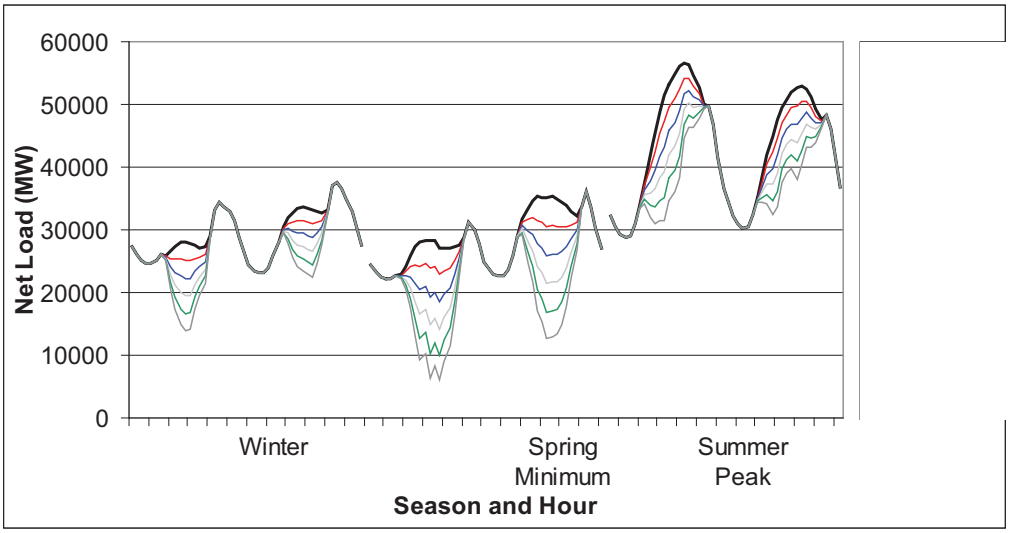

Figure 2. "Proto-duck" chart of California net load with increased penetration of PV

Source: Denholm et al. 2008

The 2013 duck chart and much of the concern regarding overgeneration originates with a series of studies published by the CAISO (CAISO 2010, 2011a, and 2011b, Liu 2014a, 2014b and 2014c) and by emergence of negative prices in the CAISO market driven in part by growth in wind generation (CAISO 2012). The CAISO studies have examined the impacts of an increasing renewable portfolio standard (RPS) starting with 20%, increasing to 33%, and then 40%, and they have demonstrated increasing levels of overgeneration risk. These studies use the PLEXOS production cost model, which is one of several commercially available grid simulation tools. CAISO produces and maintains a database for this model as part of the Long-Term Procurement Plan (LTPP).[7] This database includes generator-level details of California's electricity sector as well the rest of the Western Interconnection. The CAISO has made its PLEXOS databases publicly available, and in addition to California utility studies (Mao and Galjanic 2014), several non-utility research groups have used them directly or in modified forms to analyze sensitivities to various assumptions. Table 1 summarizes several of the previous analyses using some form of the LTPP model.

[7] http://www.cpuc.ca.gov/PUC/energy/procurement/LTPP/ltpp_history.htm

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Table 1. Previous Studies Using the Long-Term Procurement Plan Database

Study Lead Organization	Cite	Study Focus
CAISO	CAISO 2011a, CAISO 2011b Liu 2014a, 2014a	Multiple studies of a variety of renewable portfolio standards considering production cost, fuel use, emissions, system flexibility requirements and other factors
Argonne National Laboratory	Koritarov et al. 2013	Value of advanced pumped hydro storage
NREL	Denholm et al. 2013	Value of concentrating solar power
Lawrence Livermore National Laboratory	Edmunds et al. 2014	Value of multiple storage options and demand response
DNV KEMA (now DNV-GL)	Abrams et al. 2014	Value of multiple storage technologies
NREL	Jorgenson et al. 2014	Impact and value of multiple solar technologies
Southern California Edison	Mao and Galjanic 2014	Operational flexibility and flexible capacity requirements
Union of Concerned Scientists	Nelson 2014, Nelson and Wisland 2015	Multiple aspects of VG integration including options to minimize overgeneration

Several of the studies listed in Table 1 have identified the impact of various individual technologies on the duck chart shape of net load. For example, Jorgenson et al. (2014) examined the impact of two different solar technologies on imports into CAISO under increased VG penetration, as illustrated in Figure 3.

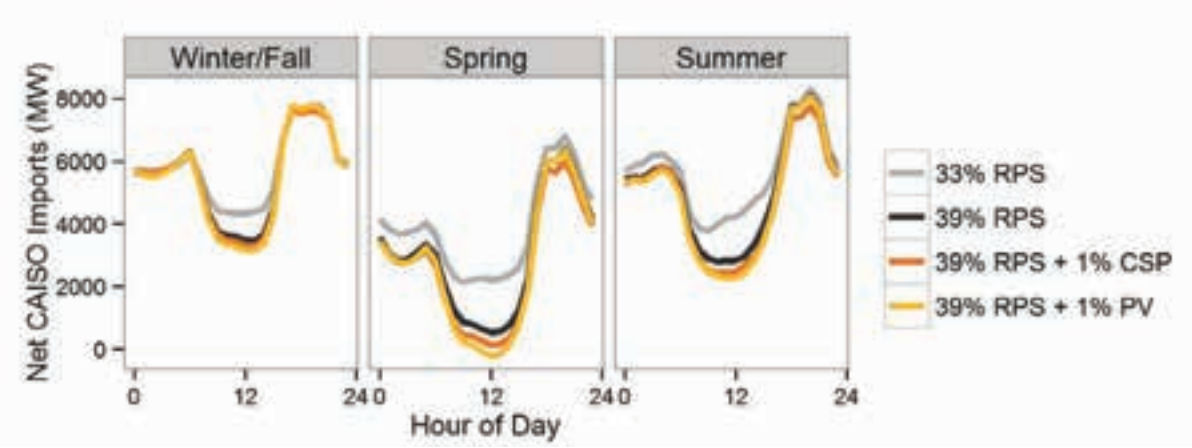

Figure 3. Example of an analysis of the impact of concentrating solar power (CSP) on the duck chart shape

Source: Jorgenson et al. 2014

Other groups have used the versions of the LTPP database to examine how increased grid flexibility could be used to minimize curtailment and enable higher levels of renewable penetration. For example, the Union of Concerned Scientists modified the LTPP database to simulate how increased flexibility could substantially reduce overgeneration risk in 40% and 50% RPS scenarios (Nelson 2014; Nelson and Wisland 2015).

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Figure 4 illustrates an example from a 50% RPS scenario, where increasing the amount of "non-fossil" sources of flexibility—including demand response, storage, provision of reserves from renewables[8], and exports—reduced curtailments by more than 75% compared to a base "inflexible" scenario and by 63% compared to a flexible gas scenario (Nelson and Wisland 2015). This figure shows an example day where adding flexibility options, including providing reserves with non-conventional resources, can reduce the minimum generation needed from hydro and gas generation, thereby reducing renewable curtailments.

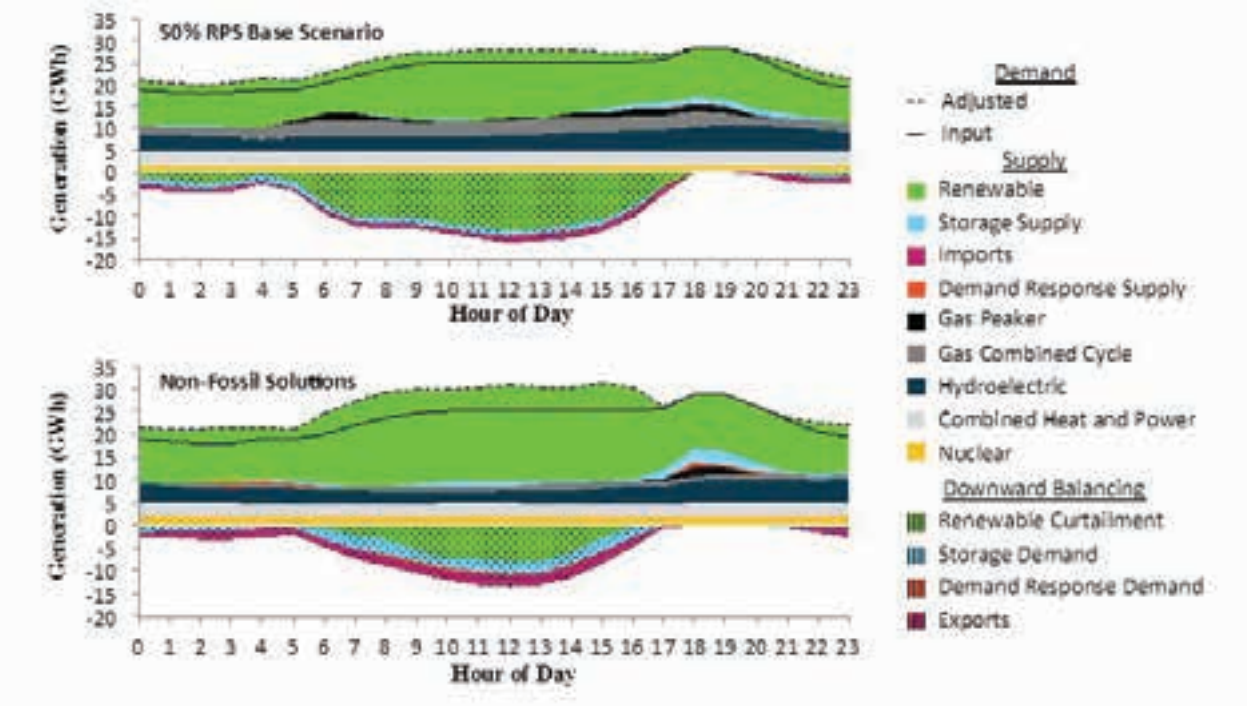

Figure 4. Example of the impact of changing system flexibility on demand shape and curtailment from an analysis by the Union of Concerned Scientists

(modified from Nelson and Wisland 2015)

Similarly, NREL has also examined higher renewable penetration scenarios in California using PLEXOS with a Western Interconnection database derived from the Western Electricity Coordinating Council (WECC) Transmission Expansion Policy Planning Committee (TEPPC), with additional modification based on the LTPP database (Brinkman et al. 2015). The NREL study examined cases where California achieves greater than 50% reduction in electric sector carbon dioxide emissions by 2030 with a variety of renewable energy technologies and flexibility assumptions, such as increased export limits and reduced minimum local generation requirements. Total annual curtailment estimates range from 0.2% (with a balanced portfolio in a more flexible grid) to almost 10% (with a high-solar portfolio in a less flexible grid).

Other modeling tools have been applied to examine the impact of PV on overgeneration in California. A study by Energy & Environmental Economics (E3 2014) using the ProMaxLT production cost model examined RPS levels higher than the previous CAISO studies. It

[8] Reserves from renewables, as discussed in later sections, involves using curtailed VG energy to provide upward reserve capacity, which is traditionally provided by partially loaded conventional generation.

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identified a significant increase in solar curtailment, particularly when mitigation options are not deployed. In one 50% RPS scenario evaluated (with PV penetration equal to about 26%), about 8.9% of available RPS energy is curtailed. The E3 study also observed that at the point that PV achieves this high level of penetration, the marginal curtailment (reflecting the curtailment rate of the last unit of PV added to the system) is as high as 65%. Figure 5 provides an example from the E3 study showing a duck-shaped chart with a significant hump representing overgeneration.

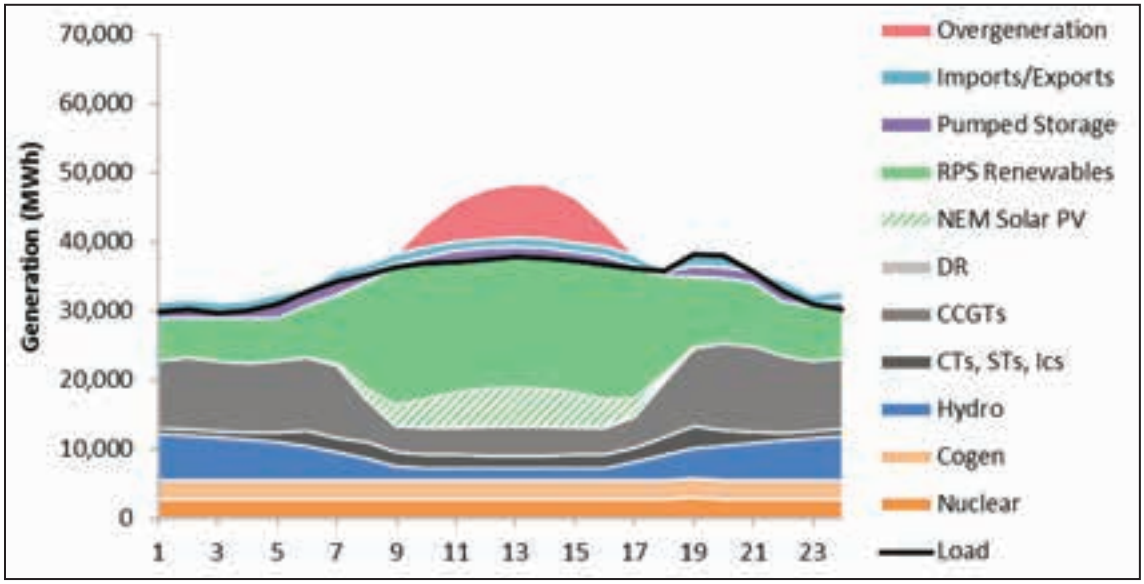

Figure 5. Example of an analysis of the impact of high VG on net load shape and resulting overgeneration

Source: E3 2014

This list includes only studies that have used commercial production cost models; however several other studies demonstrate the challenges associated with PV overgeneration in California. These include a study by Mills and Wiser (2012) that examines the overall decrease in value of PV as a function of penetration including the impacts of overgeneration, and a follow-on analysis that examines the impact of mitigation strategies including energy storage and demand response that effectively change the net load shape (Mills and Wiser 2014).

Finally, an extensive discussion of the duck chart shape and mitigation approaches is provided by Lazar (2014). While the analysis does not perform detailed operational simulations or estimate curtailment, it does provide a conceptual framework for changing the duck chart shape and flattening the net load through a total of 10 strategies including multiple types of energy storage and load shifting/demand response. An example of the analysis is provided in Figure 6, where the original duck shape is "streamlined" with the likely result of decreasing overgeneration and increasing the ability to integrate greater amounts of PV. Other discussions of mitigation options include Lew et al. (2015).

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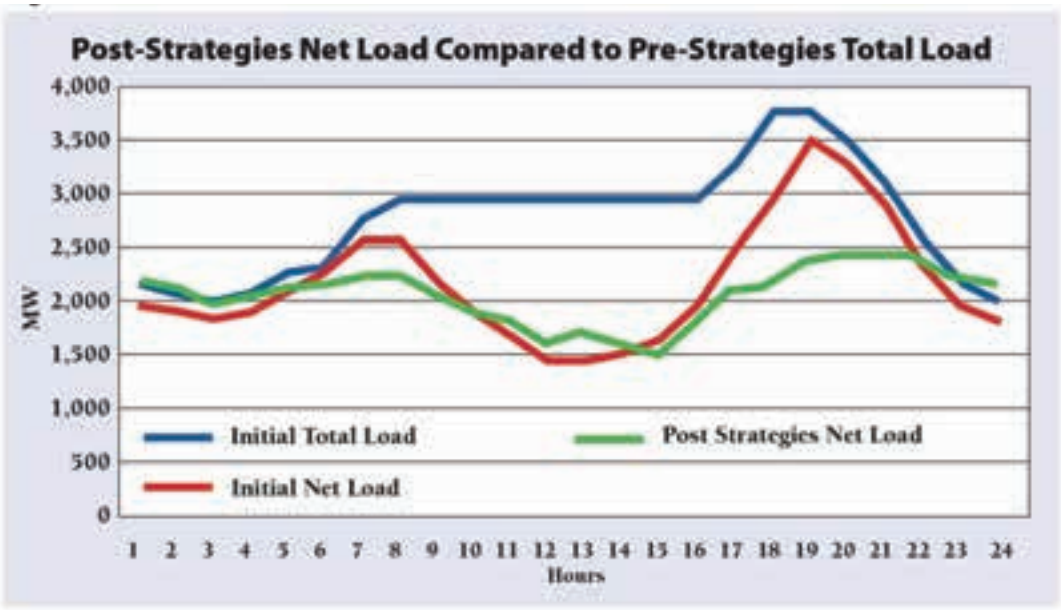

Figure 6. Example of an analysis of how the duck curve shape can be modified to minimize overgeneration

Source: Lazar 2014

It should also be noted that the impact of PV on net load and corresponding overgeneration risk have been studied in other parts of the United States, including Texas (Denholm and Margolis 2007), the entire Western Interconnection (GE 2010; Lew et al. 2013), and the Eastern United States (Bloom et al. 2015).

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4 Study Methods and Data

The goal of this study is to explore the duck curve in detail and identify the overgeneration and curtailment challenges associated specifically with increased deployment of solar energy in the California system. The study uses the PLEXOS production cost model[9] to simulate grid operation with as more PV is added. It examines curtailment and considers how curtailment may change with alternative operational practices and technology deployment scenarios. The modeling framework and methods in this study are derived from the California 2030 Low Carbon Grid Study (Brinkman et al. 2015). The dataset for the analysis is based on a combination of the WECC TEPPC 2024 Common Case and the CAISO 2014 LTPP PLEXOS dataset. This dataset represents the power system in the entire Western Interconnection, while representing the California power system (transmission and generation) in more detail. Hurdle rates are included in the model based on the WECC 2024 Common Case to represent friction between balancing authorities. The analysis and results in this document represent all of California, including CAISO and the municipal utilities in California that are not part of CAISO.

The renewable generation is based on profiles developed for the Western Wind and Solar Integration Study and refined for Phase 2 of that study (Lew et al. 2012). The analysis performed hourly unit commitment and dispatch for 1 full year of simulation; however, sub-hourly renewable profiles were used to generate the day-ahead reserve requirements for up regulation and upward flexibility reserves.[10]

We begin by considering a scenario where wind provides about 11% of California's electricity. This represents a modest growth; in 2013, California generated 12.7 terawatt-hours (TWh) from wind in-state and imported another 12.7 TWh of wind for a total of 25.4 TWh, which provides about 8.6% of the total demand (296.6 TWh).[11] We also assume a total of about 1,900 MW of concentrating solar power (CSP), which provides about 1.5% of total demand. Most of this CSP capacity does not have thermal storage, so it is considered a variable generation resource for this analysis. Other qualifying renewables (geothermal, biomass, and small hydro) provide about 13.6% of total demand. As a result, our initial (base) scenario represents a renewable potential of about 36%, not including large hydro. To this base system, we incrementally add PV to analyze the progression of the duck chart shape and the resulting overgeneration, considering various changes to grid operation and conditions that can effect the net load shape. Table 2 summarizes the scenarios analyzed including renewable potential (before curtailment), and reserve requirements.

[9] Plexos V6.4 R01 x64 using the Xpress-MP 26.01.04 solver with a MIP relative gap of 0.5%

[10] Following Brinkman et al. (2015), we do not enforce a downward reserve constraint, under the assumption that downward reserves can easily be provided by curtailing renewable energy generation during times when downward reserves are called. This assumption needs further analysis considering the actual curtailment that would result when using renewables for down reserves.

[11] http://energyalmanac.ca.gov/electricity/total_system_power.html and http://energyalmanac.ca.gov/electricity/electricity_generation.html

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Table 2. Summary of PV Penetration Scenarios Evaluated

Solar Pre-Curtailment Potential Scenario (%)	Total Solar (PV + CSP) Potential (GWh)	Total Pre-Curtailment RPS Potential (%)	Annual Regulation Up Requirement (GW-hr)	Annual Flexiblity Up Requirement (GW-hr)
11%	35,331	36.0%	3,499	10,590
15%	46,473	39.6%	3,671	11,089
18%	56,438	42.7%	3,947	11,651
21%	66,155	45.8%	4,282	12,240
24%	77,329	49.4%	4,718	12,947
31%	98,964	56.3%	5,652	14,361
37%	119,682	62.9%	6,607	15,746

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5 Results: Base "Most Conservative" Case

We begin with an exploration of PV curtailment in a case with a set of conservative assumptions about power system operation based on a "2015 grid" without enhanced grid flexibility. These assumptions include:

- Wind and solar cannot provide upward reserves.
- No net exports of electricity from California are allowed and at least 70% of California owned or contracted generation (including Hoover, Palo Verde and certain renewable generation) from outside of the state must be imported.[12]
- Up to about 1.3% of peak demand (as much as about 900 MW during periods of peak demand) can be shifted via economic demand response programs.[13]
- No new storage is installed beyond what is in service in 2015.[14]
- Twenty-five percent of all generation within certain zones must be met with local thermal or hydro generation.[15]
- Diablo Canyon remains online as a baseload (non-dispatchable) generator. The plant does not contribute to the 25% local generation requirement.[16]
- Instantaneous penetration of VG (including PV, wind, and CSP without thermal energy storage) is limited to 60% of the normal load.

It should be noted that the CAISO does not include the 60% penetration limit in their formulation of the LTPP model; this limit is based on concerns stated in the CAISO duck chart fact sheet, indicating that at 60% penetration:

> the grid may not be able to prevent frequency decline following the loss of a large conventional generator or transmission asset. This situation arises because renewable generators are not currently required to include automated frequency response capability and are operated at full output (they can not increase power). Without this automated capability, the system becomes increasingly exposed to blackouts when generation or transmission outages occur.[17]

[12] Following Brinkman et al. (2015) we allow non-imported VG to meet the California renewable requirement through the purchases of unbundled renewable energy credits (RECs). In the very high penetration cases described in the results, up to about 2% of renewable energy is not directly imported and acquired through RECs.
[13] This value is about equal to the existing "price response" demand response available from the three investor-owned utilities in CAISO, as reported in the "Demand Response Monthly Reports" at (www.cpuc.ca.gov/PUC/energy/Demand+Response/Monthly+Reports/2015_DR.htm).
[14] The impact of storage mandated by California State Assembly Bill 2514 is discussed in the Section 6.
[15] In the database from which this study is derived (the Low Carbon Grid Study from Brinkman et al. 2015), the zones that require the 25% local generation limit are SDGE, SCE, PG&E (Valley Zone), and LADWP, which account for 77% of all California load. For additional analysis of the impact of the local generation requirement, see Nelson (2014) and Brinkman et al. (2015).
[16] This is a conservative assumption based on the fact that nuclear power plants typically do not vary load to provide operating reserves.
[17] https://www.caiso.com/Documents/FlexibleResourcesHelpRenewables_FastFacts.pdf

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We added this limit to our base case explicitly to examine its impact and the importance of changing grid operations to allow greater penetration of VG at any moment in time.
The combination of constraints on system operations can result in significant overgeneration, particularly in the spring. Figures 7–11 demonstrate the drivers behind overgeneration and PV curtailment in greater detail. Figure 7 shows the normal load, wind, and solar (combined PV and CSP) profiles in a scenario with the potential to meet 11% of annual demand from wind and 11% of the annual demand from solar (9.5% from PV and 1.5% from CSP). This figure is for March 29, which is two days before the CAISO duck chart but actually the "worst" day in terms of PV-driven overgeneration for the load and PV demand patterns for this particularly meteorological year across all of California. (Because of the relatively low load, the potential generation from VG on this day is about 18% from solar and 16% from wind.) The figure also shows the resulting net load that would need to be met by the remaining generation fleet, assuming all solar and wind generation could be used. In this example, the new minimum load point (of about 7,700 MW) is shifted from 4 a.m. to noon.

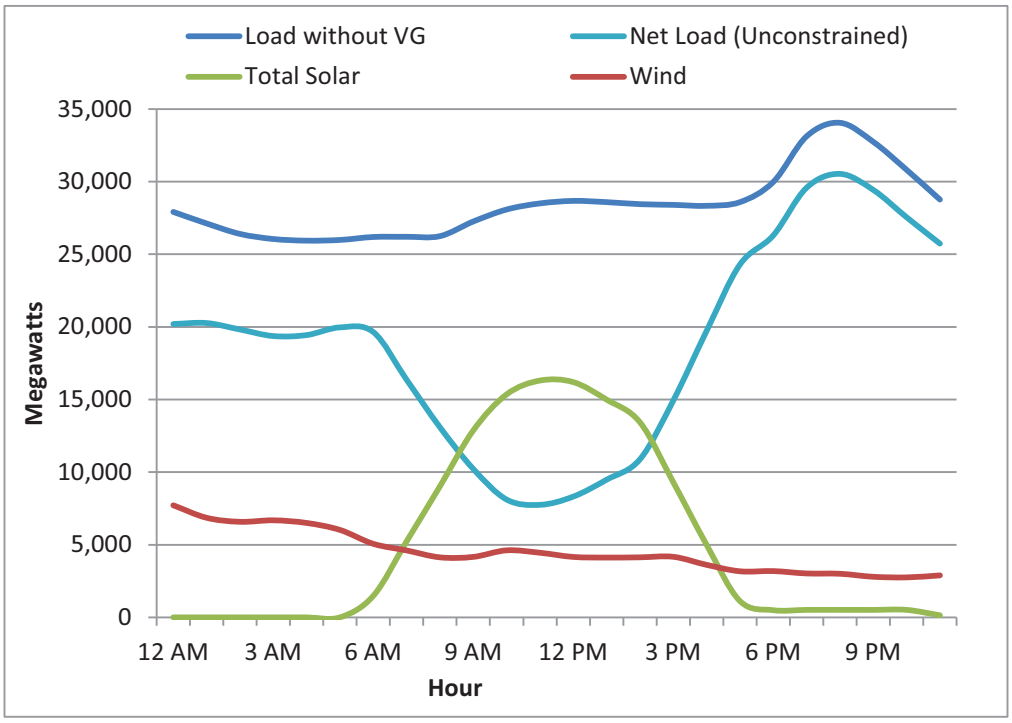

Figure 7. Load, solar, and wind profiles for California on March 29 in a scenario with 11% annual wind and 11% annual solar assuming no curtailment

The net load shown in Figure 7 does not consider the operational constraints that actually occur in the dispatch, and these constraints do not allow all renewable energy potentially generated on this day to be used.

The remaining figures in this sequence are from the results of the power system simulation. Figure 8 shows the net load resulting from the VG that can actually be used in the simulated system. In this case, the net load met by conventional generation is not allowed to drop below about 12,600 MW. This represents a California system-wide minimum generation constraint, meaning on-line generators in California—and certain contracted generators outside California—

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cannot reduce output to below this level, considering the individual generator parameters and system limitations described at the beginning of this section.[18]

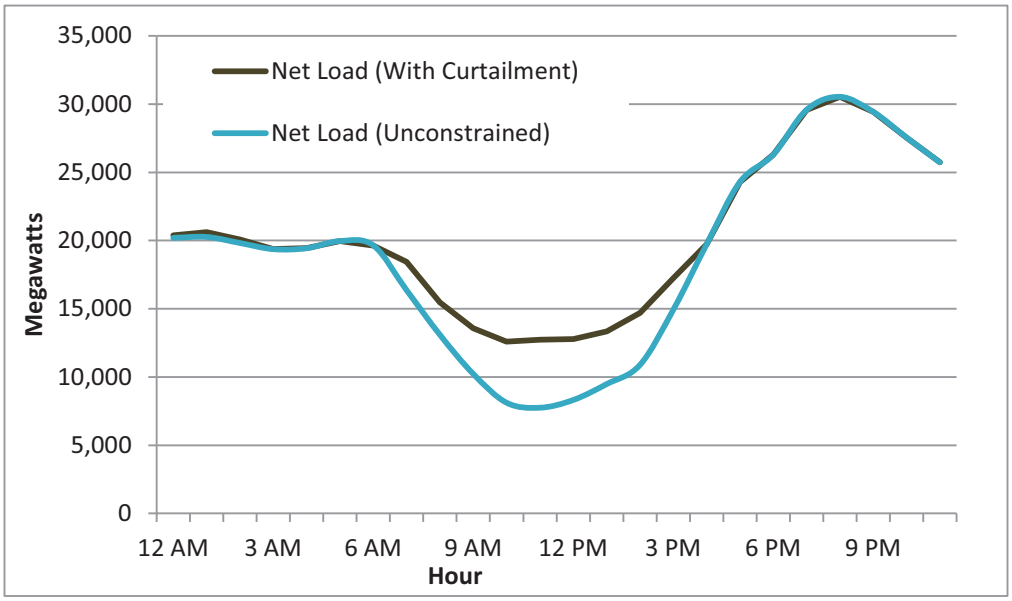

Figure 8. Modeled net load in California on March 29 in a scenario with 11% annual wind and 11% annual solar in a system with a 60% instantaneous penetration constraint

These constraints result in curtailed energy, illustrated in Figure 9, which includes the combined VG potential, the amount of VG used by the system to meet load, as well as the curtailed VG. Curtailment is defined as any VG that cannot be used for any reason. Overall, about 5% of the potential wind and solar energy on this day is curtailed. However, during most days, higher mid-day load does not produce a dramatic duck-curve shape and there little or no curtailment. Over the entire year, about 0.2% of VG is curtailed.

[18] This minimum generation value is already below a CAISO-only estimate of the lowest net load point of about 15,000 MW in the current system (Bouillon 2014). The lower minimum generation point in this analysis results from several factors including greater flexibility from customer-owned cogeneration assumed in the LTPP model. The LTPP model also does not include fixed-scheduling contractual limitations on plant dispatch. Also, Diablo Canyon unit 2 was out for maintenance on this day in the simulation, which removed 1,122 MW of non-dispatchable capacity. The net load in the system is less than 15,000 MW during only 12 hours of the year in this simulation.

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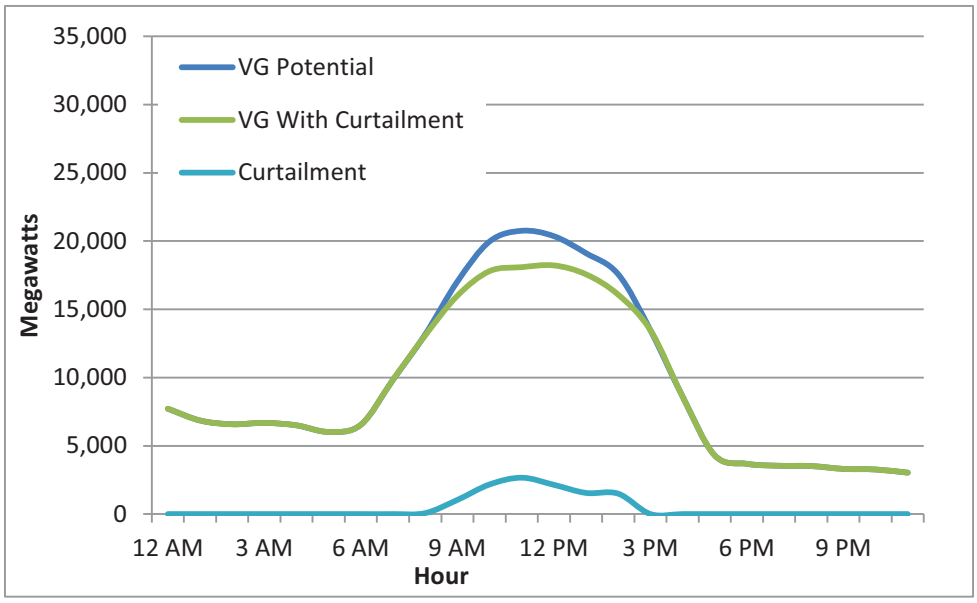

Figure 9. Used and curtailed VG in California on March 29 in a scenario with 11% annual wind and 11% annual solar

Figure 10 shows how the 60% instantaneous penetration limit results in overgeneration and curtailed VG. The bottom curve shows the instantaneous penetration of VG from the model, while the top curve shows the theoretical penetration if all VG could be used. In this case, the VG potential exceeds the 60% threshold for four hours.[19] In this scenario, the vast majority (about 95%) of all curtailment occurs during periods where the potential VG penetration would exceed 60%. During a few hours of the year there is curtailment at VG penetration levels significantly below 60%, indicating that ramping constraints might force some curtailment. However the total amount of curtailment during these periods is very small compared to the amount created by the 60% limit. While the average net load ramp rate increases, the existing system appears to be sufficiently flexible address these ramp rates. The normal load (without additional VG) achieves a maximum hourly upward ramp rate of 6,721 MW/hr on December 22th at 5 pm. In the 11% annual solar case, only 5 hours of the year demonstrate net load ramp rates that exceed this value, with the maximum net load ramp rate of 7,379 MW/hr. The maximum upward ramp rate on the duck curve day is 3,142 MW/hr. Analysis in later sections evaluates the relationship between a lower penetration limit and possible ramp rate constraints at higher PV penetration.

[19] The actual penetration of VG is slightly less than 60% because the constraint does not consider a small amount of schedulable load within the model.

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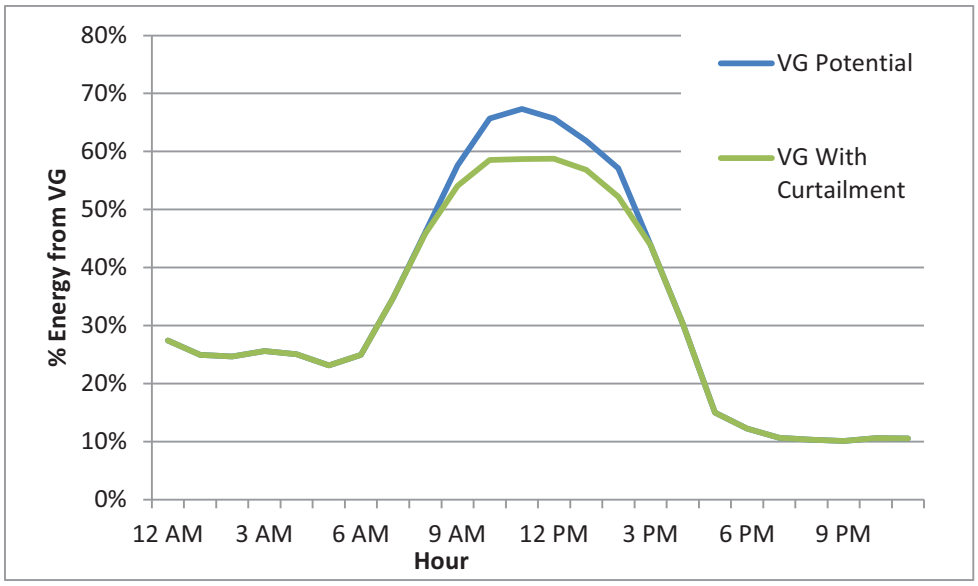

Figure 10. Instantaneous penetration of VG on March 29 with and without curtailment in a scenario with 11% annual wind and 11% annual solar

Of note in these results is the use of existing pumped storage in the California system, which represents a total of 2,518 MW of generation capacity[20] including 2,264 MW of schedulable pumping load that can be used to increase total demand during periods of high solar output.

Figure 11 shows the simulated storage pumping load that occurs, and how storage results in an increase in VG used. As noted previously, because this conservative base case considers grid conditions that approximate those of 2015, this simulation does not consider the 1,325 MW of additional storage that will be deployed as part of the California storage mandates, which is evaluated in later sections.

[20] These values are for the four existing California pumped storage plants in TEPPC common case (Castaic, Eastwood, Helms, and Lake Hodges). The CAISO LTPP model has a combined capacity of 2,728 MW for these four plants.

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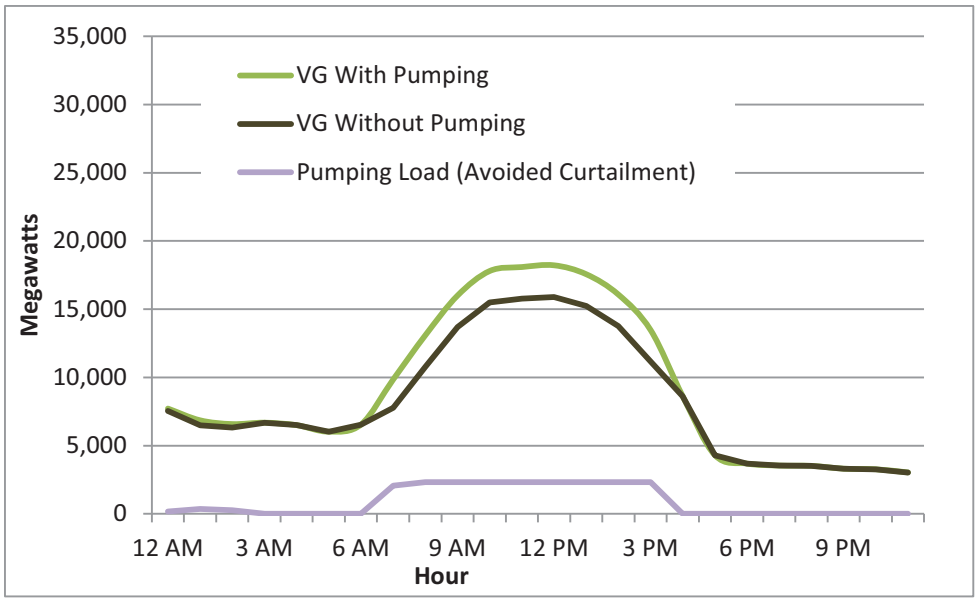

Figure 11. Increase in VG use resulting from schedulable pumped storage in a scenario with 11% annual wind and 11% annual solar

On most days of the year, significant additions of PV are possible without causing significant curtailment. Figure 12 duplicates Figure 7, but for July 27, the day with the highest demand (note the scale change on the y-axis due to the significant increase in demand). On this day, there is no VG curtailment, and instantaneous penetration is well below the 60% threshold, as illustrated in Figure 13.

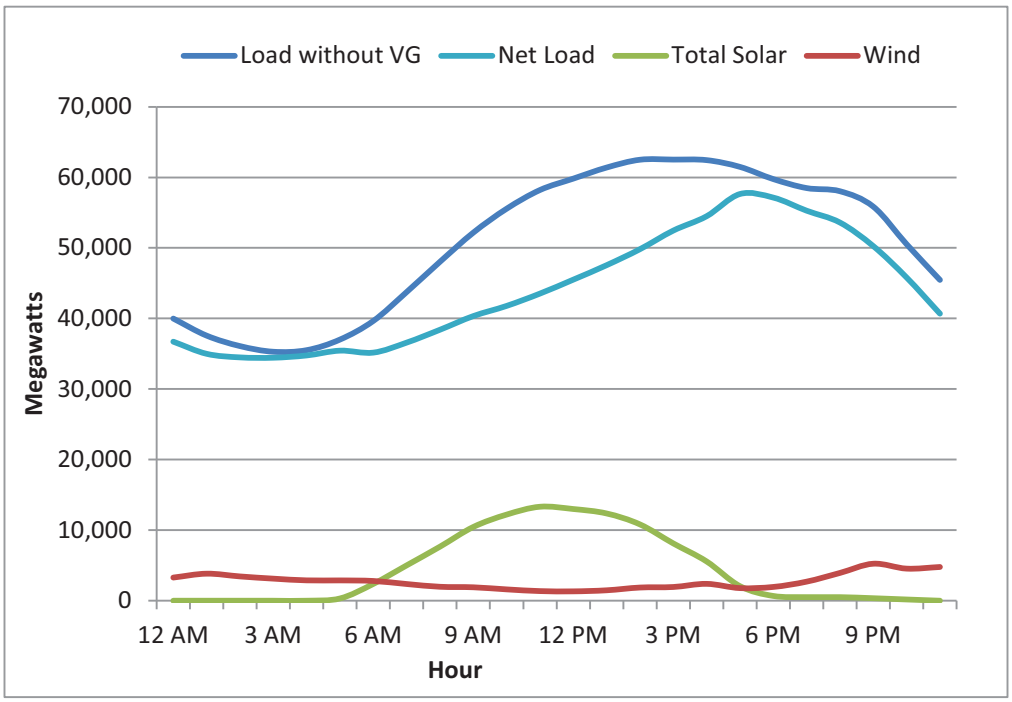

Figure 12. Load, solar, and wind profiles for California on July 27 in a scenario with 11% annual wind and 11% annual solar

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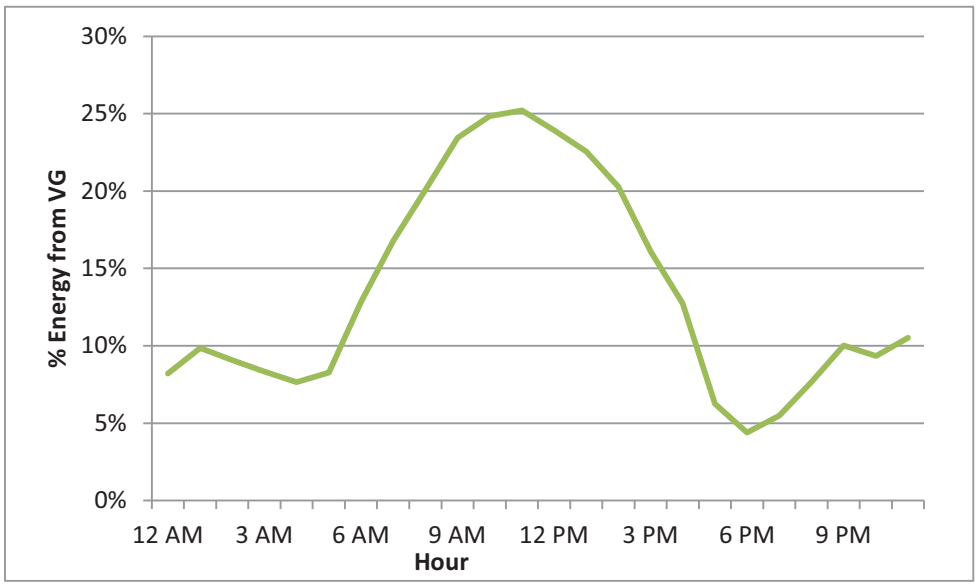

Figure 13. Instantaneous penetration of VG in California on July 27 in a scenario with 11% annual wind and 11% annual solar

The duck chart figures show the challenge of additional PV penetration without increasing system flexibility. Adding PV to help reduce the use of peaking capacity on July 27 also produces more energy on March 29. Without flexibility changes that will allow additional units to reduce output or be de-committed, only a relatively small amount of additional PV generation can be accommodated on March 29 (during the shoulder periods in the morning and evening). And as more PV is added, there will be a greater number of days with associated PV curtailment.

Figures 14–16 show the progression of the duck curve and associated overgeneration as additional PV is added. Figure 14 shows what the net load would be on March 29 without curtailment in both the base case illustrated previously and a case where we add sufficient PV to meet 15% of total annual demand (pre curtailment). In this case, the pre-curtailment net load drops significantly, to below 5,000 MW.

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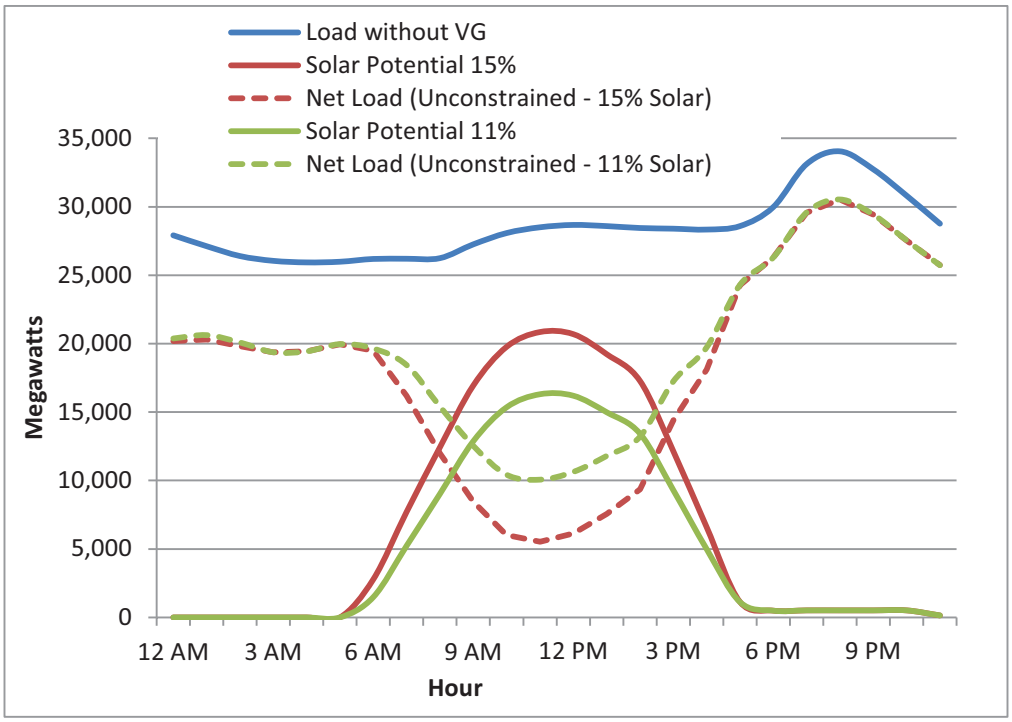

Figure 14. Load in California and VG Profiles on March 29 in a scenario with 11% and 15% annual solar assuming no curtailment

While Figure 14 shows the belly of the duck growing as more solar as added, the net load changes very little at the higher PV penetration due to the 60% penetration constraint in the base case. Figure 15 shows how the belly of the duck curve is prevented from growth due to this constraint, and very little additional PV can be used in the simulated system on this day. Figure 16 shows the hourly curtailment and the used PV in the two cases. At the lower penetration, nearly all the PV (95%) is used on this day, but in the case with additional PV, most of this additional PV is curtailed. Only a small amount of PV in the morning and late afternoon is actually useful, and the total curtailment on this day increases from 5% to about 13%. However, the marginal curtailment on this day, or curtailment of the additional PV added to the system between the two scenarios is about 65%. This illustrates the importance of differentiating the total curtailment and incremental, or marginal curtailment of PV. On an annual basis, the total curtailment increases from 0.2% to 0.9%, while the marginal curtailment is 5.5%.

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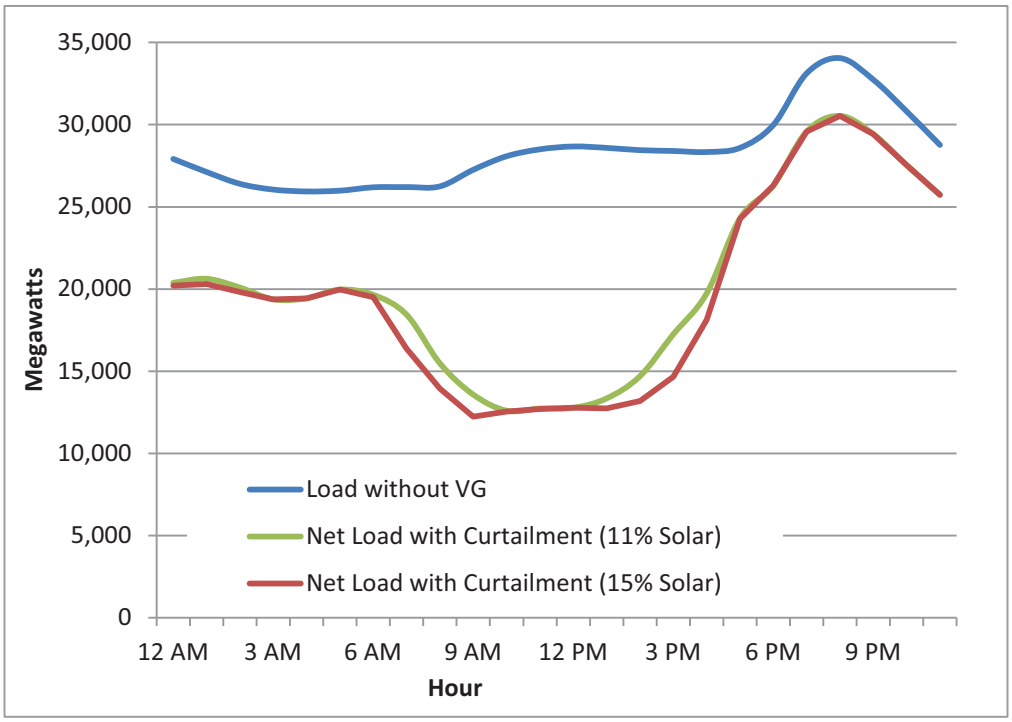

Figure 15. Net load on March 29 in a scenario with 11% and 15% annual solar considering operational constraints

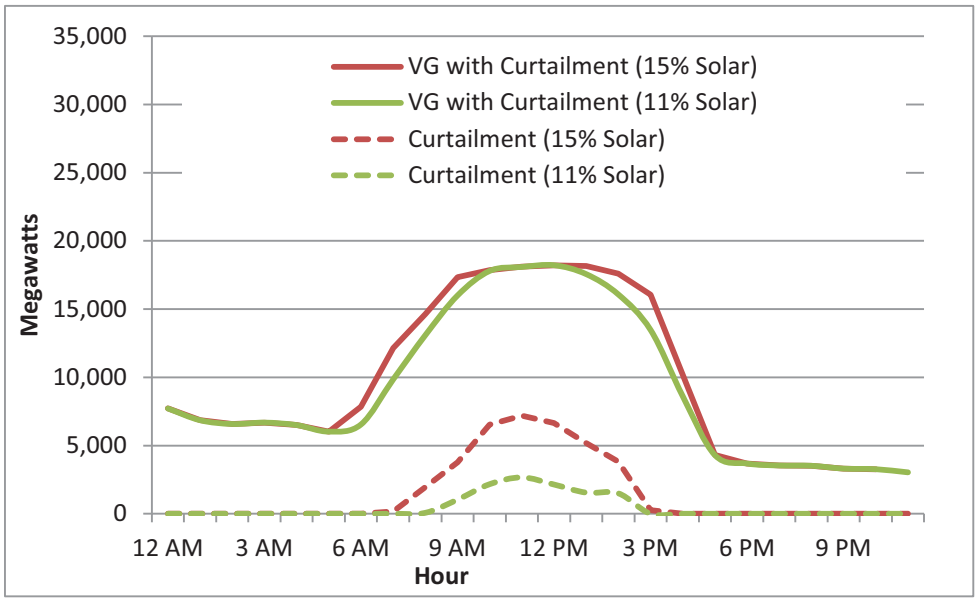

Figure 16. Usable and curtailed VG on March 29 in a scenario with 11% and 15% potential annual solar

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As even more PV is added to the system, more days acquire the duck shape, and overgeneration increases. Figure 17 illustrates the resulting fraction of variable generation curtailment due to overgeneration as a function of penetration. The bottom x-axis shows the total penetration of solar energy sources (PV plus CSP), while the top x-axis shows the penetration eligible renewable resources (solar plus wind, geothermal, biomass, and small hydro). Only PV is added and the overall penetration is defined as the annual contribution of renewable energy to the total energy demand in California,[21] after removing curtailed energy.

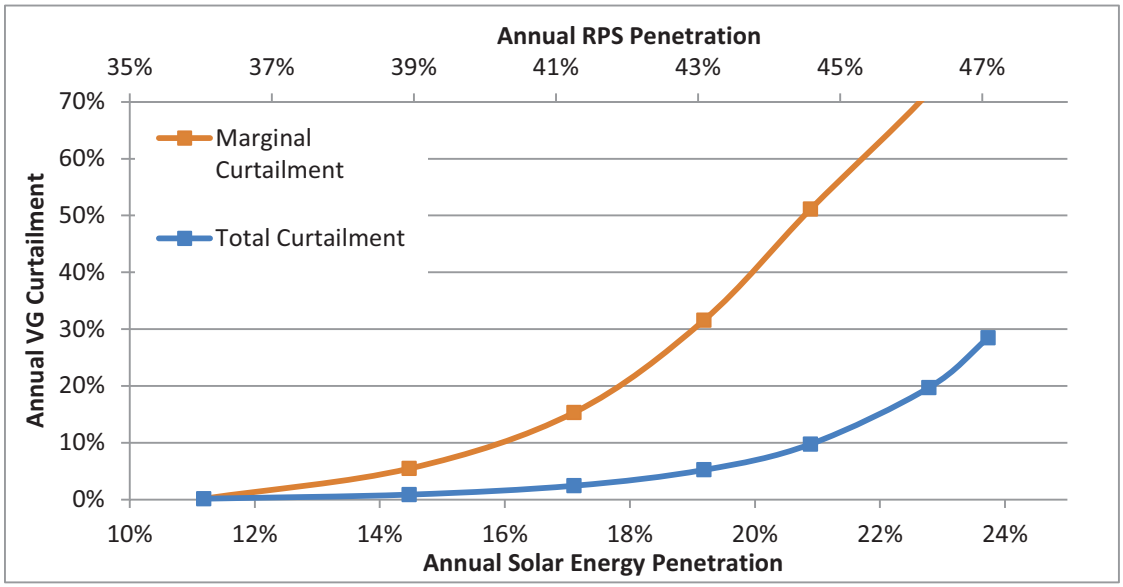

Figure 17. Marginal and average curtailment due to overgeneration under increasing penetration of PV in California with a 60% instantaneous penetration limit

The rapid increase in marginal curtailment rates as a function of PV penetration is a significant limitation for PV to remain competitive with other sources of low-carbon energy once it achieves a certain penetration (in this case perhaps 15%–20% of annual demand). This challenge can be observed by examining the impact of curtailment on the levelized cost of energy (LCOE) of PV. As curtailment increases, and capacity factors decrease, the LCOE increases. This is illustrated in Figure 18, which provides PV LCOE as a function of penetration for the base case scenario. In this figure, the PV cost is based on the DOE solar program goal of an LCOE equal to six cents per kilowatt-hour. This goal is largely dependent on being able to actually use all the energy available from PV and on minimizing curtailment.

[21] Where the total demand is equal to the consumer demand plus storage losses associated with pumped hydro

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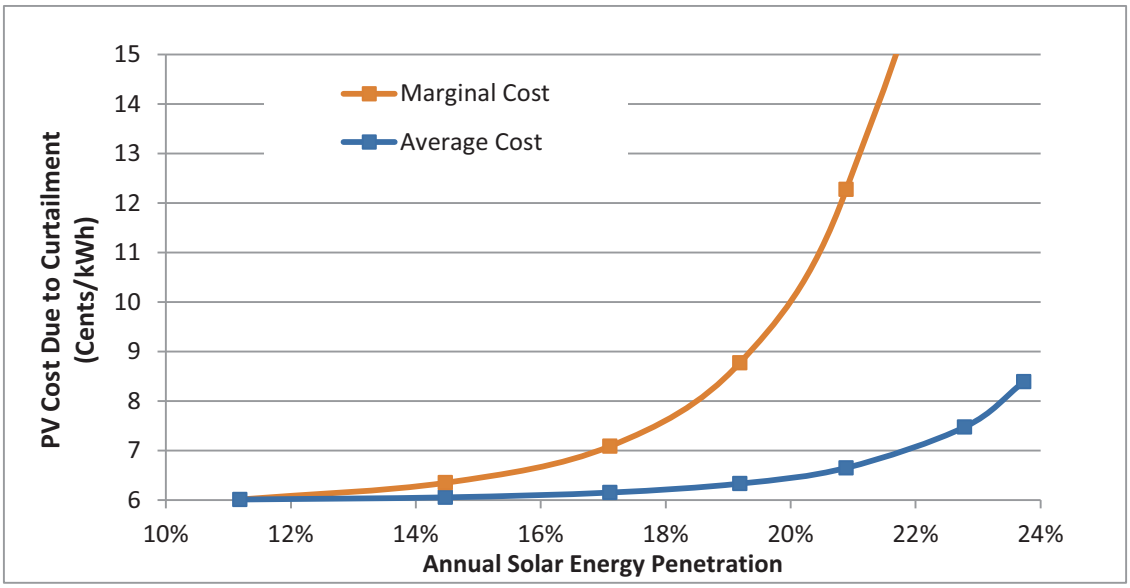

Figure 18. Marginal and average PV LCOE (based on SunShot goals) due to overgeneration under increasing penetration of PV in California with a 60% instantaneous penetration limit

Figure 18 shows the importance of examining marginal curtailment rates. While average rates can remain relatively low, marginal rates determine the cost and value of adding the next unit of solar to the grid. Actual investment decisions may be driven by these marginal values, with actual allocation of curtailment driven by a variety of factors, including local grid conditions, the underlying contractual agreements with suppliers, production tax credits, and other regulatory issues. It should be noted that in Figure 18 all incremental curtailments of non-zero cost renewable energy resources (CSP, wind, hydro, and geothermal) were assigned to PV. For example, if at the lowest penetration of PV there is no curtailment of wind, and when PV is added wind is curtailed, this wind curtailment is actually assigned to PV for accounting purposes.

The very high marginal curtailment rates of PV observed in Figure 17 would likely limit contribution from solar without changing system operation to accommodate variable generation resources. Examination of the duck curve provides insights into how improved flexibility can both accommodate and change the net load shape and increase penetration of solar energy resources.

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6 Enabling Greater Solar Penetration: Flatten or Fatten the Duck?

Accommodating greater amounts of PV will likely require multiple approaches to increasing the overall flexibility of the power system. Previous work by the CAISO (Bouillon 2014) and other groups (listed in Section 3) suggest many individual approaches, but these can be summarized by two more general approaches, which we illustrate below as *fattening* the duck and *flattening* the duck.

Fattening the duck represents all approaches that increase the flexibility of the grid and allow greater instantaneous penetration of variable generation resources. Typically, this means (1) changing operational practices to allow more frequent cycling, unit starts and stops, and (2) minimizing the amount of thermal units held at part load by improving accuracy of VG forecasts and not holding excessive reserves. This also means allowing VG to provide operating reserves and other services that stabilize system frequency (Gevorgian et al. 2015). These changes can reduce the overall system-wide minimum generation requirement, and they allow the natural belly shape of the duck to grow larger and provide a greater fraction of the normal load during periods of high solar output.

Figure 19 illustrates the change in minimum generation requirements that would be needed to eliminate curtailment on our lowest net load day in the 15% solar penetration scenario. The net load in this figure is from the constrained system illustrated in the previous section (Figure 15). In this case, the system's minimum generation point of about 12,600 MW results in significant curtailment. If the system were able to operate at a lower minimum generation level (about 5,400 MW), curtailment would be eliminated.

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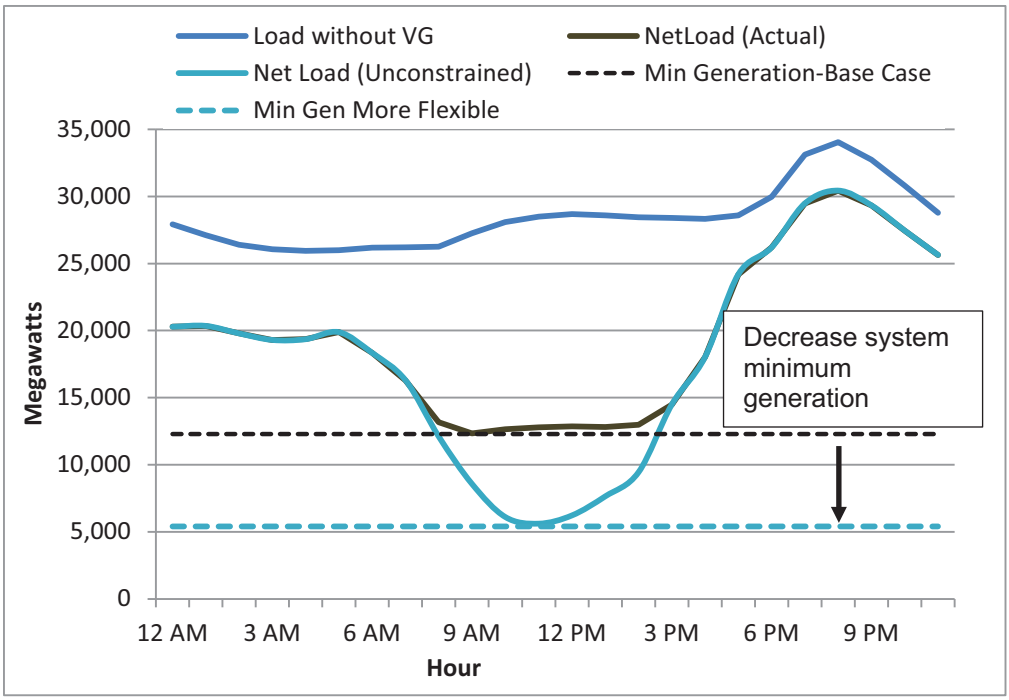

Figure 19. Accommodation of increased penetration of PV by reducing system minimum generation requirements and fattening the duck

Alternatively, flattening the duck acts to shrink the belly shape by shifting supply/demand patterns to allow solar energy to meet parts of the load that would not normally be provided in the middle of the day. This includes either shifting load via responsive demand or shifting supply by the use of energy storage (Lazar 2014).

Figure 20 illustrates the amount of load shifting that would be required to eliminate curtailment. In this example, we keep the 12,600 MW minimum generation level associated with the 60% instantaneous penetration limit. We add load (from shiftable demand or storage) with timing and amounts that exactly match curtailment of PV. As much as 7,200 MW of additional demand or storage charging would be required to eliminate all curtailment in this case. The impact of load shifting/storage is shown on both the normal (no VG) load (the top curve) as well as the net load with VG. On the normal load, additional demand produces a "hump" on the back of duck. This stored energy will be used later (or demand later in the day will be shifted earlier), reducing demand in the evening (represented by the flat line where the load has been reduced). The impact on the net load is to increase the net demand to the minimum generation level, with the added benefit of reducing peak demand in the late evening.

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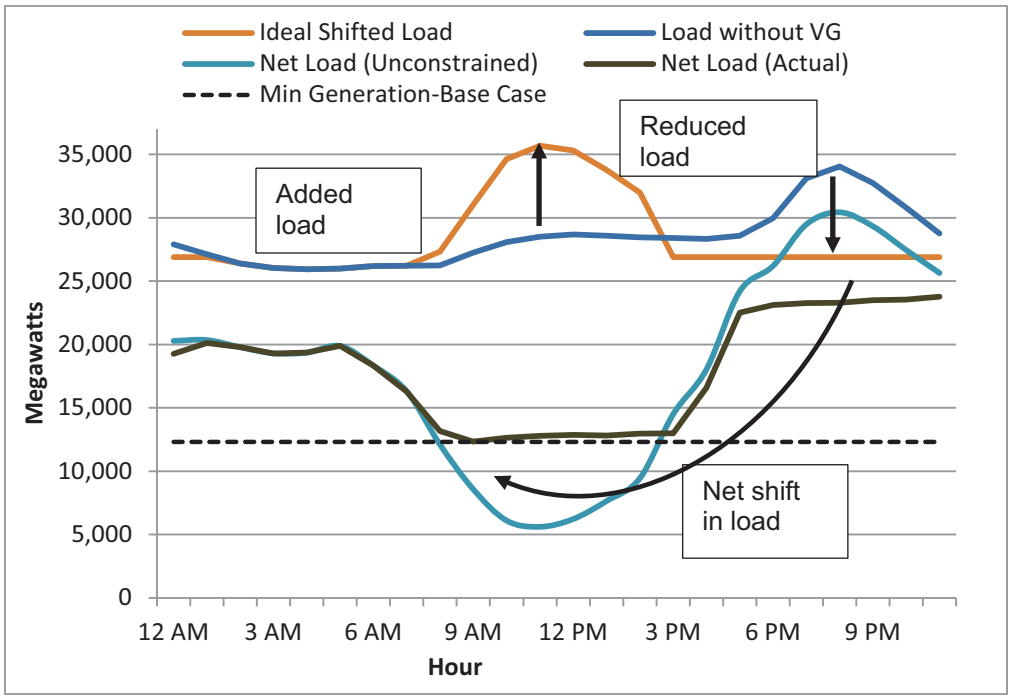

Figure 20. Accommodation of increased penetration of PV by flattening the duck (increasing mid-day demand)

Increased penetration of PV can occur by applying either approach individually, but the greatest impact will occur when the approaches are applied collectively.

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7 The Impact of Improved System Flexibility

Increasing Instantaneous Penetration and the Impacts of the California Storage Mandate

The base case analyzed in Section 5 does not consider several grid changes that will likely occur by 2020 that will help reduce the impact of solar generation on grid operations. Among these changes is the deployment of new energy storage. In October 2013, the California Public Utilities Commission (CPUC) finalized Decision 13-10-040, which adopts procurement targets and requirements for 1,325 MW of "viable and cost-effective" energy storage systems by 2020, as directed by the California State Legislature in 2010 (CPUC 2010; CPUC 2013).

This new storage can help accommodate increased use of VG by shifting load and flattening the duck. We consider the addition of 1,290 MW of storage, following the modeling assumptions of the TEPPC 2024 database.[22] The size and characteristics roughly follow CPUC R.13-12-010 and include 550 MW with two-hour discharge duration, 520 MW with four-hour discharge duration, and 220 MW with six-hour discharge duration. The devices are assumed to have 83% round-trip efficiency and are distributed among the three California investor-owned utility zones in accordance with the storage mandate. We assume all of the storage added is optimized by the system operator to minimize the overall cost of system operation and can provide multiple services including provision of reserves.[23] This is a critical assumption, and it would require optimization either (1) directly by a system operator in the case of utility-scale storage or (2) indirectly through real-time pricing or other mechanisms that would optimize behind-the-meter storage. Figure 21 illustrates how this additional storage shifts load to flatten the duck and reduce curtailment. This figure shows the normal load from the 15% PV case and load with the additional storage. The resulting curtailment is also shown, and is compared to the case without the added storage.

[22] The 40-MW Lake Hodges plant is eligible for the storage mandate, and it existed in the base case, so the additional storage is less than the 1,325-MW requirement.

[23] This is a deviation from the current assumptions in the LTPP model, which assumes a mix of transmission, distribution, and customer sited storage, of which only a fraction can provide reserves (Liu 2014a).

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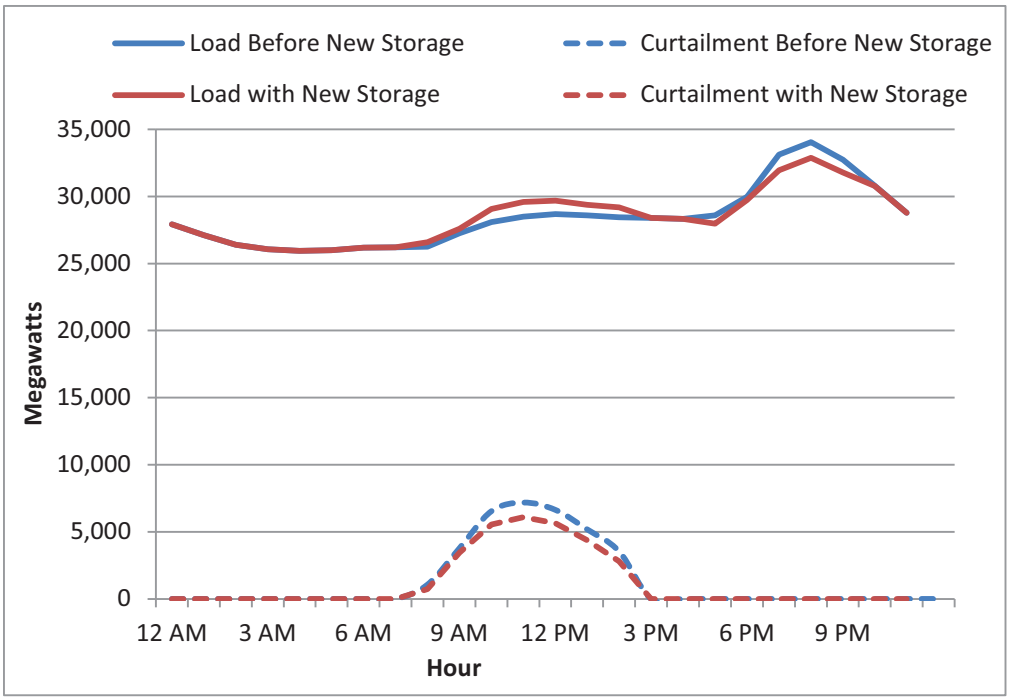

Figure 21. Impact of flattening the duck on March 29 with 1,285 MW of added storage in a scenario with 15% annual solar

The amount of avoided curtailment in Figure 21 is relatively modest, but it does not consider a potentially even greater benefit of distributed storage by provision of grid flexibility services. By providing these services (including grid stability), storage can help reduce the need to run partially loaded thermal generation to provide reserves.

The previous section shows the significant impact of the 60% instantaneous penetration limit, which creates the flat belly on the duck curve and results in significant overgeneration. While we impose the 60% limit in our base case, the CAISO LTPP model imposes a 25% local generation limit, which requires 25% of local load in all hours to be met by conventional generators (which we also include in our base case in the previous section). Renewables, demand response, and storage are ineligible in the CAISO model to meet this requirement. The motivation for this limit is described as:

> The constraint is necessary for the balancing authority to comply with the NERC control performance standards. A balancing authority must have at least 25% of its internal generation on-line with adequate available capacity for dispatch or risk non-compliance. Within the CAISO's footprint, a contingency that results in the tripping of Path 26 would separate the north from the south. Without a minimum amount of generation in southern California, there is a risk that the CAISO could completely lose the load if Path 26 were to open.[24]

[24] Liu 2014a

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The common theme behind these concerns is the ability of a system operator to maintain system stability, including voltage stability and frequency stability.[25] While there is little direct experience in operating grids in the United States with extremely high levels of instantaneous VG penetration,[26] studies suggest a variety of approaches to maintaining system stability under increased VG penetration. One example is Phase 3 of the Western Wind and Solar Integration Study (WWSIS-3) (Miller et al. 2014), which examined frequency and transient stability at instantaneous VG penetrations of up to 53% across the Western Interconnection and 62% in California. The study simulated the frequency declines after severe disturbances, and found that at the levels of penetration simulated, the system was able to maintain enough primary frequency response to avoid under-frequency load shedding (blackouts). The study also concluded that the use of active power controls in wind turbines and PV could improve frequency response, which could allow greater instantaneous penetration of VG. Currently available wind turbines are now being deployed that can provide active power control, including both synthetic inertia and primary frequency response. Wind turbines can draw stored energy from the rotor to help arrest a frequency decline, or they can be operated at reduced output during periods of high VG penetration to provide primary frequency (governor) response. PV can also provide these services, although both require curtailment.

Fast-responding energy storage, such as batteries and flywheels, can provide rapid response to grid events. The amount of new storage in the California storage mandate significantly exceeds the WWSIS-3 estimated frequency response obligation for California, and WWSIS-3 found that a relatively small amount of storage (less than that in the California storage mandate) could provide significant benefits across the entire Western Interconnection.

As active power controls become more common on renewable generators, and if the system operator has greater control over the new storage being installed in California, these resources could be employed to replace the services now provided by conventional thermal resources.

To demonstrate how commercially available grid flexibility options can effectively fatten the duck, we consider a case where control of distributed resources allows for increased instantaneous penetration of VG. We also allow curtailed wind and solar to provide upward regulation, contingency, and flexibility reserves. While this provides a system benefit, we do not count curtailment that provides upward reserves as "used" energy. However this has a small impact as curtailed VG typically provides less than 4% of the total reserve requirement (During hours of large curtailment, there is typically a significant amount of partially loaded hydro or thermal plants that can provide upward reserves.)

[25] A summary of stability issues is provided by Kundur et al. (2004). They give the following definitions: "Voltage stability refers to the ability of a power system to maintain steady voltages at all buses in the system after being subjected to a disturbance from a given initial operating condition" and "Frequency stability refers to the ability of a power system to maintain steady frequency following a severe system upset resulting in a significant imbalance between generation and load."

[26] In October 2014, the Xcel service territory in Colorado provided 61.1% of demand with wind, which was partially enabled by utilizing wind to provide regulating reserves. However, because this system is connected to the larger Western Interconnection, it does not provide a realistic example of high-penetration of non-synchronous generation across a large balancing area or interconnection.

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Figure 22 shows an example of a fatter duck that results from increasing the allowable instantaneous penetration from 60% in the base case to 80% (with no local generation requirement). The top curve shows the net load in the 15% base solar case (the same curve as shown in Figure 15). The bottom curve shows the impact of increasing maximum penetration to 80%, which substantially reduces curtailment on this day.

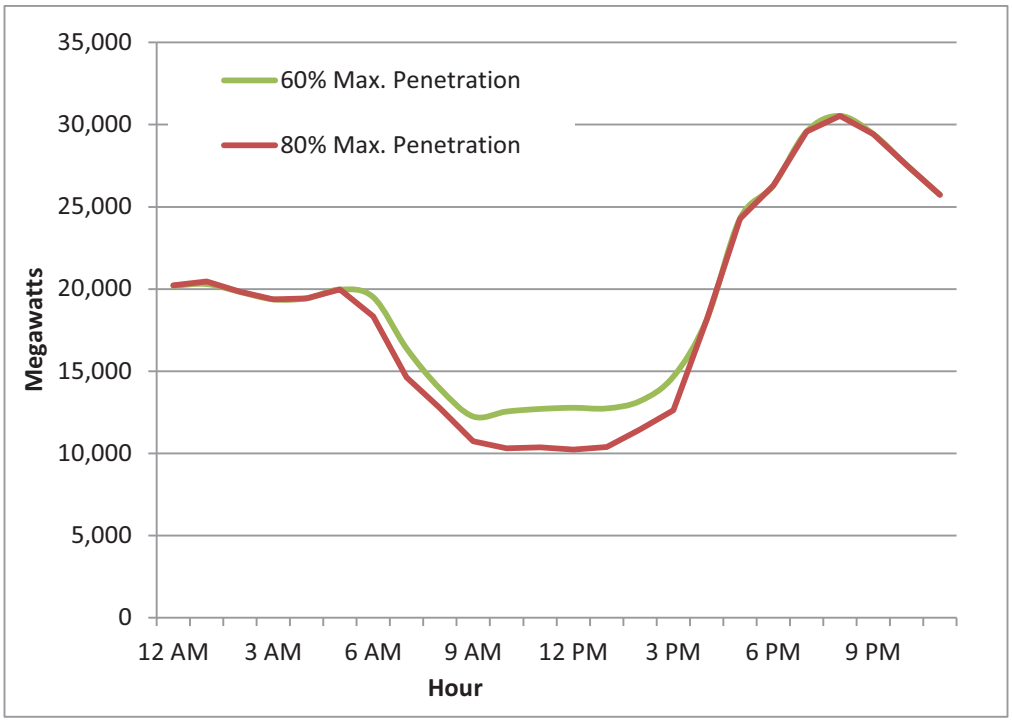

Figure 22. Net load on March 29 in a scenario with 15% annual solar increasing the maximum penetration of VG to 60% to 80%

The corresponding curtailment curves are provided in Figure 23. In this case, the curtailment of PV has been substantially reduced from about 13% on this day to about 7%.

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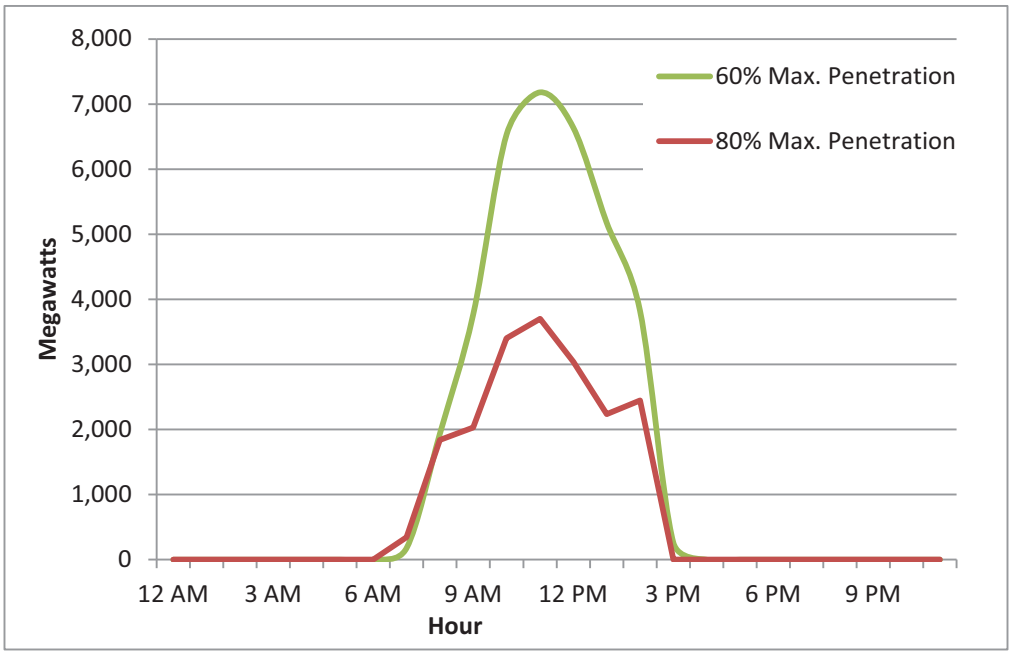

Figure 23. VG curtailment on March 29 in a scenario with 15% annual solar increasing the maximum penetration of VG to 60% to 80% and removing the local generation requirement

While curtailment has been reduced, it has not been completely eliminated due to other constraints on the system. The 10,000 MW net load in Figure 22 is close to the minimum output of "must-run" capacity in the system. Overall, the model identifies about 8,000 to 9,000 MW of minimum generation from nuclear, geothermal, hydro, biomass, and gas-fired combined heat and power (CHP) units.[27]

Overall, these changes to grid operation reduce curtailment and allow greater penetration of VG. Figure 24 compares the impact of replacing the original base case (including the 60% instantaneous limit and the 25% local generation constraint) with an overall 80% instantaneous VG penetration constraint. It is important to emphasize that this assumption requires the system operators to have greater visibility and control of multiple distributed resources, including both PV and storage. These distributed resources will likely be needed to perform many functions currently met by conventional generation resources, with appropriate controls and market mechanisms put in place to compensate owners for providing these services.

Compared to the base case, the curtailment curves are shifted to the right by about 8 percentage points, meaning greater energy penetration from solar can be achieved at the same level of curtailment. In this case, a solar penetration of 25% is achieved with a marginal curtailment rate of about 20%, with the total RPS level approaching 50%.

[27] As noted previously, this low level is made possible in part by the fact that one unit of Diablo Canyon nuclear units was out for maintenance on this simulated day.

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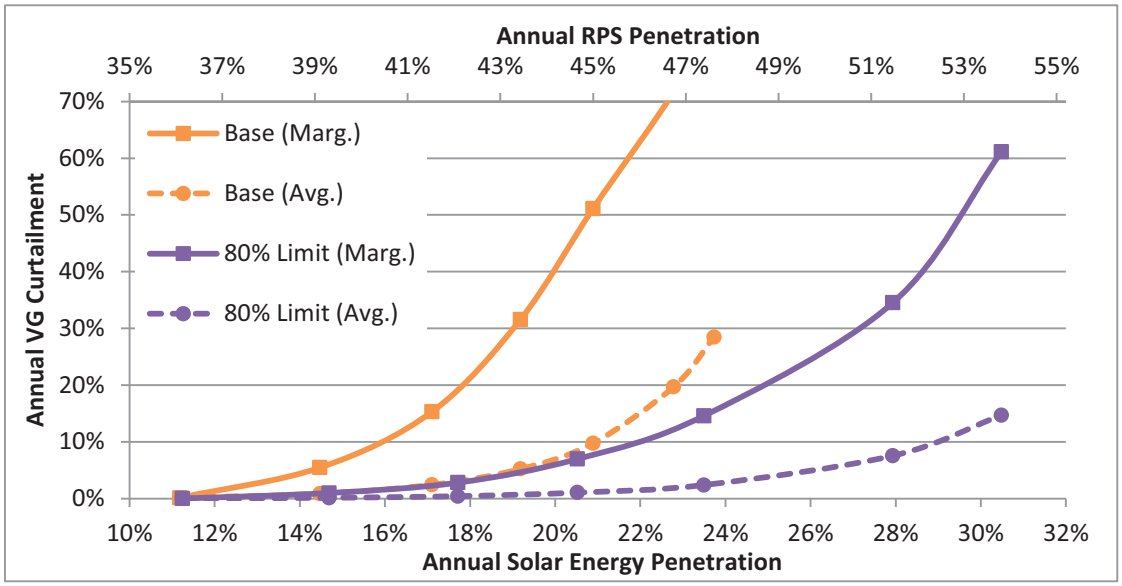

Figure 24. Marginal and average annual curtailment due to overgeneration under increasing penetration of PV in California after adding mandated storage, removing local generation constraint, and increasing maximum instantaneous VG penetration to 80%

Engaging Further Demand Response

The solutions in the previous section fatten and flatten the duck by applying commercially available control technologies to local generation and storage resource. However, the base cases assume a very small amount of responsive demand that could allow greater PV penetration. As with energy storage, demand response (DR) can both flatten the duck (by shifting load) and fatten the duck (by providing grid services that reduce need to operate conventional plants at part load). Fattening the duck with DR will require provision of services not typically provided by loads. While demand shifting can occur through market-based incentives (e.g., time-varying prices), using DR to allow for increased VG penetration will likely require DR to provide grid stability services (e.g., primary frequency response). This will require loads to sense system frequency and automatically reduce load during low frequency events.[28] This incurs both an implementation cost and any costs associated with paying customers when load is curtailed.

To consider the possibility of how responsive demand could aid in PV integration, we consider two steps similar to the previous case. First, we assume a greater fraction of load (up to about 11% of instantaneous demand) can be incentivized to shift demand to times of lower energy prices (corresponding to low net demand).[29] Second, we increase the VG instantaneous penetration limit to 90%. This assumption reflects the possibility that directly controllable responsive demand can provide the system operator with increased flexibility including frequency stability measures such as primary frequency response.

[28] An example of an existing program that uses frequency-responsive loads is the ERCOT "Non-Controllable Load Resource" that provides Responsive Reserve Service. This program pays loads to reduce output automatically when the frequency drops below a certain threshold (ERCOT 2014).

[29] This and other changes to system operation will likely require new market mechanisms. Hogan and Paulos (2014) discuss several of these.

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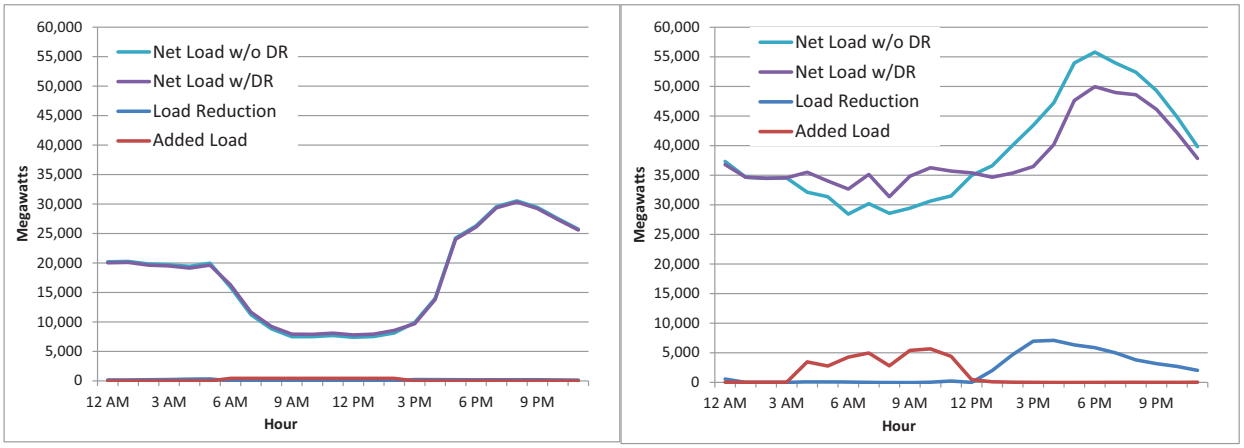
Figure 25 illustrates the impact of the added demand response on net load shape in the 24% potential solar case. Figure 25a shows the result for the duck curve day (March 29), while Figure 25b shows the result for the peak load day (July 27). The scales are the same for comparison. The impact on March 29 is very small due to the assumptions regarding the amount of shiftable demand, which is based largely on heating and cooling demand. The basis for this is discussed in Brinkman et al. (2015). On March 29, there is little need for either cooling or heating in the middle of the day, meaning there is low potential for demand shifting on this day based on the model assumptions. The impact on July 27 is more significant, and while DR adds significant economic benefit from load shifting, no curtailment occurs on this day.



(a) March 29 (b) July 27

Figure 25. Impact of additional demand response on system net load on March 29 and July 27

Further analysis is needed to estimate the actual potential for demand shifting and associated costs; however, there likely are additional opportunities for shiftable loads. As an example, the CAISO LTPP model includes about 1,200 MW of schedulable pumping loads. The pumping load profile in the LTPP model is pre-scheduled and generally corresponds to match historical (low-VG) demand profiles. The scheduled pumping load is highest during the traditional off-peak period in the early morning, and it drops by about 700 MW in the late morning, exactly when the PV output increases and overgeneration may occur. Assuming there is flexibility when this pumping load can occur, re-scheduling this load could accommodate some additional PV.

Overall, based on the assumptions made in this simulation, the impact of load shifting and the increase in maximum penetration has modest impact on avoided curtailments. The impact of the added DR case on PV curtailment is illustrated in Figure 26.

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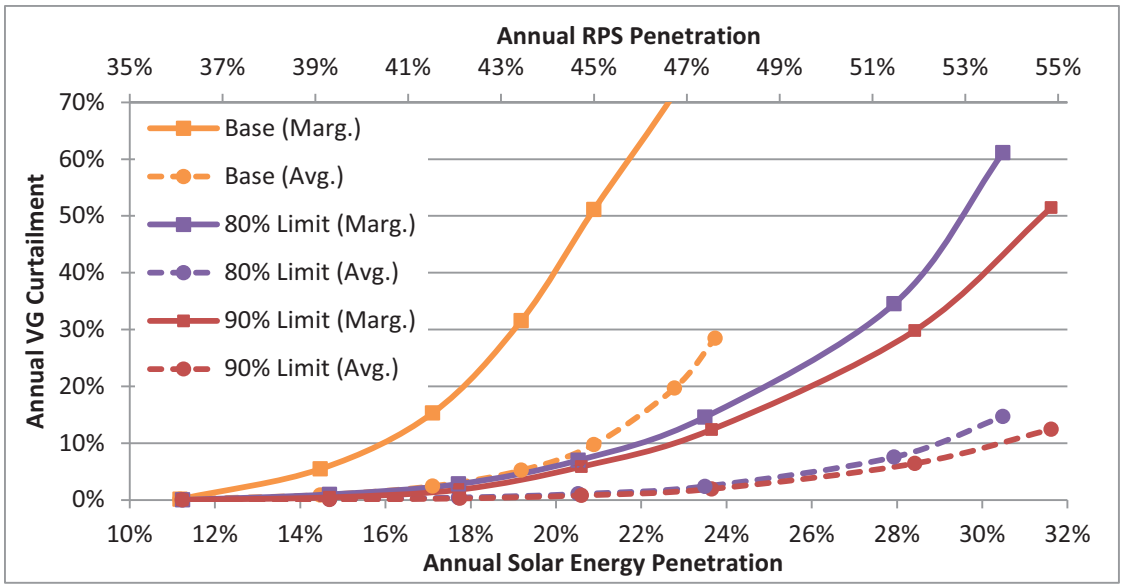

Figure 26. Marginal and average curtailment due to overgeneration under increasing penetration of PV in California after additional demand response and increasing maximum penetration to 90%

The relatively modest reduction in PV curtailment observed moving to the 90% penetration limits is due to the constraints on thermal and hydro plant operations. The presence of baseload non-carbon resources in the system, including nuclear, geothermal, and hydro, in addition to must-run combined heat and power plants limits the maximum penetration of wind and solar to well under 90%. During days with very high penetration of PV, nearly all the non-CHP fossil-fueled thermal capacity in California is turned off for the 11 hours of solar production. However, the results in this section imply that deploying new communications and control technologies that allow distributed resources to participate in grid functions and could significantly increase PV potential. In these examples, total penetration of about 25% solar on an annual basis appears possible with about 5% annual curtailment.

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8 Additional Opportunities to Fatten and Flatten the Duck

In the previous section, we indicate that near-term technology options are capable of helping mitigate challenges of the duck chart and increase solar penetration to as high as 25% with limited curtailment. Moving beyond this point with exclusively solar resources becomes increasingly challenging; however, several additional options can help fatten and flatten the duck. While we evaluated demand response in this work, further analysis of load shifting potential is needed, as we assume that during the hours of high VG output, less than 1.5% of total demand may be shifted over a period of hours or more.

Other options that have been suggested to address overgeneration include regional interchange, more flexible generation, and energy storage. While this analysis has significant interaction between California and neighboring states, additional interchange, including exports from California, could potentially further reduce curtailment (Nelson and Wisland 2015). This may require broader implementation of various market mechanisms that allow for exchanging energy across regions.[30] A long-term challenge may occur when surrounding states also adopt increasing amounts of wind and PV, leading to regional surpluses of renewable energy during spring afternoons.

Finally, additional storage (beyond existing and mandated storage) could be used to shift load. In addition to electricity storage technologies such as batteries or pumped hydro, concentrating solar power using thermal energy storage can shift solar generation to periods of low PV output. Storage with high capacity value could enable further retirements of the thermal generation fleet that could reduce minimum generation constraints (Denholm and Mehos 2011). Finally, while this analysis focuses primarily on enabling high solar penetration, it should be noted that a more balanced portfolio could more generally reduce the challenges of integrating VG. When PV is at 25% penetration, additional wind (or non-VG renewables such as geothermal) has significantly lower levels of marginal curtailment than PV. This has been noted previously (E3 2014; Brinkman 2015), and it suggests the need for a more comprehensive analysis of different renewable portfolios to achieve the most cost effective mix of generation technologies.

[30] An example is the Western Energy Imbalance Market (https://www.caiso.com/informed/Pages/EIMOverview/Default.aspx).

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9 Conclusions

Accommodating increased levels of PV in California will require understanding and addressing changes in net load shape created by large power production over a relatively short period in the middle of the day. System planners and operators will need to consider changes to a system historically dominated by dispatchable thermal and hydro resources. In the near term, changes underway or proposed in California and elsewhere—such as shorter scheduling intervals, increased interaction across regions, and the creation of new market incentives for generator dispatch—will reduce the minimum generation challenge and enable greater utilization of VG. In the longer term, grid operators will need non-traditional resources to supply reserves and grid stability services. This shift in operating practices will in turn require system operators to have visibility and control of distributed PV, storage, and load, and it will likely require new market mechanisms to incentivize these resources to participate in providing grid services. Without utilizing PV or other distributed resources to provide grid services— which is technically feasible—excessive curtailment of PV could occur at penetrations well below 20% on an annual energy basis

Because of the limited coincidence of PV supply with demand, additional mechanisms will be needed to maximize load-shifting. Simple historical methods, such as time-of-use pricing with fixed price intervals will likely be insufficient to address the variability and uncertainty of the solar resource, which changes on a daily and hourly basis.

By using a combination of grid flexibility options, the duck shape of net load can be accommodated and shaped to allow annual PV penetrations that exceed 25%, with limited curtailment, even without considering the impact of large-scale energy storage. Many of the needed grid flexibility options are already being deployed in various locations around the United States. Additional portfolio analysis can assist in designing a mix of VG resources and associated "enabling" technologies that could achieve very high penetration while maintaining grid reliability.

This report is available at no cost from the National Renewable Energy Laboratory (NREL) at www.nrel.gov/publications.

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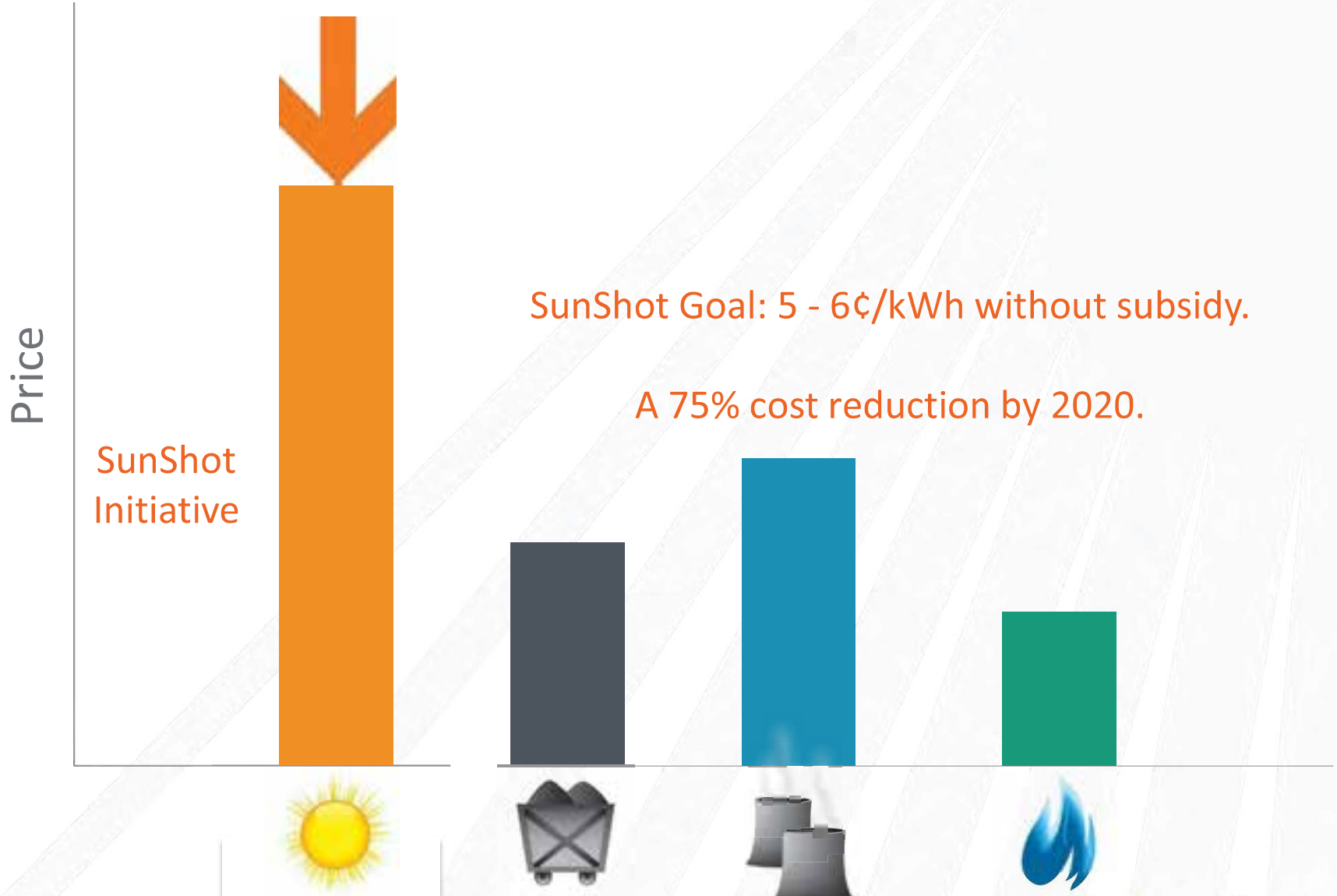
Multiagency Avian-Solar Collaborative Working Group: Stakeholder Workshop

Welcome and Overview of Workshop Objectives

Dan Boff
U.S. Department of Energy
SunShot Initiative

May 10-11, 2016
Sacramento, California

SunShot



SunShot Goal: 5 - 6¢/kWh without subsidy.

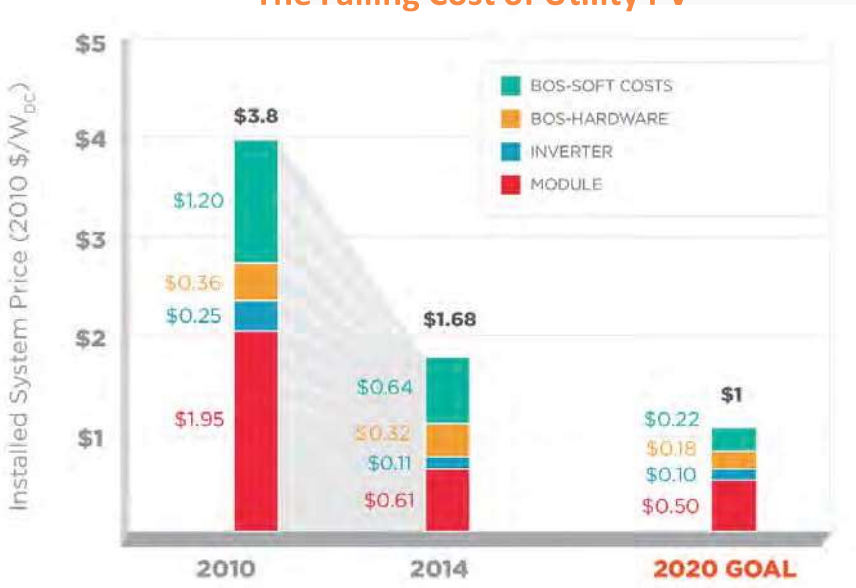
A 75% cost reduction by 2020.

energy.gov/sunshot

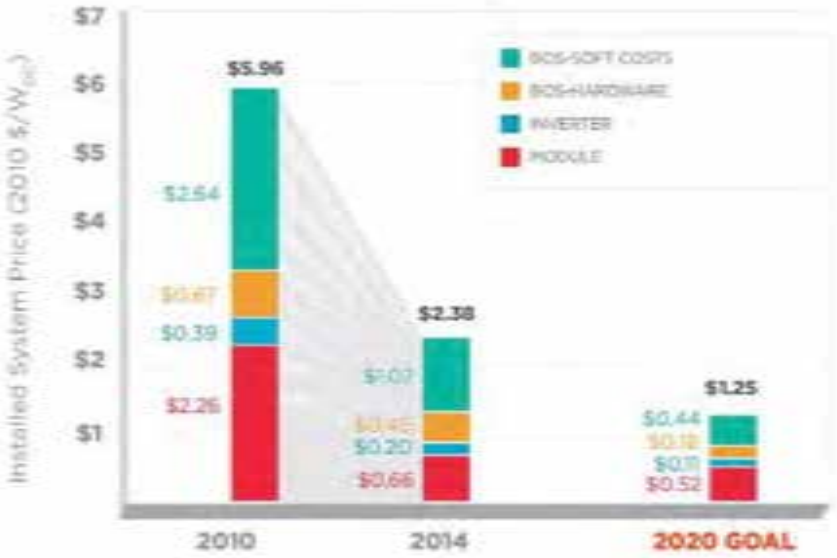
SunShot
U.S. Department of Energy

The Falling Cost of Concentrating Solar Power

The Falling Cost of Utility PV



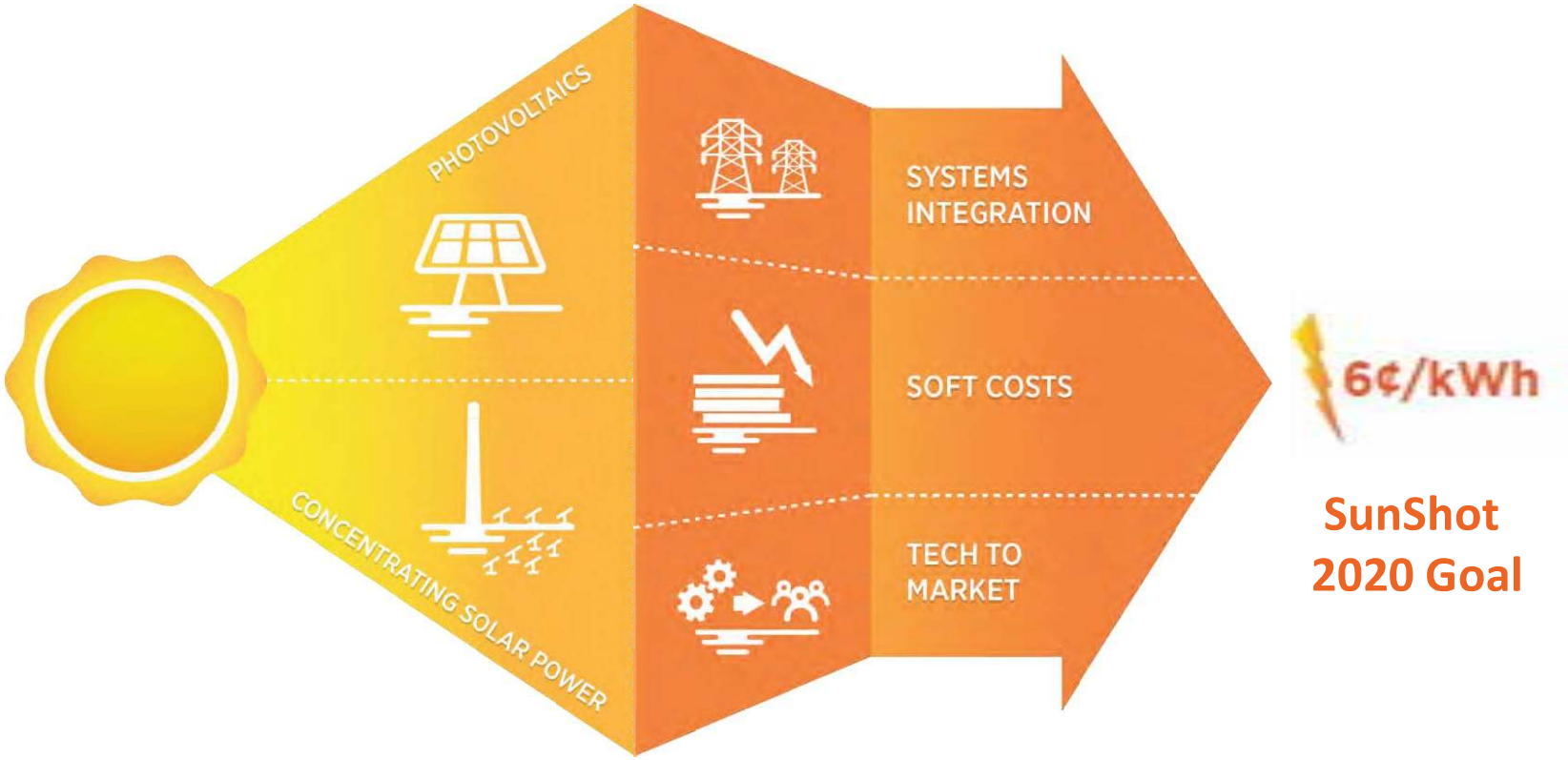
The Falling Cost of Commercial PV



The Falling Cost of Residential PV

U.S. Department of Energy

SunShot Program Structure



SunShot 2020 Goal

SunShot U.S. Department of Energy

Balance of Systems (Soft Costs)

NETWORKING AND TECHNICAL ASSISTANCE

Empowering state and local decision-makers through timely and actionable resources, peer networks, and technical assistance

BUSINESS INNOVATION

Developing solar finance and business solutions to expand access to capital and accelerate market growth

DATA ANALYSIS

Harnessing big data analysis and technical solutions to support the many stakeholders involved in solar deployment

TRAINING

Training an innovative solar workforce to enable the solar industry to meet growing demand

SunShot U.S. Department of Energy

Objectives of this Meeting

Bring together CWG members and stakeholders to:

- Share information about the CWG objectives, scope, activities, and timeline
- Provide a forum for stakeholders to provide comments relevant to the CWG efforts:
  - Concerns about avian-solar issues
  - Relevant existing data and studies
  - Understanding of avian-solar interactions
  - Focus of future research
  - Priorities for research needs
  - Future activities of the CWG

Agenda - Day 1

Time Slot	Topic
9:30-10:00	Welcome & Workshop Objectives
10:00-10:30	Information About the Multiagency CWG
10:30-10:45	Break
10:45-11:00	Summary of Available Avian-Solar Information
11:00-12:30	Lunch
12:30-2:15	Ongoing Related Initiatives
2:15-2:30	Break
2:30-4:30	Break-out Discussions
4:30-5:00	Wrap Up

Agenda - Day 2

Time Slot	Topic
9:00-9:15	Recap of Day 1
9:15-9:45	Conceptual Framework of Avian-Solar Interactions
9:45-10:15	Agency Management Questions & Related Research Needs
10:15-10:30	Break
10:30-12:30	Break-out Discussions
12:30-1:00	Wrap Up & Next Steps

Logistical Details

- All handouts and presentations will be available on the CWG webpage: http://blmsolar.anl.gov/program/avian-solar/
- If you want to continue to receive information about the CWG efforts, subscribe for email updates
  - Send request to rollins@anl.gov
- Using the microphone ensures everyone can hear you
- Identify yourself and your affiliation when you speak
- Please mute or turn off cell phones

Argonne NATIONAL LABORATORY

Information About the Multiagency Avian-Solar Collaborative Working Group (CWG)

Greg Helseth

Bureau of Land Management

Multiagency CWG Stakeholder Workshop

May 10-11, 2016

U.S. DEPARTMENT OF ENERGY

Background

- Avian-solar concerns that have emerged in the past 2-3 years present potential barriers to utility-scale solar development
- Existing data are inadequate to define the magnitude and extent of potential avian impacts and causal factors
- Research is underway by multiple parties, including federal and state agencies, industry, and academics
- There is a growing consensus regarding the value of collaborating on defining research objectives and data needs, and on allocation of funding

Goal and Objectives

To develop better information to support future agency decisions regarding potential avian impacts at utility-scale solar facilities

OBJECTIVES

- Establish collaborative working group among federal and state agencies
- Develop multiagency avian-solar science plan
  - Document current and planned research activities
  - Identify cost implications and information gaps
  - Identify agency roles in funding and oversight
  - Develop feasible mitigation measures, if warranted
- Prepare education and outreach materials

CWG Members

Representatives of federal and state agencies with relevant missions and/or project authorization responsibilities

Federal Agencies	State Wildlife and Energy Agencies *
DOE Solar Energy Technologies Office	AZ Game and Fish Dept.
Bureau of Land Management	CA Dept. Fish and Wildlife
U.S. Fish and Wildlife Service	CA Energy Commission
U.S. Geological Survey	NV Dept. Wildlife
DOI Solicitor's Office	
U.S. Department of Defense	

** Other state energy agencies have been invited to participate*

Scope and Organization of the CWG

Scope

- Utility-scale solar technologies
  - All technologies
  - All facility components
- Initial geographic focus: Arizona, California, and Nevada

Organization

- CWG is led by a chair and co-chair
- Technical support and facilitation is provided by Argonne National Laboratory and the National Renewable Energy Laboratory

CWG Tasks, Deliverables, and Timeline

Task	Activities	Milestone(s) / Deliverable(s)
1 Establish the CWG and conduct meetings	Formalize CWG. Conduct quarterly CWG and stakeholder meetings.	Establish CWG charter, quarterly CWG meetings, and stakeholder events
2 Develop an Avian-Solar Science Plan	Summarize current activities, information gaps, and research needs; consolidate data and mitigation measures/BMPs. Develop hypothesis-based science plan applicable to all solar technologies and sites.	Avian-solar science plan by end of Oct. 2016
3 Prepare education and outreach materials	Prepare fact sheets or news items to inform the public of CWG activities, avian-solar data, and clarify information.	At least two in FY16: • Fact sheet • News item • Public webinar

Timeline & Progress in 2016

Red – complete; Black - anticipated

January	February	March	April	May	June	July-Oct
• Recruited agency participation • Held CWG kickoff meeting	• Finalized Charter • Assembled existing information	• Published 1st fact sheet • Launched CWG website • Developed conceptual framework	• Finalized workshop agenda • Developed CWG MQs	• Hold 1st public workshop • Incorporate stakeholder input • Finalize MQs & research needs	• Draft science plan	• Revise & finalize science plan • Hold public workshop or webinar • Release final public outreach publication

CWG = collaborative working group, MQ = management question

Avian-Solar Science Plan

Kirk LaGory, Argonne National Laboratory

Purpose: *Provide a consistent framework for research and monitoring of avian-solar interactions*

Objectives

- Define research questions and future research needs;
- Support development of monitoring protocols, evaluation of avian risk, and development of effective mitigation measures;
- Qualitatively discuss potential associated costs; and
- Define agency roles and processes for implementation.

Elements of an Avian-Solar Science Plan

- Executive Summary
- Introduction
  - Describe current solar energy development and trends, observed avian-solar interactions
  - Describe objectives of the plan, desired outcomes, CWG
  - Identify agency-specific management questions
- Conceptual Framework of Avian-Solar Interactions
  - Provides framework for science plan
  - Impacting factors
  - Technology-specific impacts
  - Direct, indirect, and cumulative effects
  - Factors that contribute to risk, including location, seasonality, type of birds
  - Local and population-level effects

Elements of an Avian-Solar Science Plan (Cont.)

- Summary of Existing Information
  - High-level summary with focus on published DOE "rapid report" and subsequent findings, technical reports, and communications with researchers
  - Which portions of the conceptual model are best understood?
- Information Gaps Related to Avian-Solar Interactions
  - Identify the information gaps that impede development of effective avoidance, minimization, and mitigation strategies
  - Which portions of the conceptual model are poorly understood?

Elements of an Avian-Solar Science Plan (Cont.)

- Research and Monitoring Needs
  - Based on management questions, conceptual model, and information gaps, identify research and monitoring that is needed to understand avian-solar interactions
  - Identify priorities for research and monitoring activities based on relative risk to birds
- Program Implementation
  - Identify best approaches to research and monitoring
  - Agency roles
  - Collaboration with ASWG and other stakeholders to ensure consistency and complementary activities
  - Role of adaptive management
  - Tiering from the plan
  - Approximate costs of activities

Stakeholder Engagement

- Agencies are seeking input from stakeholders on all matters relevant to the CWG objectives:
  - Concerns about avian-solar issues
  - Relevant existing data and studies
  - Understanding of avian-solar interactions
  - Focus of future research
  - Priorities for research needs
  - Future activities of the CWG
- Stakeholders can comment during this meeting and/or in writing following the workshop (target due date of June 1, 2016)
- A stakeholder webinar will be hosted to present and take comments on the draft avian-solar science plan (late summer 2016)
- For more information:
  - Subscribe for email updates: send request to rollins@anl.gov
  - CWG webpage: http://blmsolar.anl.gov/program/avian-solar/

QUESTIONS?

A Review of Avian Monitoring and Mitigation Information at Existing Utility-Scale Solar Facilities

Lee Walston*, Katherine Rollins,
Karen Smith, and Kirk LaGory
Environmental Science Division
Argonne National Laboratory

Karin Sinclair, Craig Turchi,
Tim Wendelin, and Heidi Souder
National Renewable Energy Laboratory

* lwalston@anl.gov

What is Utility-Scale Solar Energy Development?

- Large solar fields – 10+ megawatt (MW); requires 5-10 acres per MW
- Three main technologies: 1) photovoltaic (PV) and concentrated solar power (CSP) technologies – 2) parabolic trough and 3) power tower

Desert Sunlight Solar Farm (PV)

- 550-MW project on over 4,000 acres of public land in southern California

What is Utility-Scale Solar Development? (cont'd)

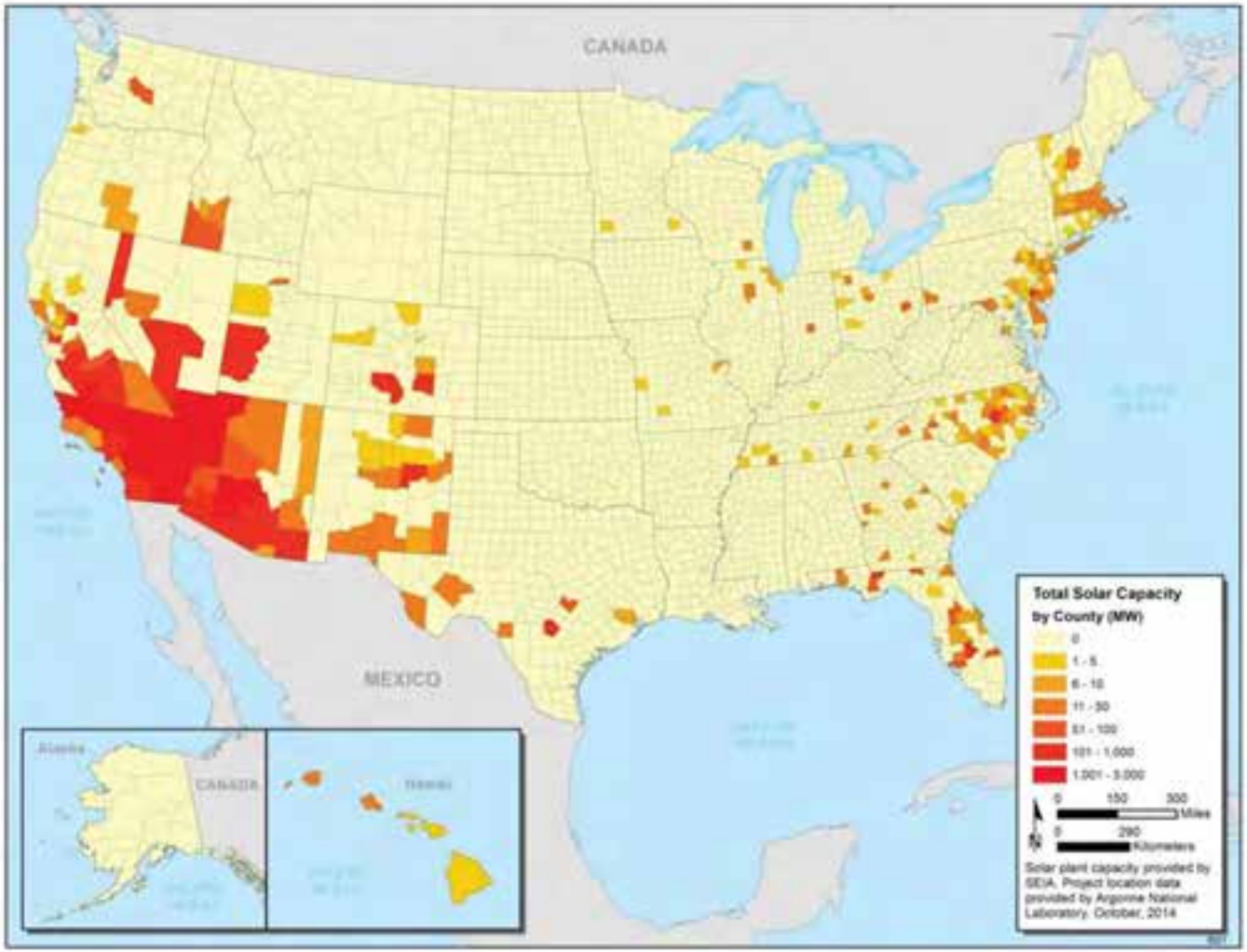
What is Utility-Scale Solar Development? (cont'd)

Ivanpah Solar Energy Generation Station (SEGS)

- 3 Solar power towers (377 MW)
- >3,400 acres of public land

Utility-Scale Solar Energy Development in the U.S.

- >14 GW utility-scale solar capacity (in operation or under construction)
- >1,200 facilities (>1 MW)
- >50% of this electric capacity in southern CA, NV, and AZ.



Source: Walston et al. 2015

Avian Impacts of Solar Development

2 direct sources of solar-avian fatalities

- Collision-related: documented at solar projects of all technology types.
- Solar flux-related: resulting from the burning/singeing effects of exposure to concentrated sunlight. Observed only at facilities employing power tower technologies.

Photo Credit: Robert Sullivan, Argonne National Laboratory

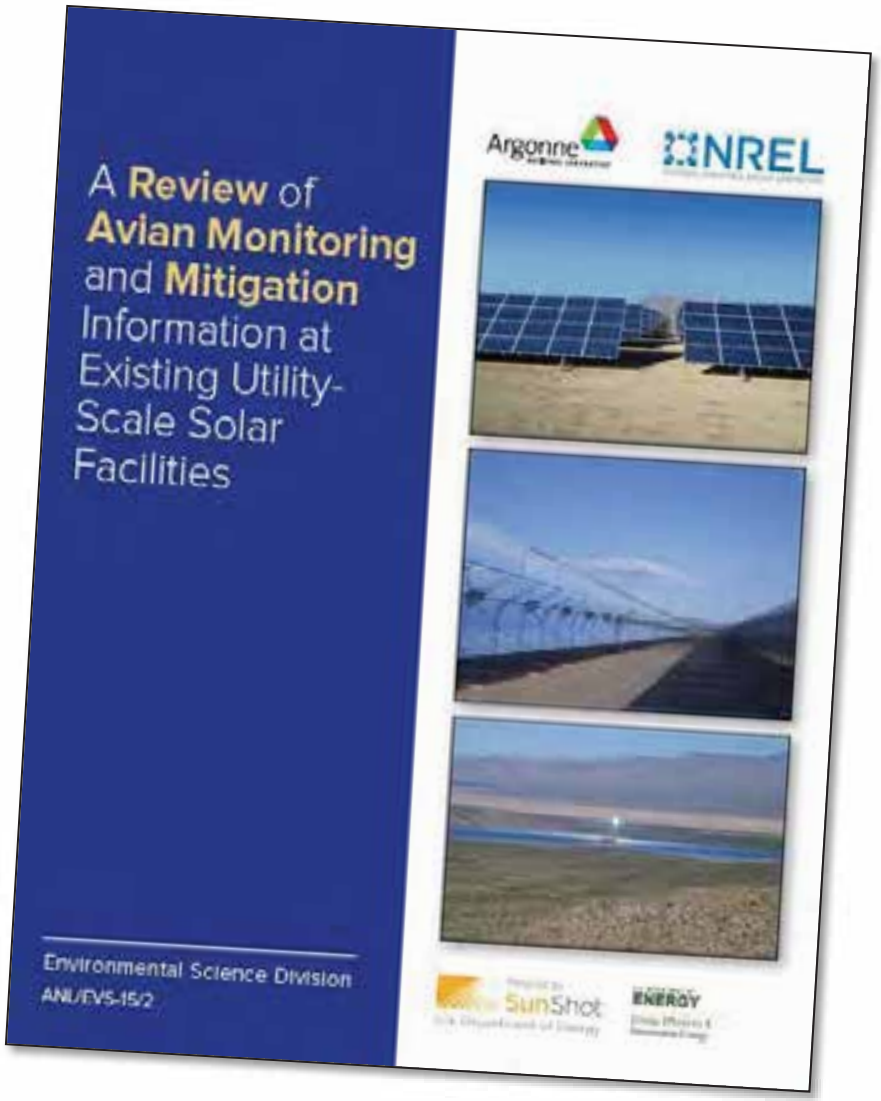
Factors that Affect Mortality Risk

- Project location
  - Near aquatic/riparian areas, stopover sites, etc.
- Project size
- Project technology / design
  - PV vs CSP
  - Evaporation ponds
  - Ancillary infrastructure

Copper Mountain PV facility in southern Nevada. Example for the "lake effect" hypothesis.
Photo Credit: Robert Sullivan, Argonne National Laboratory

"A Review of Avian Monitoring and Mitigation Information at Existing Utility-Scale Solar Facilities"

- Objectives:
  - Summarize avian fatality issues at solar facilities
  - Summarize current monitoring and reporting activities
  - Evaluate mitigation measures and BMPs used for other industries
  - Examine solar technology-specific aspects of avian fatality
  - Identify information gaps and next steps



Avian Fatality Information at Solar Facilities (updated)

- 16 Facilities with available avian monitoring information.
- Collection of avian fatality information:
  - Incidental or unknown survey effort at 6 facilities
  - Systematic survey effort at 10 facilities

Summary of Current Avian Monitoring Activities at Utility-Scale Solar Facilities as of May 2016

Project Name	Location	Technology Type and MW (in Parentheses)	Current Status	Land Type	Available Avian Monitoring Plan	Known Collection of Avian Fatality Data
Blythe Solar	Riverside County, CA	PV (485)	Under Construction	Public	Yes	Yes – Incidental and systematic
California Solar One	Daggett, CA	CSP – Power Tower (10)	Decommissioned in 1987	Private	NA	Yes – Systematic
California Valley Solar Ranch	San Luis Obispo County, CA	PV (250)	Operational – Oct 2013	Private	Yes	Yes – Systematic
Campo Verde	Imperial County, CA	PV (139)	Operational – Oct 2013	Private	NA	Yes – Incidental
Centinela Solar Energy	Imperial County, CA	PV (170)	Operational – August 2013	Private	Yes	NA
Crescent Dunes	Nye County, NV	CSP – Power Tower (110)	Construction completed	Public	Yes	Yes – Systematic

Avian Monitoring at Solar Facilities

- Fatality monitoring (and reporting) at very few solar facilities
  - Not required at all facilities
- Differences in monitoring designs and survey effort
  - Affects the ability to compare and integrate data
- Systematic vs. incidental fatality information
  - Systematic information allows hypothesis testing
  - Incidental observations may still be useful in understanding patterns of fatalities

Barn swallow with singed feathers observed at the California Solar One demonstration facility (Source: McCrary et al. 1986).

Avian Monitoring at Solar Facilities, Cont'd

- Variation in factors influencing mortality rate estimation and evaluation
  - **Search effort and searcher efficiency**
  - **Feather spots**
  - **Predation and scavenging**
    - Potential for predators to influence mortality rates by transporting carcasses to the project footprint from offsite locations
  - **Background mortality**
    - Mortality estimates at some solar facilities include adjustments for background mortality

Conclusions & Recommendations

- Avian monitoring
  - Not all utility-scale solar facilities are required to prepare and comply with project-specific avian monitoring protocols
- Existing avian fatality data
  - Standardization is important for integration and comparison
- Flux-related factors (power tower technologies)
  - Various approaches to heliostat standby aiming could significantly reduce flux levels and their impact on avian fatality
- Better collaboration among agencies, industry, and stakeholders to (1) collect scientifically rigorous and comparable data; (2) identify research priorities; and (3) identify appropriate mitigation measures.

Questions?

Photo Credit: http://cleaneasyenergy.com/

Presentations on Ongoing Related Initiatives

1. *Tom Dietsch – U.S. Fish and Wildlife Service*
2. *Mona Kahlil – U.S. Geological Survey*
3. *Avian Solar Work Group Representatives: Julie Falkner, Defenders of Wildlife and Laura Abram, First Solar*
4. *Tim Wendelin – National Renewable Energy Laboratory (NREL)*
5. *Elise DeGeorge - NREL*

U.S. Fish & Wildlife Service

Update on Solar-Avian Interactions in Southern California

Thomas Dietsch
Migratory Bird Division
US Fish and Wildlife Service
CWG Public Meeting
Sacramento, CA
May 10, 2016

Objectives for Presentation

- Provide a review of solar-avian interactions in Southern California
- Discuss hypotheses for avian interactions
- Provide update on actions being taken

Avian Impacts

Direct Effects: Collisions

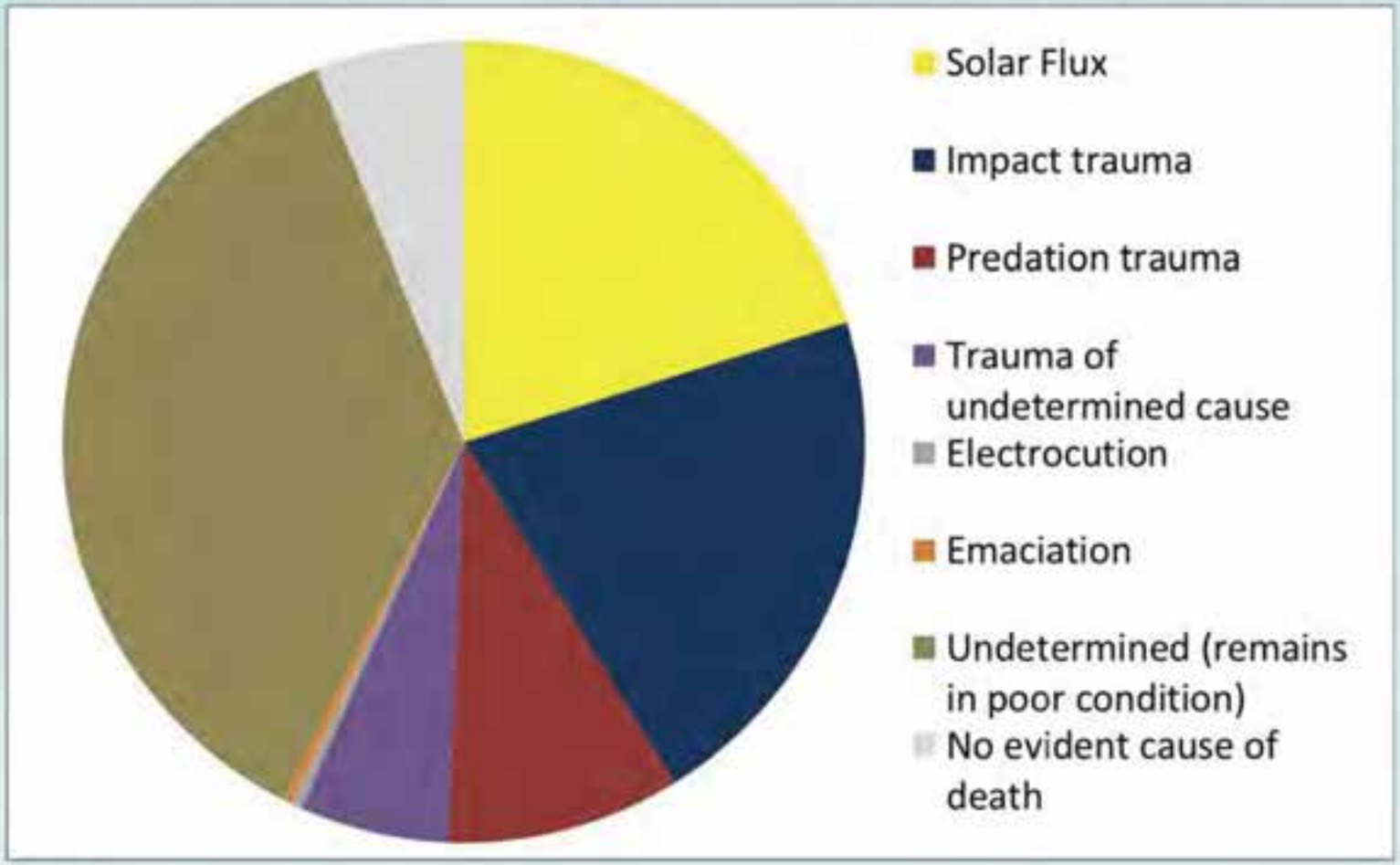
Collisions with panels are common

Concentrated Solar Technologies

Direct Effects

Solar Flux (power tower)

Cause of Death from National Fish and Wildlife Forensics Lab Report (Kagan et al. 2014)



From 3 solar projects, 233 carcasses from 71 species.

Data for Today's Presentation

- Mortality monitoring and reporting is required by lead agencies on many projects.
- Data from 7 projects in Southern California
  (4 Photovoltaic, 2 Solar Trough, 1 Power Tower)
- Data reported from 2012-April 2016.
- Each species was categorized by habitat, migratory group, and foraging guild.

Caveats on Solar Avian Mortality data

- Data are from a mix of incidental reports and systematic surveys on several projects.
- Magnitude of mortalities are not reported here.
- Only projects in Southern California are included in this presentation.
- Data can provide information on which species or taxonomic groups may be at risk.
- Project features and types of injuries also indicated.

Initial Findings

- National Fish and Wildlife Forensics Lab Report (Kagan et al. 2014)
  - "Significant Bat and Insect Mortality, including Monarch Butterflies".
- 3545 mortalities from 183 species (2012-April 2016)
  - Only mortalities found and reported included, no estimation.
  - Mix of reports from incidental finds and systematic surveys.
  - Many mortalities occur due to dehydration/heat stress after initial injury/stranding.
- Birds of Conservation Concern

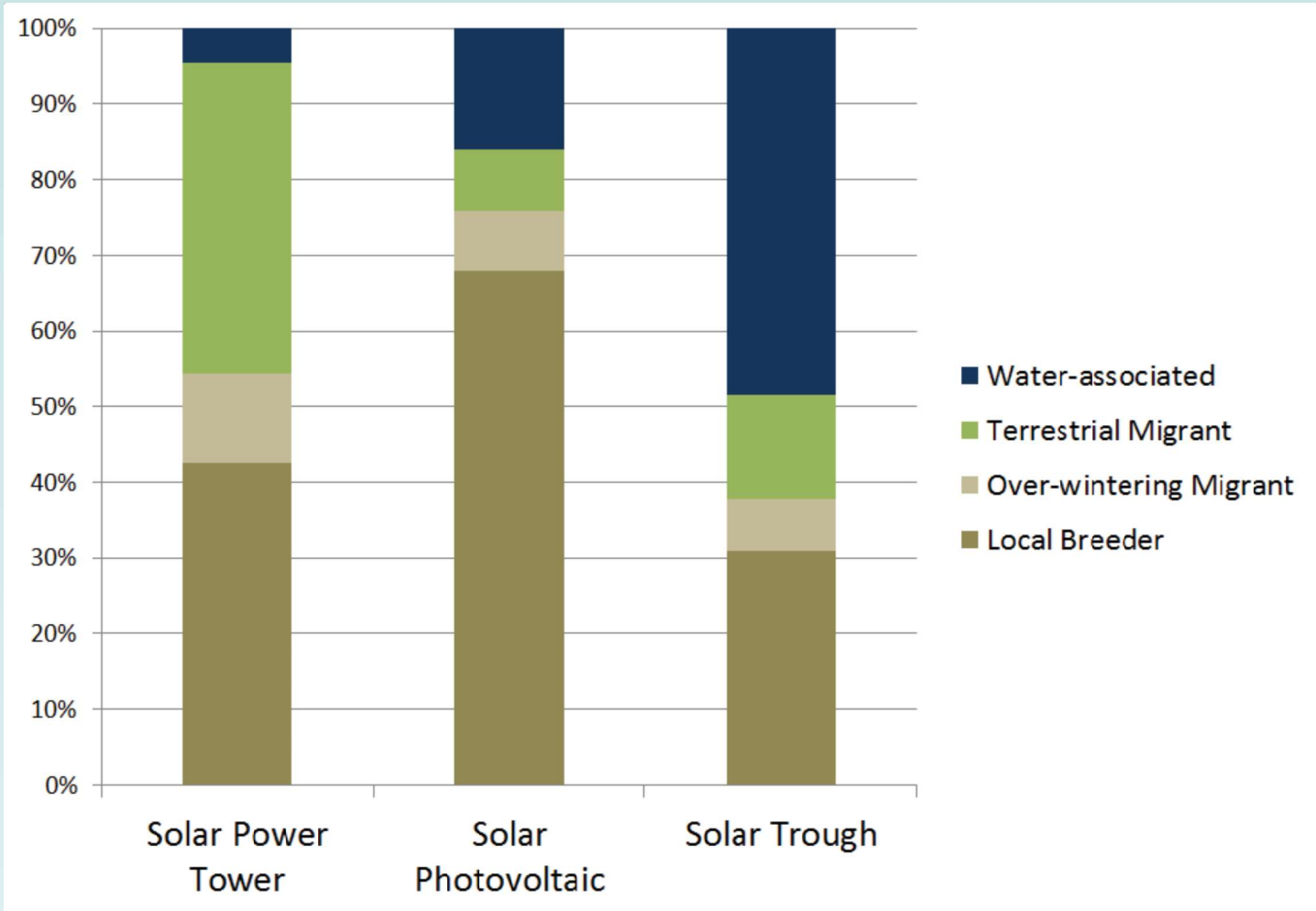
Species of Concern

- Federal Endangered/Threatened
  - Yuma Ridgeway's (Clapper) Rail
  - Willow Flycatcher
  - Yellow-billed Cuckoo
- State-listed/Fully Protected
  - Peregrine Falcon
  - Bank Swallow
- 19 Birds of Conservation Concern
  - Western Grebe
  - Horned and Eared Grebes
  - American White Pelican
  - Burrowing Owl
  - Calliope Hummingbird

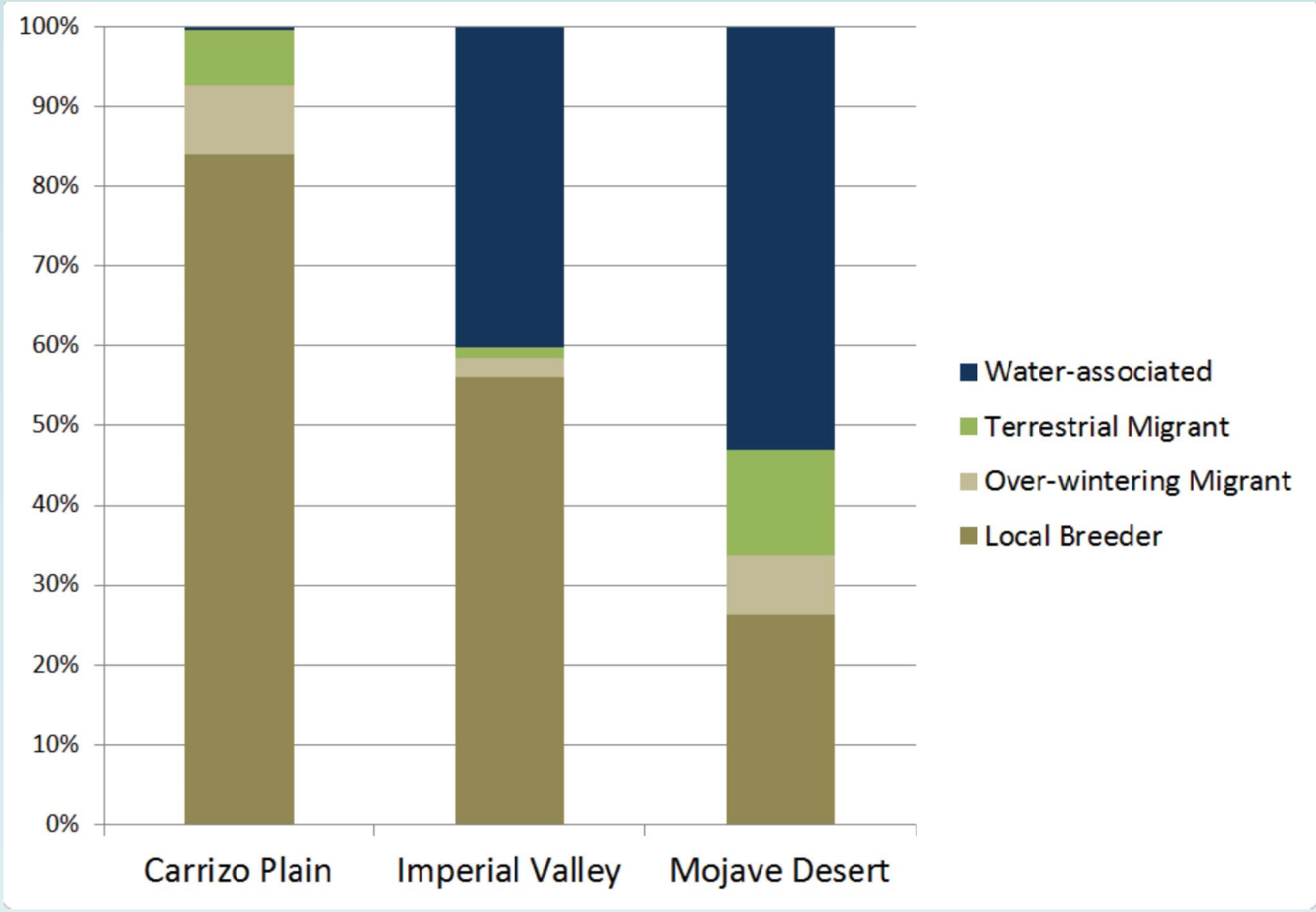
Hypotheses

- Mortalities represent background mortality.
- Mortalities occur during normal bird movements (Anthropogenic, no landscape-scale attraction).
- Polarized light may attract birds and insects to solar projects in the Mojave Desert (Horvath et al. 2009).
- Other resources attract birds to solar projects (Insects and Ponds).

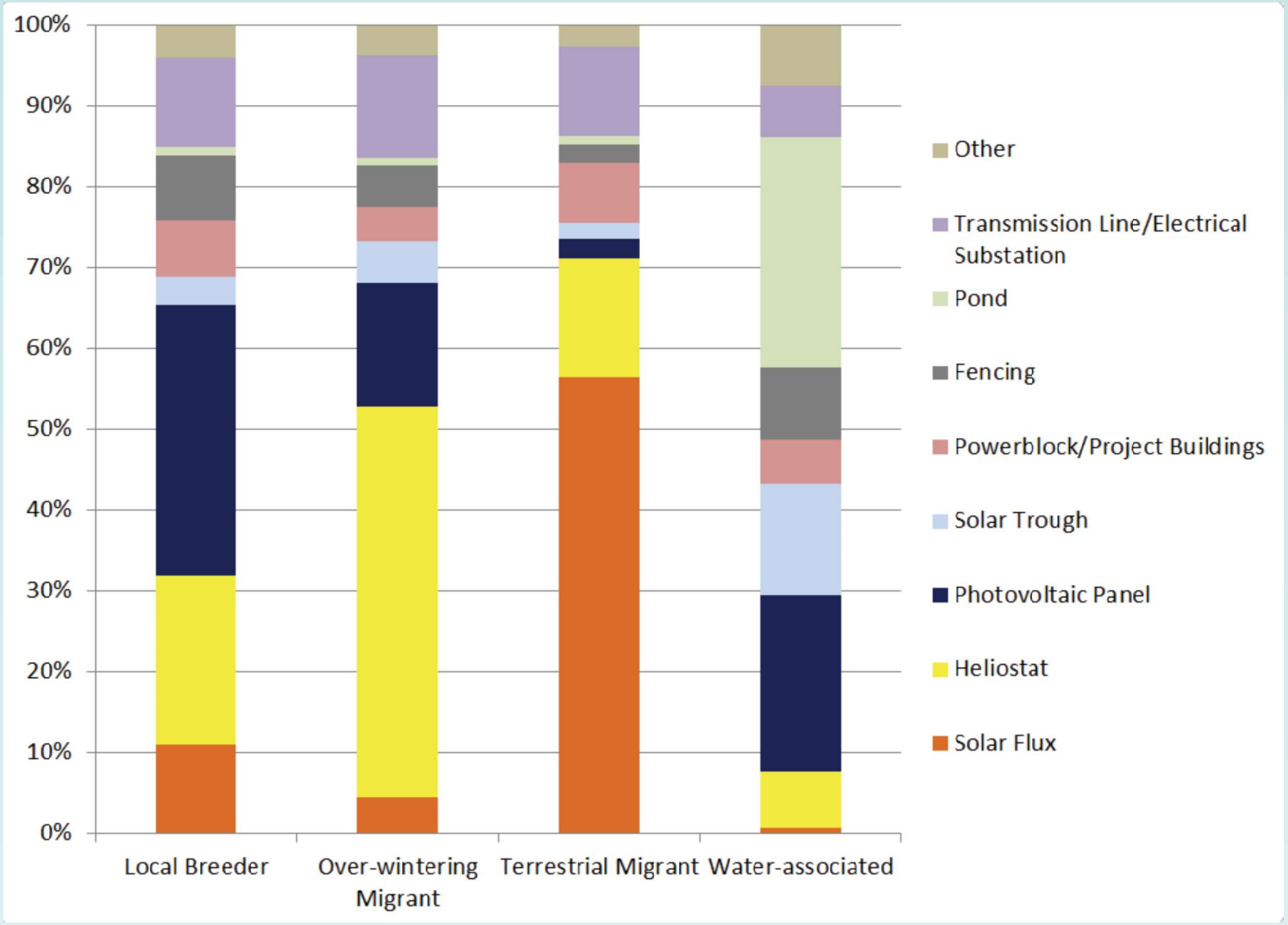
Habitat/Migratory Status of Birds found injured on Solar Projects



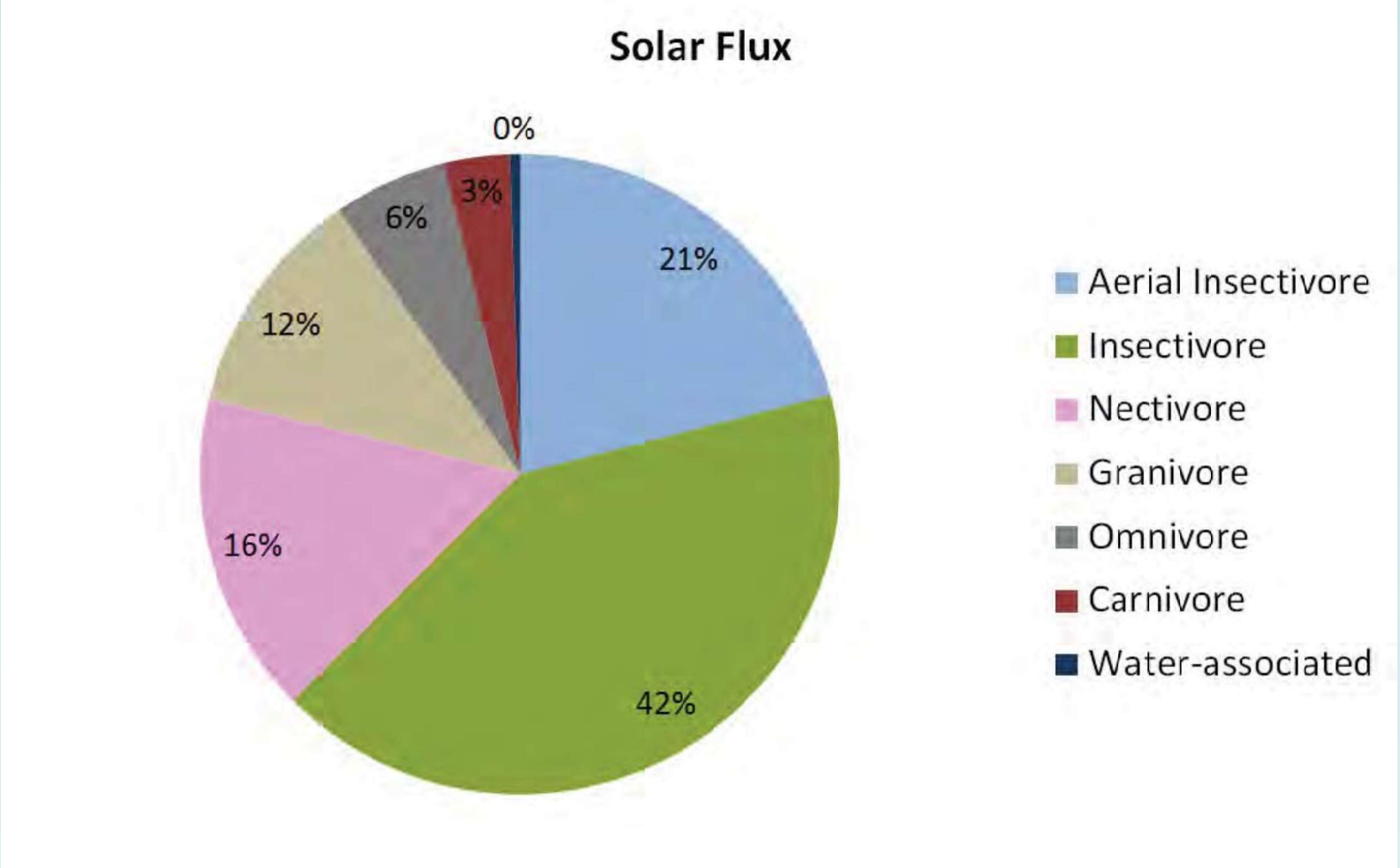
Regional Differences for Photovoltaic



Solar Project Features Associated with Mortalities



Foraging Guilds of Birds with Solar Flux Injuries



Findings

- There may be a "lake effect" associated with utility-scale solar projects similar to that described by Horvath et al. 2009.
- Many birds of conservation concern may be at risk.
- Regional (and site-specific) differences may affect which species are at risk.
- Insects may be attracting some birds to areas with elevated levels of solar flux.
- Many species affected are long-distance migrants, thus population level effects may be difficult to determine.
- Robust monitoring needed to better understand these phenomena and to support adaptive management.

Mortality Monitoring Objectives

- Estimate the total number of birds and bats killed at a facility within a specified time period.
- Determine whether there are spatial or temporal/ seasonal patterns of total bird fatality.
- Evaluate species composition and which taxonomic groups may be at risk.
- Provide results that allow comparisons with other solar sites and to evaluate changes in fatality due to adaptive management.

Research Needs

- Project-scale information needs
- Mojave and Sonoran Desert Migratory Pathways
- Migratory Connectivity Research to identify populations affected
  - Populations affected may be distant from the source of mortalities
  - Stable Isotopes (USGS)
  - Genotypes (UCLA)
  - Telemetry of appropriate-sized birds
- Avian Behavior related to projects
  - Perception and Settling Response
  - Technological Fixes
- Identify Best Management Practices and Deterrent Methods

Update on actions being taken

- Working with solar industry to implement robust mortality monitoring.
  - Searcher Efficiency and Carcass Persistence Trials.
- Solar Bird and Bat Conservation Strategy Guidelines in development.
  - Public meeting on June 22nd in Sacramento.
- Collaborated with USGS to develop Mortality Monitoring Protocols for Solar
  - Protocols for monitoring at each technology type.
- Coordinating with other agencies to find ways to avoid and minimize avian mortalities.
- Coordinating with Avian Solar Working Group (industry and other stakeholders)
- Supporting ongoing research efforts by USGS and UCLA

Questions?

Research to Address Wildlife Interactions with Solar Energy Facilities

Avian-Solar Collaborative Working Group

May 10, 2016

USGS Ecosystems Mission Area

U.S. Geological Survey

Ecosystems

Natural Hazards **Energy and Minerals** **Core Science Systems**

Environmental Health **Water** **Climate and Land Use Change**

USGS Ecosystems Mission Area
17 Science Centers

+ 40 Cooperative Research Units

USGS

Energy and Wildlife Research

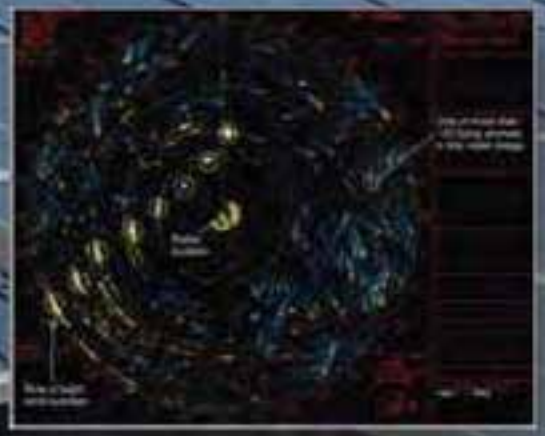
Goals

- **Understand risks:** when and where wildlife occur and how they use space
- **Measure impacts** to wildlife, both direct and indirect
- **Develop solutions:** minimize impacts through technological fixes, management, mitigation

USGS

Measuring Impacts

- Characterize direct and indirect impacts to wildlife
- Define sources of fatality
- Develop consistent and accurate methods to detect and estimate fatalities



USGS

Efficacy of Wildlife Monitoring Technologies at the Ivanpah Solar Electric Generating System

Objective:

- Evaluate efficacy of monitoring technologies to detect birds, bats, and insects flying in the vicinity of flux fields produced at the ISEGS
- Tested technologies concurrently (portable radar, surveillance video, thermal video). Also performed invertebrate sampling
- Monitoring period covered ~20 days in May and September 2014 during bird migration season
- Developing data handling and analysis software (presence/absence, speed, direction, abundance)

PIs: Robb Diehl (NRMSC), Paul Cryan & Ernie Valdez (FORT)

Status: In review. Full data release will accompany publication

USGS

Monitoring Methodology for Solar Facilities

- No guidance currently exists for addressing wildlife conservation concerns at solar energy facilities
- Published studies have not directly addressed the methodology needed to accurately estimate fatality of birds and bats at solar facilities

Objective:

- Develop monitoring methodology for solar facilities to produce a consistent carcass search methodology

PI: Manuela Huso (FRESC)

Project completion: May 2016

US FWS Pacific Southwest Region

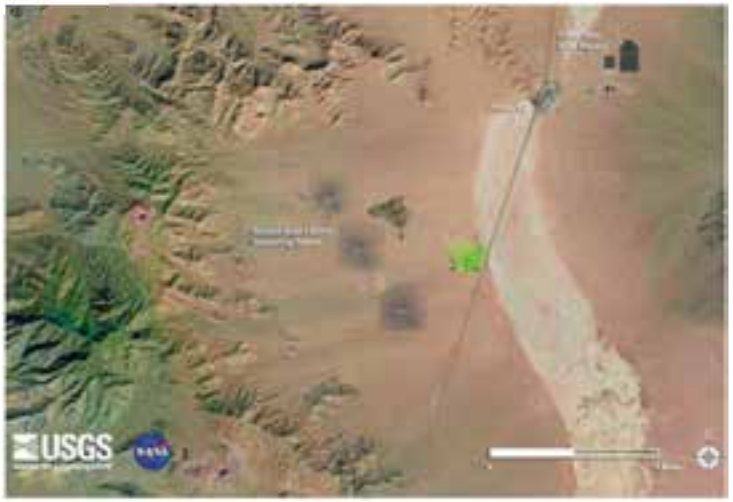
USGS

Solar Fatality Estimator and *"Evidence of Absence"* Software

Need consistent and accurate methods to detect and estimate fatalities from carcass searches at solar facilities

Objective:

- Modify existing software to produce unbiased estimates of fatalities at utility-scale solar facilities and "Evidence of Absence" software for rare species
- Define sources of fatality
- Estimate searcher efficiency and carcass persistence
- Determine when thresholds have likely been exceeded and mitigation might be considered



Ivanpah Solar Electric Generating System

Golden eagle at wind farm in CA.
Credit: Jeff Lovich

PI: Manuela Huso (FRESC)

Anticipated completion: April 2017

USGS

Assess Energy Development Impacts to Sensitive Bird and Bat Species and Populations

Need to more accurately estimate fatality rates and effectiveness of mitigation techniques

Project Objective:

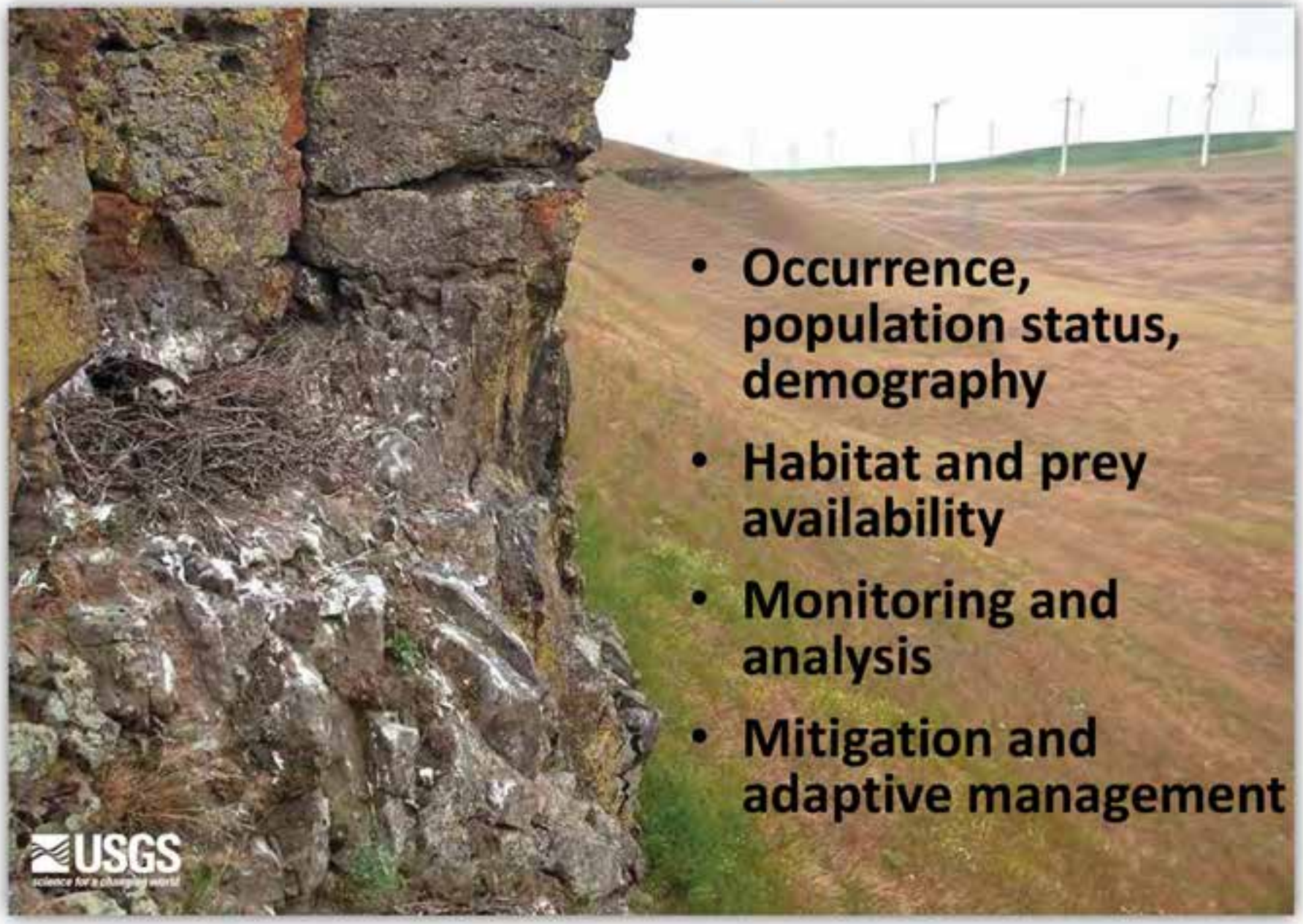
- Estimate geographic scope of species impacted
- Use demographic modeling to assess how fatalities affect population increases or declines
- Determine best practices for conducting risk assessments and predicting mitigation outcomes

PI: Todd Katzner (FRESC)

Project period: 2015-2018

USGS

Understanding Risks



- Occurrence, population status, demography
- Habitat and prey availability
- Monitoring and analysis
- Mitigation and adaptive management

Habitat Modeling to Inform Energy Development

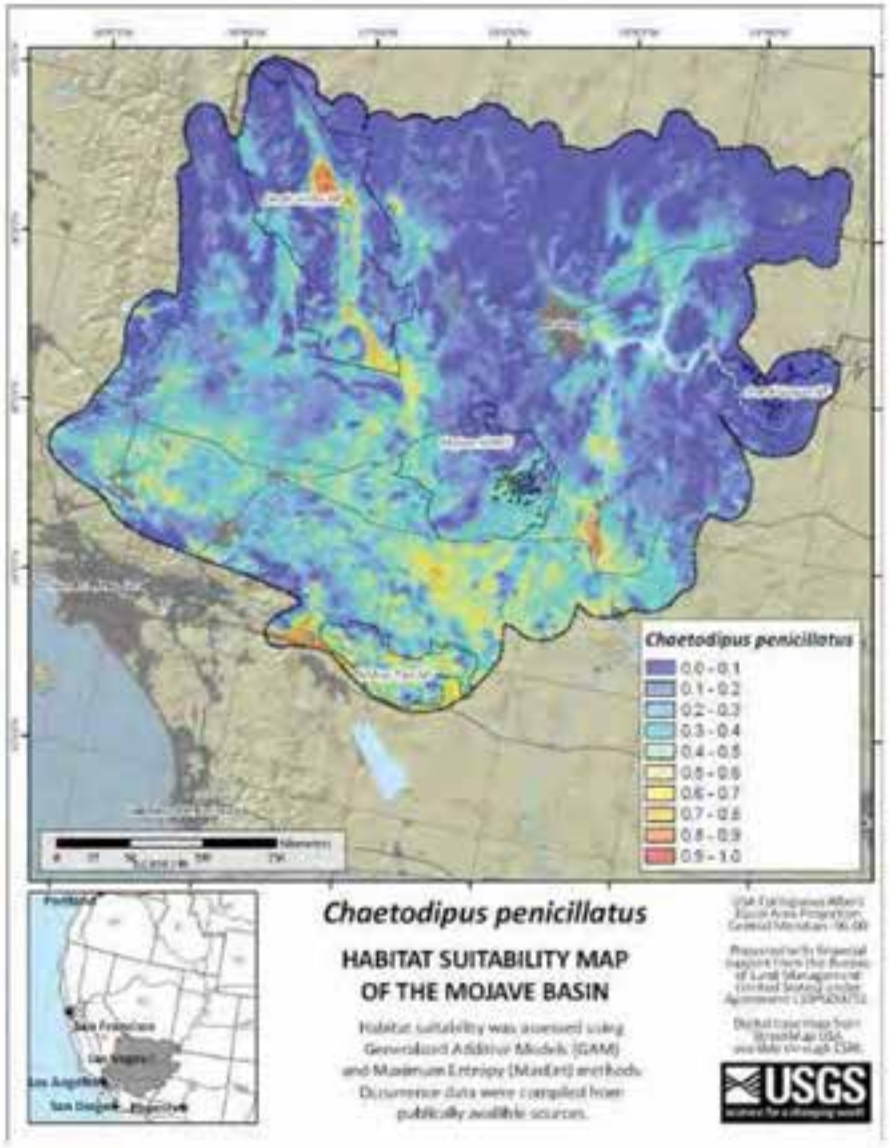
Renewable energy development in the Mojave Ecoregion is creating potential impacts to multiple species of wildlife

USGS Published Research

- Habitat suitability models for over 50 desert plant and animal species can be used to rank potential habitat loss
- Golden eagle status assessments and monitoring protocols

PIs: Todd Esque, Amy Vandergast (WERC)

Publication: Inman, R. D. et al., 2014. Mapping Habitat for Multiple Species in the Desert Southwest. Open File Report 2014-1134.



USGS

Linking Habitat and Prey Availability to Golden Eagle Ecology and Solar Energy in the Mojave

Inform energy and land-use planning ; assist with delineating conservation and development zones

Golden Eagle. Credit: USFWS

Objectives:

- Assess food habits, reproductive success and prey availability of nesting golden eagles in the Mojave
- Synthesize and review rabbit distribution and abundance in the Western US
- Develop a regional prey database for rabbit populations across 17 western states

PIs: Kathleen Longshore & Todd Esque (WERC)

Product completion: Spring/Summer 2016

USGS

Surveying and Monitoring Golden Eagles and Other Raptors in the DRECP Area

Effective surveys for eagles and status monitoring and mapping are needed to meet DRECP objectives

Objective:

- Develop survey designs and field procedures to determine the distribution of golden eagles
- Assess their occurrence and nesting success in the DRECP area
- Compile and analyze eagle population data for CA & NV, and the larger context of their full migratory range into a geospatial database

PI: David Wiens (FRESC)

Project Completion: Summer 2016

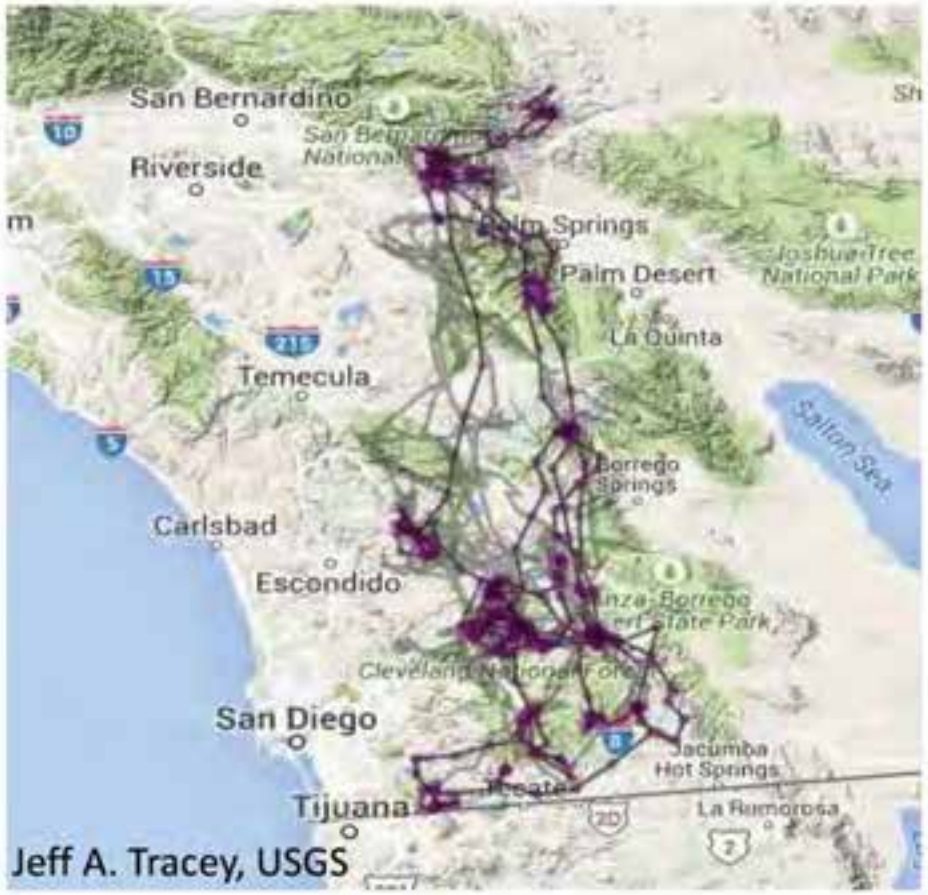
USGS

Helping Inform Siting Decisions

What are regional golden eagle nesting and foraging behaviors that may lead to eagle – infrastructure interactions?

Objectives:

- Population surveys, biotelemetry and genetics
- Focus on occupancy and movement
- Abundance and survival in relation to prey dynamics
- Regional understanding



PIs: Jeff Tracey & Robert Fisher (WERC)

Products: Biotelemetry data for 24 eagles released May 2016

USGS

Needs and Future Directions

- Expand research on wildlife interactions with large scale solar power facilities
- Understand direct and indirect effects on species and landscapes
- Expand knowledge of where species are on the landscape
- Continue efforts to develop deterrents to minimize interactions of wildlife with facilities and effective mitigation strategies

USGS

USGS Energy and Wildlife Contacts

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Mona Khalil
Energy & Wildlife Specialist
Ecosystems Mission Area
U.S. Geological Survey (703)
648-6499 mkhalil@usgs.gov

USGS

Recent USGS Publications of Relevance to Solar Energy Development

- Braham, M.E., Miller, T.A., Duerr, A., Lanzone, M., Fesnock, A., Lapre, L., Driscoll, D., Katzner, T.E., 2015, Home in the heat- Dramatic seasonal variation in home range of desert golden eagles informs management for renewable energy development. DOI- 10.1016/j.biocon.2015.03.020: Biological Conservation, v. 186, p. 225-232.
- Duerr, A., Miller, T.A., Duerr, K.C., Lanzone, M., Fesnock, A., Katzner, T.E., 2015, Landscape-scale distribution and density of raptor populations wintering in anthropogenic-dominated desert landscapes. DOI- 10.1007/s10531-015-0916-6: Biodiversity and Conservation, v. 24, no. 10, p. 2365-2381.
- Simes, M.T., K.M. Longshore, K.E. Nussear, G.L. Beatty, D.E. Brown, and T.C. Esque, 2015, Black-tailed and white tailed jackrabbits in the American West: History, ecology, significance, and survey methods. Submitted to Western North American Naturalist 75(4):491-521. DOI: 10.3398/064.075.0406
- Simes, M.T., K.M. Longshore, K.E. Nussear, G.L. Beatty, D.E. Brown, and T.C. Esque. *In Review*. An annotated bibliography for the black-tailed jackrabbit (*Lepus californicus*) and white-tailed jackrabbit (Lepus townsendii). Prepared and submitted as a USGS Open-File Report
- Dilts, T. E., Weisberg, P. J., Leitner, P., Matocq, M. D., Inman, R. D., Nussear, K. E. and Esque, T. C. (2016), Multi-scale connectivity and graph theory highlight critical areas for conservation under climate change. Ecol Appl. Accepted Author Manuscript. doi:10.1890/15-0925
- Tracey, J.A., Madden, M.C., Sebes, J.B., Bloom, P.H., Katzner, T.E., and Fisher, R.N., 2016, Biotelemetry data for golden eagles (*Aquila chrysaetos*) captured in coastal southern California, November 2014–February 2016: U.S. Geological Survey Data Series 994, 32 p., http://dx.doi.org/10.3133/ds994.

ASWG Mission

The ASWG is a collaborative group of environmental organizations, academics, solar companies, and solar industry representatives that will advance coordinated scientific research to better understand how birds interact with solar facilities. Given the threat that climate change poses to avian species, participants will work with the shared interests of protecting avian species and developing solar projects in an environmentally responsible and a commercially viable manner.

Participants and Roles

- Convener: Large-scale Solar Association
- Facilitation team: Pivot Point
- Decision-making members:
  - Audubon California
  - Defenders of Wildlife
  - Duke Energy
  - First Solar
  - Large-scale Solar Association
  - Natural Resources Defense Counsel
  - NextEra Energy Resources
  - Recurrent Energy
  - SunEdison
  - SunPower

Progress to Date

2016

January

- ASWG meeting with Research Panel (1/13)
- Finalizing Terms of Reference
- Multiagency CWG meeting

February

- Research panel works independently
- ASWG call with research panel

March

- ASWG meeting
- Progress report on Research Panel from Science Advisors

April

- Research Panel develops draft report

Ongoing Engagement with Multiagency Avian-Solar Collaborative Working Group

ASWG Next Steps

2016

May

- Multiagency CWG meeting (Week of 5/9)
- Research panel shares draft report with ASWG

June

- ASWG meeting with research panel (6/1-2)
- ASWG discussion of priorities

July-August

- ASWG and agency observers to meet to discuss final report
- Finalize priorities after agency input

Ongoing Engagement with Multiagency Avian-Solar Collaborative Working Group

Research Panelists

Science Advisors		
Thomas Smith	UCLA	Director, Center for Tropical Research
Kristen Ruegg	UCLA / UCSC	Institute for the Environment and Sustainability, Center for Tropical Research
Research Panelists		
Steve Beissinger	UC Berkeley	Professor of Conservation Biology
Wally Erickson	WEST Consulting	CEO / Senior Statistician
Vasilis Fthenakis	Brookhaven National Lab	Principal Investigator
Luke George	Colorado State University	Senior Research Associate
Rodney Siegel	Institute for Bird Populations	Executive Director

ASWG Research Questions

I. Siting

1) Do avian mortality rates at PV solar power plants differ from background rates at control sites?

2) What is the relationship of mortality rates to site characteristics (e.g., panels, fence lines, overhead transmission lines, scale/configuration of installations, proximity to other solar facilities or other natural or human landscape features such as levels of fragmentation and loss of habitat, migratory flyways and stop over sites, etc.)?

3) How might siting be optimized to reduce potential impacts on vulnerable bird populations in a cost-effective manner?

ASWG Research Questions

II. Population level effects

1) Are solar sites causing avian mortality that is significant at the scale of the population for individual species?

a) How should populations be defined in this context?

b) What research and data would be required to determine if mortality associated with solar sites is additive or compensatory?

c) How do population impacts differ by species, guild, migratory pathway, taxonomic unit and classification (threatened versus non-threatened), etc.?

ASWG Research Questions

III. Lake Effect

1) Are water or other birds attracted to solar panels because they perceive them as water bodies (i.e., a “Lake Effect”)?
2) Is a possible Lake Effect related to geographic and environmental/infrastructure characteristics of sites?
3) Do birds show evidence of attraction to large solar arrays (e.g. show changes in flight direction or behavior as they approach arrays)?
4) What types of birds are affected?
5) Is possible mortality due to stranding, strikes or some other process?
6) If the Lake Effect is demonstrated, what cues are causing the birds to mistake the solar array as a water body (e.g., what wavelength of reflected light are they responding to)?
7) If a Lake Effect can be demonstrated, how might the threat be mitigated or eliminated?

ASWG Research Questions

IV. Avian attraction/mitigation/deterrents

1) What are the avian risk-reduction options that might lower avian mortality?

V. Feather spots

1) What do feather spots represent? Can feather spots be better defined and quantified?

a) What methods can be used to identify the species and number of individuals that comprise feather spots? Are feather spots a reliable indicator of avian strikes and/or fatalities.

b) Do feather spots from larger carcasses persist in the environment longer than spots from smaller ones?

ASWG Research Questions

VI. Climate change and other broader impacts

1) What demographic effects may result from climate change in the absence of large-scale solar development, and how do these compare with the impacts of solar facilities for specific bird populations?

2) Using historical and contemporary data on the abundance and distribution of avian species with future climate projections, what are the predictions for the future avian distribution and population trends in California?

    a) How can this be used to mitigate the impacts of PV facilities?

Achieving Mutual Goals

- Understanding common research interests
- Identifying key priorities
- Identifying funding mechanisms
- Continued collaboration to drive short and long term results

Development of Tools, Training, and Outreach to Address Solar Glare and Flux-Related Avian Impacts

Multiagency Avian-Solar Collaborative Working Group Public Workshop

Timothy Wendelin
National Renewable Energy Laboratory

Clifford K. Ho
Sandia National Laboratories

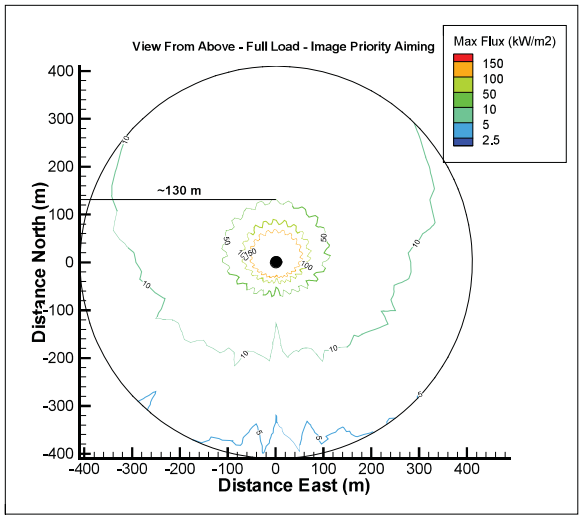
Cianin Sims
Sims Industries

May 10, 2016

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Goals

- **DOE is funding work to address avian flux hazards**
  - Develop models and tools to quantify flux (power/unit area) from heliostat aiming strategies
  - Mitigate impacts of avian (and glare) hazards
  - Optimize operational performance



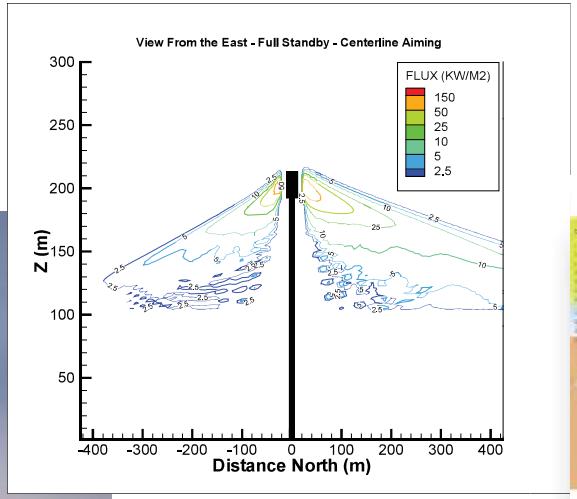
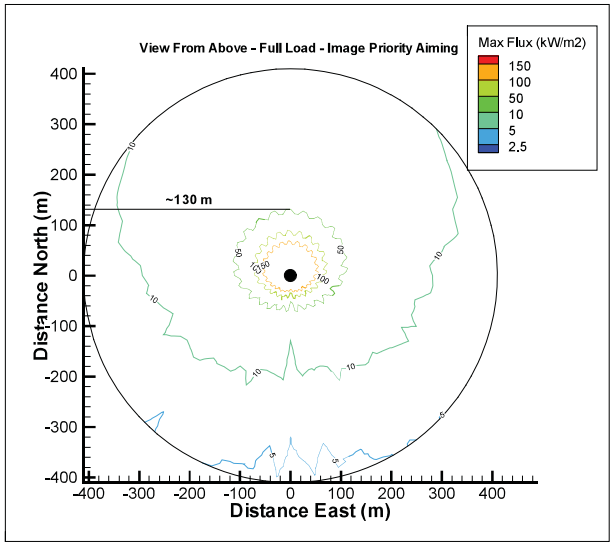
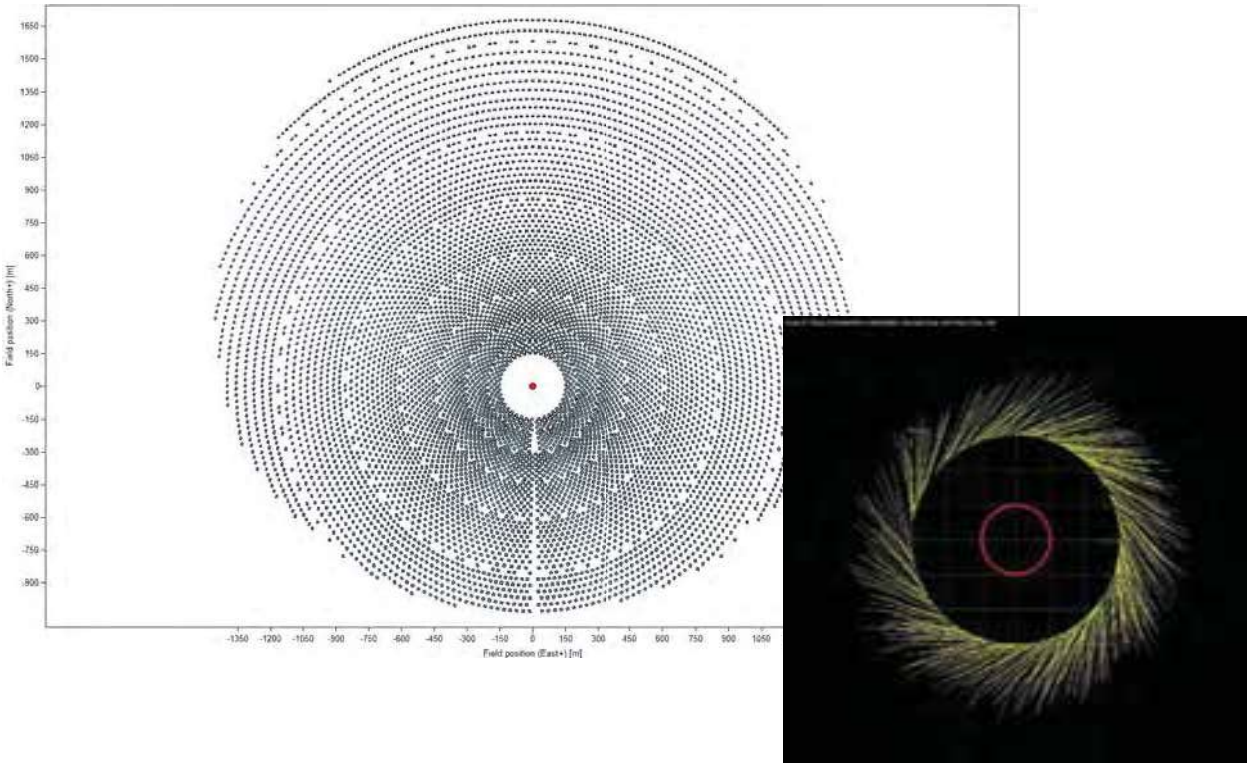


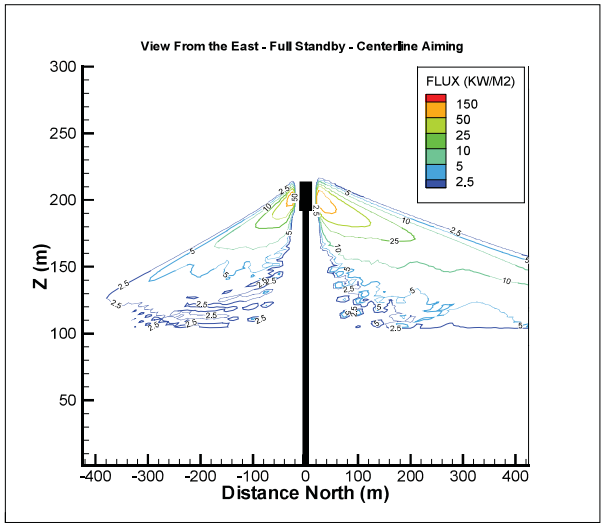
Photo and model of high-flux regions causing solar glare and avian hazards at Ivanpah Solar Electric Generating System

Previous Work

- **Argonne/NREL Study "A Summary Review of Issues Related to Avian Mortality at Utility-Scale Solar Facilities"**
  - Preliminary results compare well with previous analyses
  - Various approaches to standby aiming can significantly reduce flux levels and their impact on avian mortality.
  - Future work recommended to determine the impact of alternative aiming strategies which simultaneously minimize impacts to plant operations and avian health.







Approach

1. Identify metrics for safe solar flux levels

2. Develop tools to model solar flux in air space around power tower
   - Case studies: Ivanpah and NSTTF at Sandia (for validation)

3. Compare alternative heliostat standby-aiming strategies
   - Minimize solar flux according to metrics in (1) above
   - Minimize impact on plant operations

4. Develop user friendly assessment tool for agencies/stakeholders

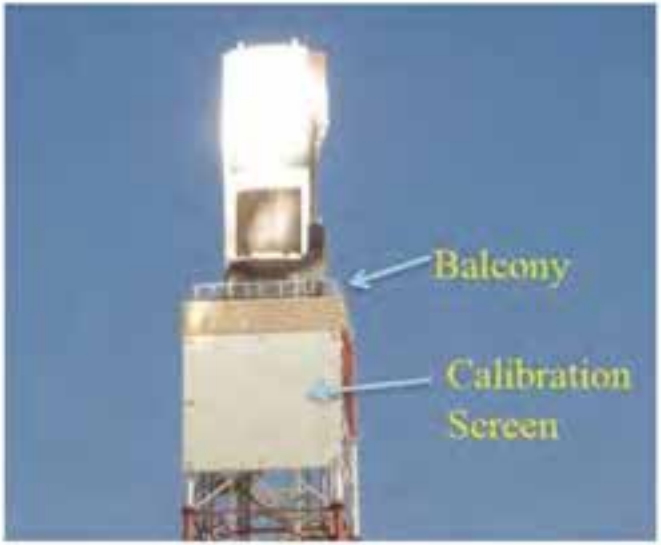
Ivanpah Solar Electric Generating System

National Solar Thermal Test Facility (NSTTF)

Tower Illuminance Model

Solar Energy Development Center
(Negev Desert, Southern Israel)

- Tests conducted with bird carcasses exposed to different flux levels (Santolo, 2012)
  - "no observable effects on feathers or tissue were found in test birds where solar flux was below 50 kW/m^2 with exposure times of up to 30 seconds."
  - California Energy Commission analytical study found that "a threshold of safe exposure does not exist above a solar flux density of 4 kW/m^2 for a one-minute exposure"



Crescent Dunes (SolarReserve)

(Tonopah, Nevada)

- **110 MW_e molten-salt power tower**
- **In January 2015, 3,000 heliostats were aimed at standby points above receiver**
  - 115 bird deaths in 4 hours
  - SolarReserve spread the aim points to reduce peak flux to < 4 kW/m^2
    - Reported zero bird fatalities in months following change

Figure 1 – The halo created by the reflected light of 3,000 heliostats which caused the bird mortalities.

Images from http://cleantechnica.com

Ivanpah Solar Electric Generating System

(Ivanpah, California)

- **390 MW_e direct steam power-tower plant (3 towers)**
- **Kagan et al. (2014) found 141 bird fatalities Oct 21 – 24, 2013**
  - 33% caused by solar flux
  - 67% caused by collisions or predation
- **H.T. Harvey and Associates found 703 bird fatalities in first year at ISEGS**
  - Study estimated 3500 bird fatalities accounting for search efficiency and scavengers removing carcasses
- **ISEGS has since implemented new heliostat aiming strategies and bird deterrents**

	Number of Detections				
Cause	Winter	Spring	Summer	Fall	Total
Singed	27	100	42	147	316
Collision	14	15	10	45	84
Other*	5	5	2	3	15
Unknown	51	82	61	94	288
Total	**97**	**202**	**115**	**289**	**703**

* Includes detections in ACC buildings without evidence of singeing or collision effects.

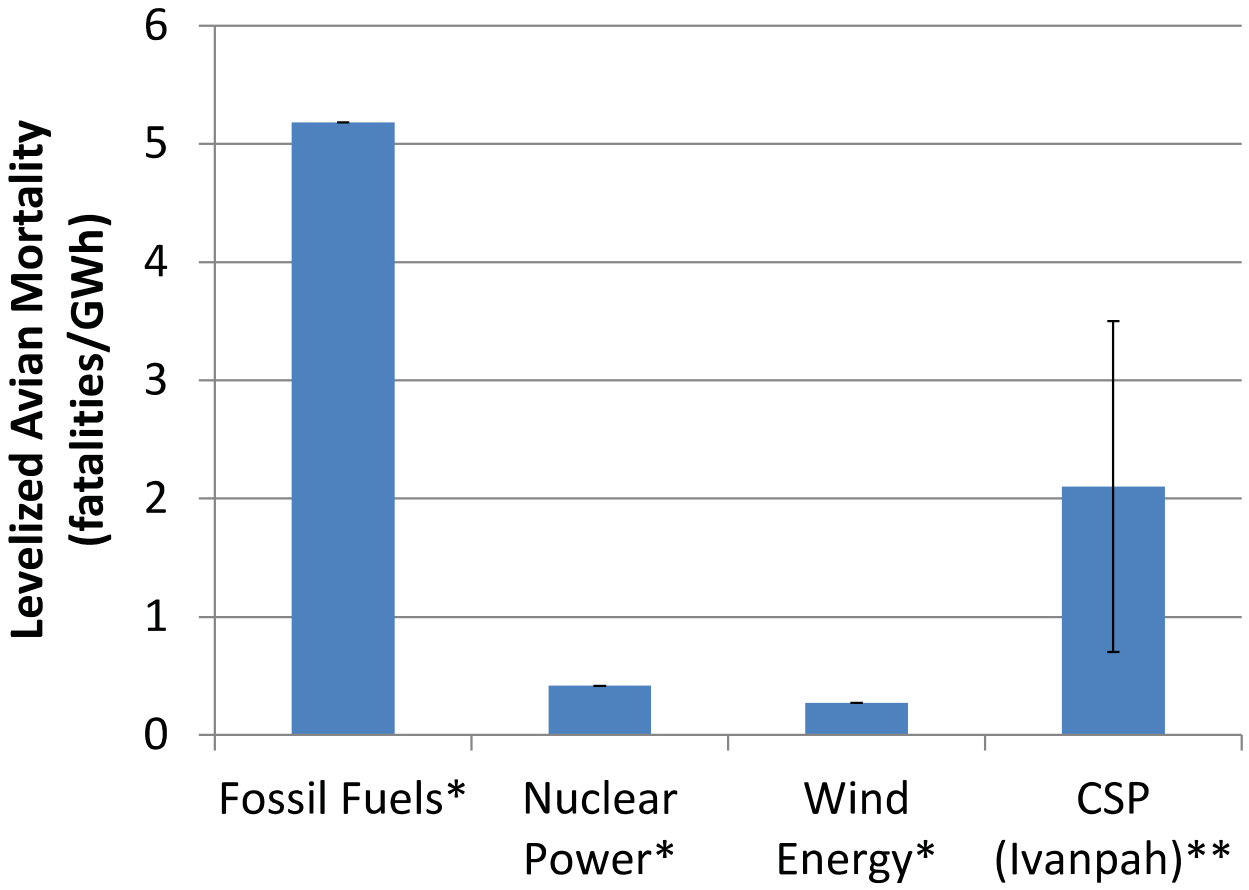
H.T. Harvey and Associates, 2013 - 2014

Gemasolar Thermosolar Plant

(Andalusia, Spain)

- 20 MW_e molten-salt power tower plant
- 14-month study revealed no avian fatalities in vicinity of tower (Dept. of Zoology, U. Granada)

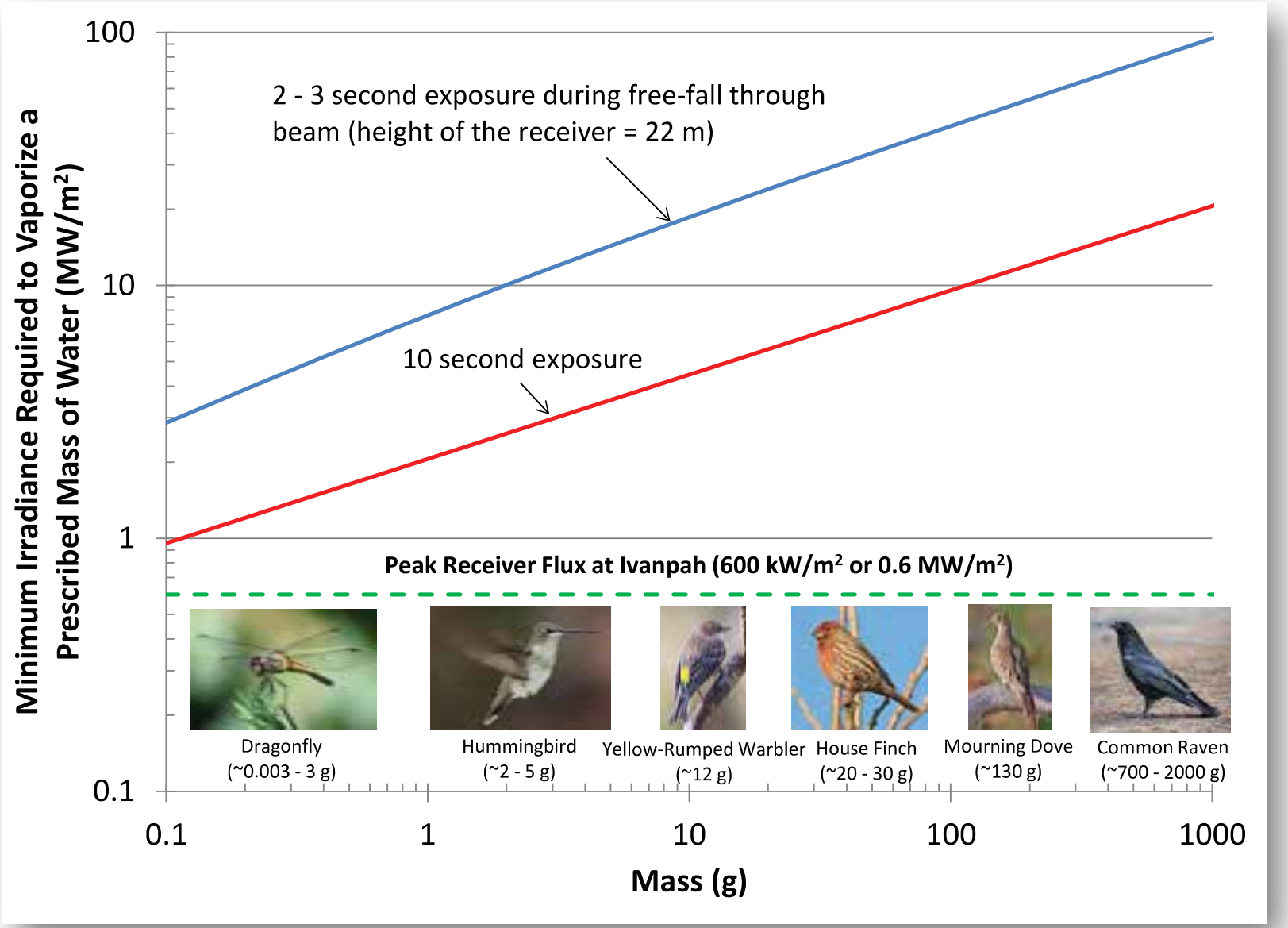
Levelized Avian Mortality for Energy (LAME)



*Sovacool (2009)

**During first year of operation at Ivanpah (2013 – 2014) before mitigation measures and deterrents were implemented

Feasibility of Bird Vaporization



Deterrents

- **Acoustic**
  - Painful or predatory sounds
- **Visual**
  - Intense lights and decoys
- **Tactile**
  - Bird spikes, anti-perching devices
- **Chemosensory**
  - Grape-flavored powder drinks (methyl anthranilate)

Conclusions from prior studies

- The large number of "streamers," or smoke plumes, observed and attributed to vaporization of birds is likely caused by insects flying into the concentrated flux
- Complete vaporization of birds flying into concentrated solar flux is highly improbable
- Safe irradiance levels for birds have been reported to range from 4 kW/m^2 to 50 kW/m^2
- Mitigation measures and bird deterrents can and are being used

Flux Hazard Analysis

- Create computer model of baseline power tower design (Ivanpah Unit #2) in SolarPILOT / SolTrace.
  - Heliostat geometry, positions and tower height from NRG.
- Create computer model of National Solar Thermal Test Facility in SolarPILOT / SolTrace.
  - Validate model using flux measurement tools

Flux Hazard Analysis

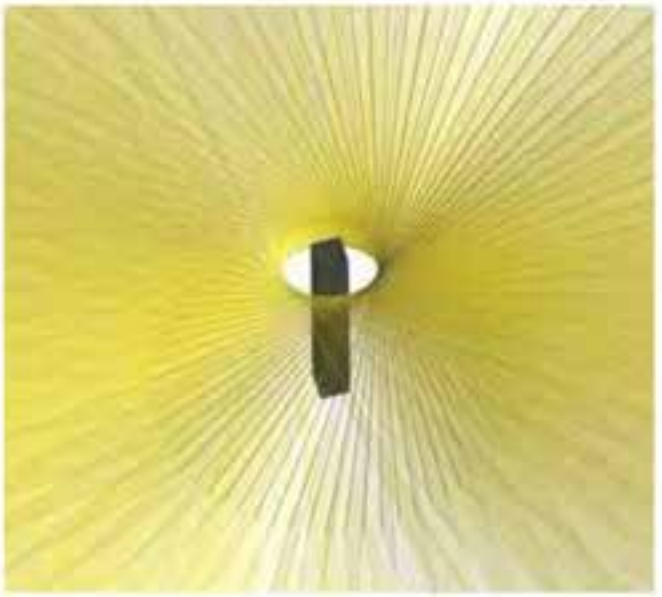
- Obtain/establish relevant information/parametric data from industry/stakeholder workshop
  - Baseline/novel aiming strategies.
  - Heliostat control capabilities (slew rates, aiming algorithms/capabilities)
  - Metrics for safe solar flux levels (I_{haz}, $V > I_{haz}$)
  - Performance metrics

Flux Hazard Analysis

- Apply methodology to Ivanpah and NSTTF fields for analyzing baseline and alternative cases for standby conditions.
  - Generate volumetric flux maps for standby aim-point strategies for representative times and days of the year.
  - For representative flight paths through the volume, perform worse case thermal analysis to determine whether surface (feather) temperature exceeds 160° C along given flight path.
  - Consider number of flight paths exceeding 160°C or the total time of exceedance as metrics to determine the effectiveness of different stand-by aiming strategies.

Flux Hazard Analysis

- Evaluate successful aiming strategies for impact on annual performance
  - Quantify time from standby to operational for representative days of the year and for both baseline and alternative standby aiming strategies.
  - Quantify annual performance impact of alternative vs baseline cases with the goal of achieving zero loss of annual energy delivered.
- Provide both input and output data from methodology for validation of the enhanced Tower Illuminance Model (TIM)



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Wind Energy/Wildlife Interactions: Overview of the Challenges and Current Efforts to Address Them

Elise DeGeorge, NREL

May 11, 2016

NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Outline

- Historical overview and statutory authority
- Challenges to wildlife
- Key species habitat distribution
- Research
- Collaboratives
- Conclusions

Red-tailed hawk eating a rabbit.
Photo by Dennis Schroeder, NREL 22325

Outline

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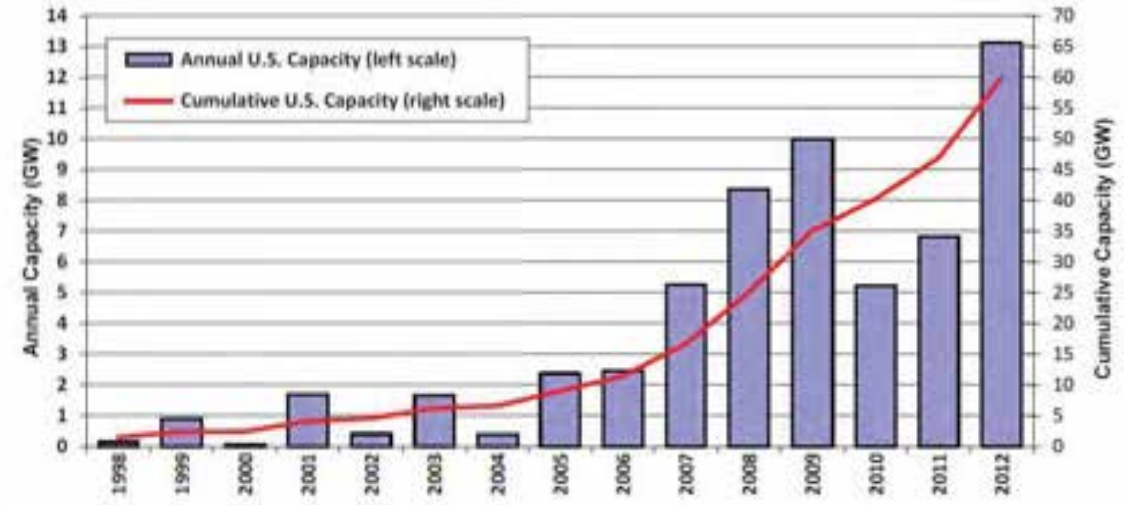
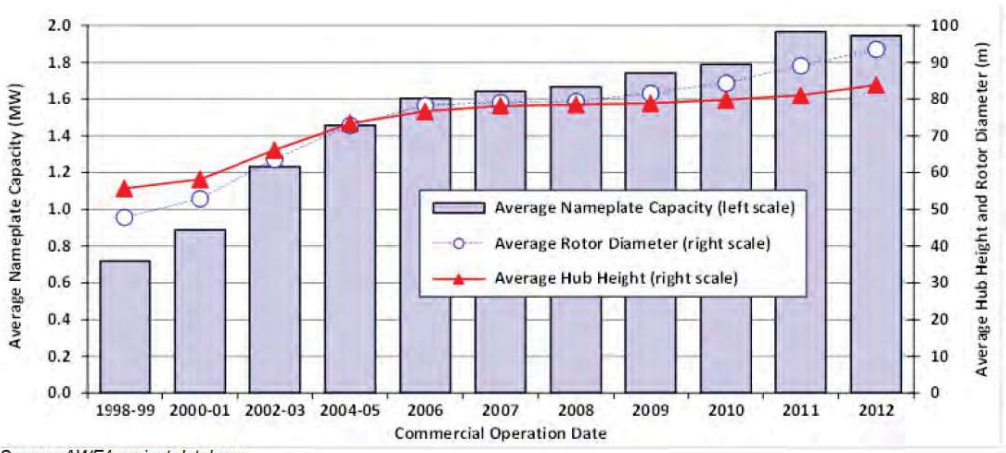
Photo by J. Lucas, Purdue University

Wind Installed Capacity over Time



Source: AWEA project database

Figure 1. Annual and Cumulative Growth in U.S. Wind Power Capacity

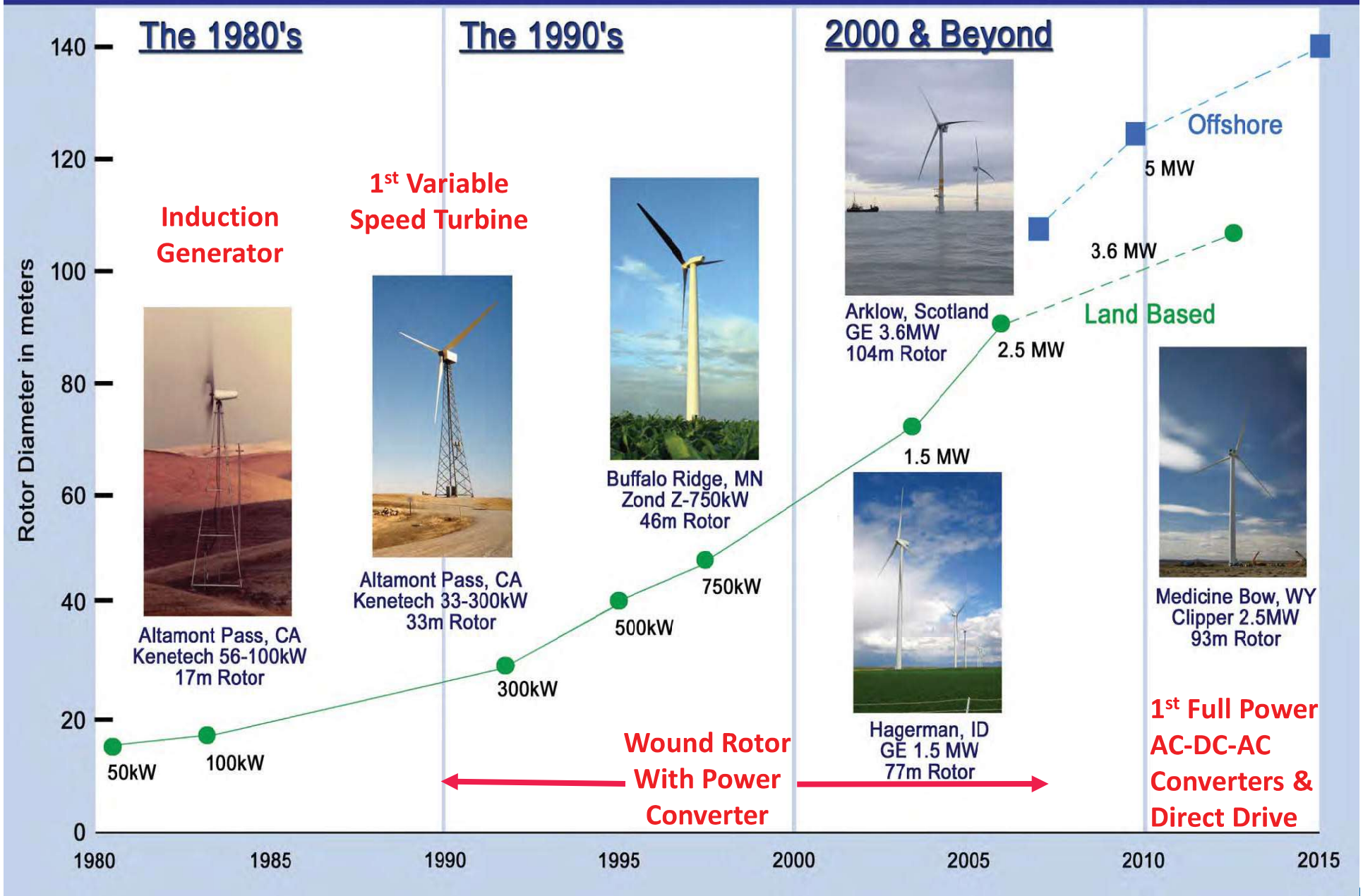


Source: AWEA project database

Figure 15. Average Turbine Nameplate Capacity, Rotor Diameter, and Hub Height Installed during Period (only turbines larger than 100 kW)

Source: 2012 Wind Technologies Market Report

Evolution of U.S. Commercial Wind Technology



Wind Turbines May Impact Wildlife & Habitats

The discussion of wind turbine impact on wildlife began at the Altamont Wind Resource Area, California, in the late 1980s and early 1990s

Junction Hill Top Wind Farm, Iowa. Five GE 1.6-megawatt (MW) turbines. *Photo by Tom Wind, NREL 26494*

Altamont Pass Wind Resource Area, California. Kenetech 56-100 kilowatt (kW) turbines. *Photo by Shawn Smallwood, NREL 17329*

Real or Perceived Wildlife Impacts can be a Challenge for Development

- Misinformation on potential of impacts is rampant
- Impacts are species- and habitat-specific
- Impacts are site-specific; micrositing is critical to reducing these impacts.

Combination of 221 Mitsubishi Heavy Industries 1-MW turbines and 53 GE 1.5-MW turbines at the Cedar Creek Wind Farm in Grover, Colorado. *Photo by Dennis Schroeder, NREL 30593*

Eight Nordex N60, 1,300-kW wind turbines in Garrett, Pennsylvania. *Photo by Green Mountain Energy* Company, *NREL 09699*

Figure 2: Summary of All Bird Mortality Rates at Various Wind Energy Facilities*

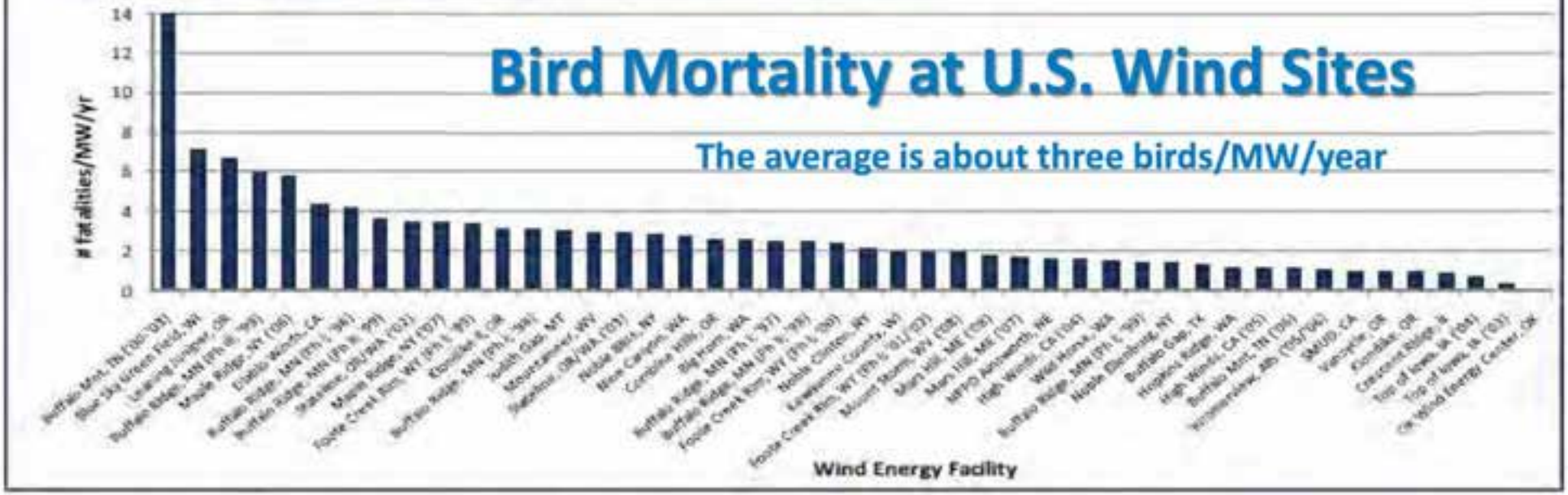
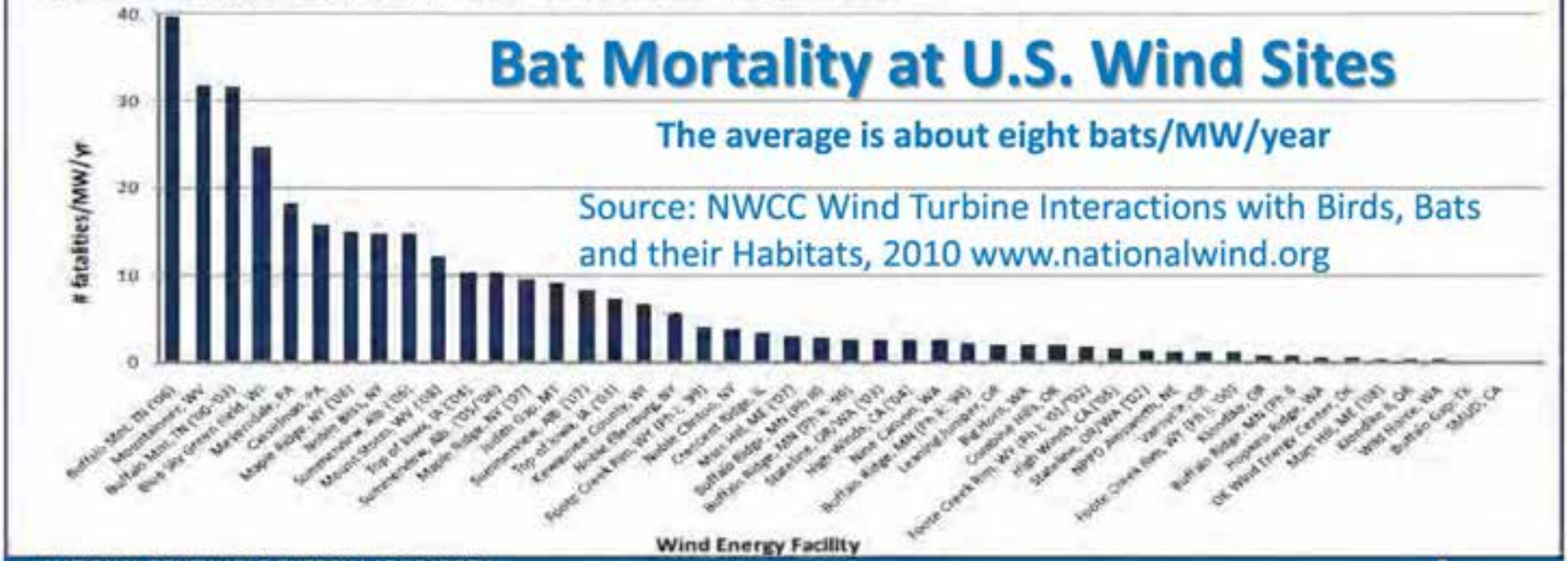


Figure 3: Summary of Bat Mortality Rates at Various Wind Energy Facilities*



U.S. Fish and Wildlife Service Statutory Authority for Wind Permitting Guidelines

- **Endangered Species Act:**
  - Directs the Service to identify and protect threatened and endangered species and their critical habitat
  - Must provide a means to protect the species' ecosystems.
- **Migratory Bird Treaty Act:**
  - Based on a strict liability statute
  - Does not require proof of intent, knowledge, or negligence to be deemed a violation
  - Does include actions resulting in the 'taking' or possession of a protected species, in the absence of a USFWS permit or regulatory authorization, is deemed a violation.
- **Bald and Golden Eagle Protection Act:**
  - Provides additional legal protection for bald and golden eagles. First enacted in 1940/ golden eagle added in 1962

Whooping Crane. *Photo by Karin Sinclair, NREL 27961*

Bald Eagle. *NREL 01101*

Outline

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Challenges to Wildlife Related to Wind Energy

Wildlife challenges include:

- Habitat and species that are likely to be impacted vary by
  - Climate
  - Topography
  - Location
- No single solution
- Impacts expected to increase as more turbines are installed across the country—but these can be managed.

Ways of addressing the challenges:

- Identify-near-term research needs
- Use a multipronged approach
- Involve multiple stakeholders
- Garner support for collaborative field research, methods/metrics refinement, tools, mitigation strategies, and deterrent development/testing
- Disseminate information.

Challenges: Key Issues Being Addressed

Impacts of wind turbines on wildlife include:

- Bats (mortality)
- Raptors (mortality)
- Nocturnal migration (mortality)
- Prairie birds (habitat – displacement; genetic diversity)
- Cumulative (population impacts).

Tools to avoid problematic sites:

- Federal (e.g. Wind Energy Guidelines)
- State guidelines
- Pre versus post construction validation
- Mapping of migratory pathways
- Presiting assessments
- Risk assessments
- Literature archive
- Peer review (promote transparency)

Sage Grouse. *NREL 20649*

Avian Strike Probability Versus Turbine Size

Altamont Scale

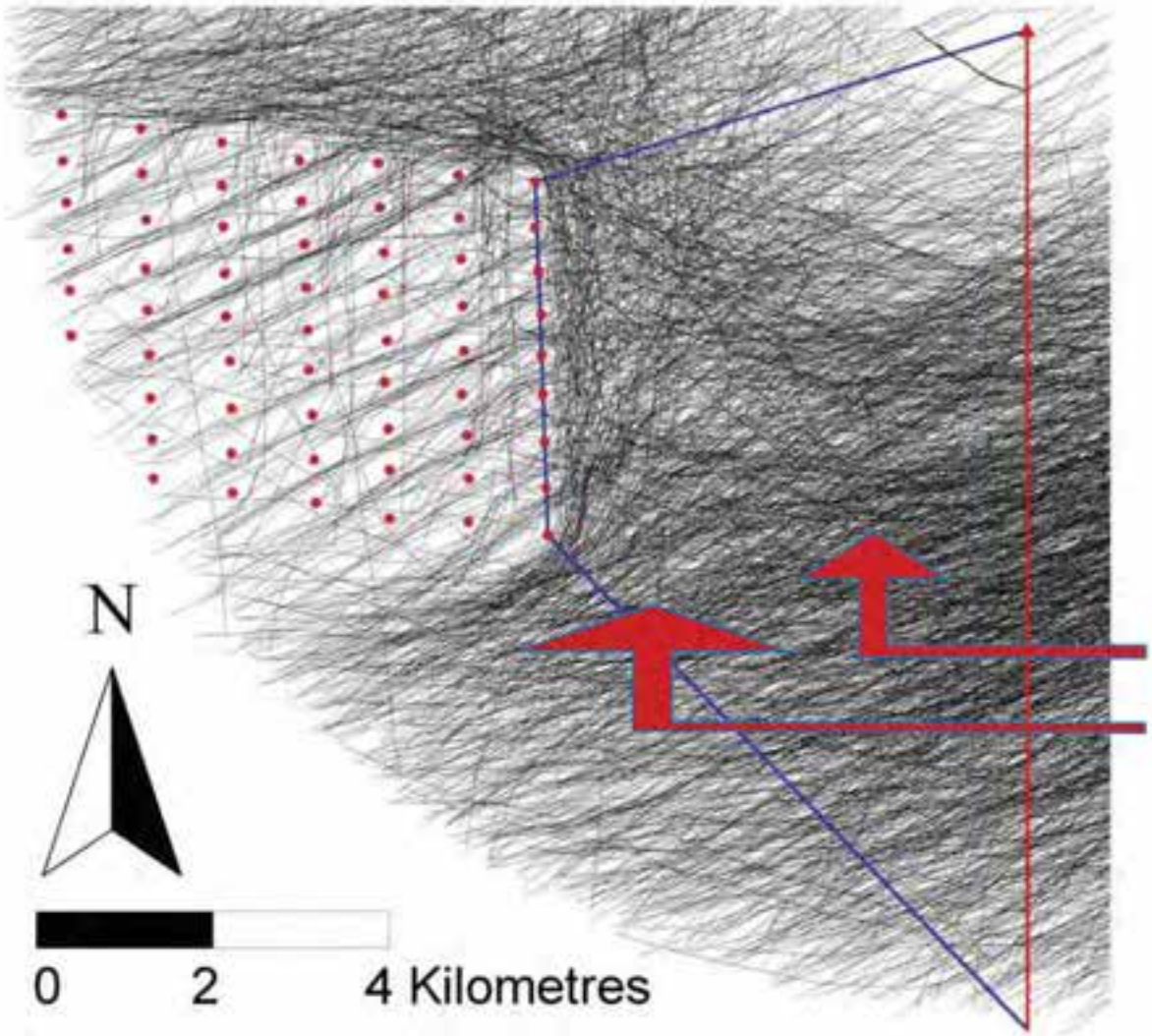
15-meter (m) diameter RSA and 100 kW

Next-Generation Scale

93-m diameter RSA and 2.5 MW

Avoidance Behavior can be Significant

Radar tracks of migrating birds through the Nysted Offshore Windfarm for operation in 2003

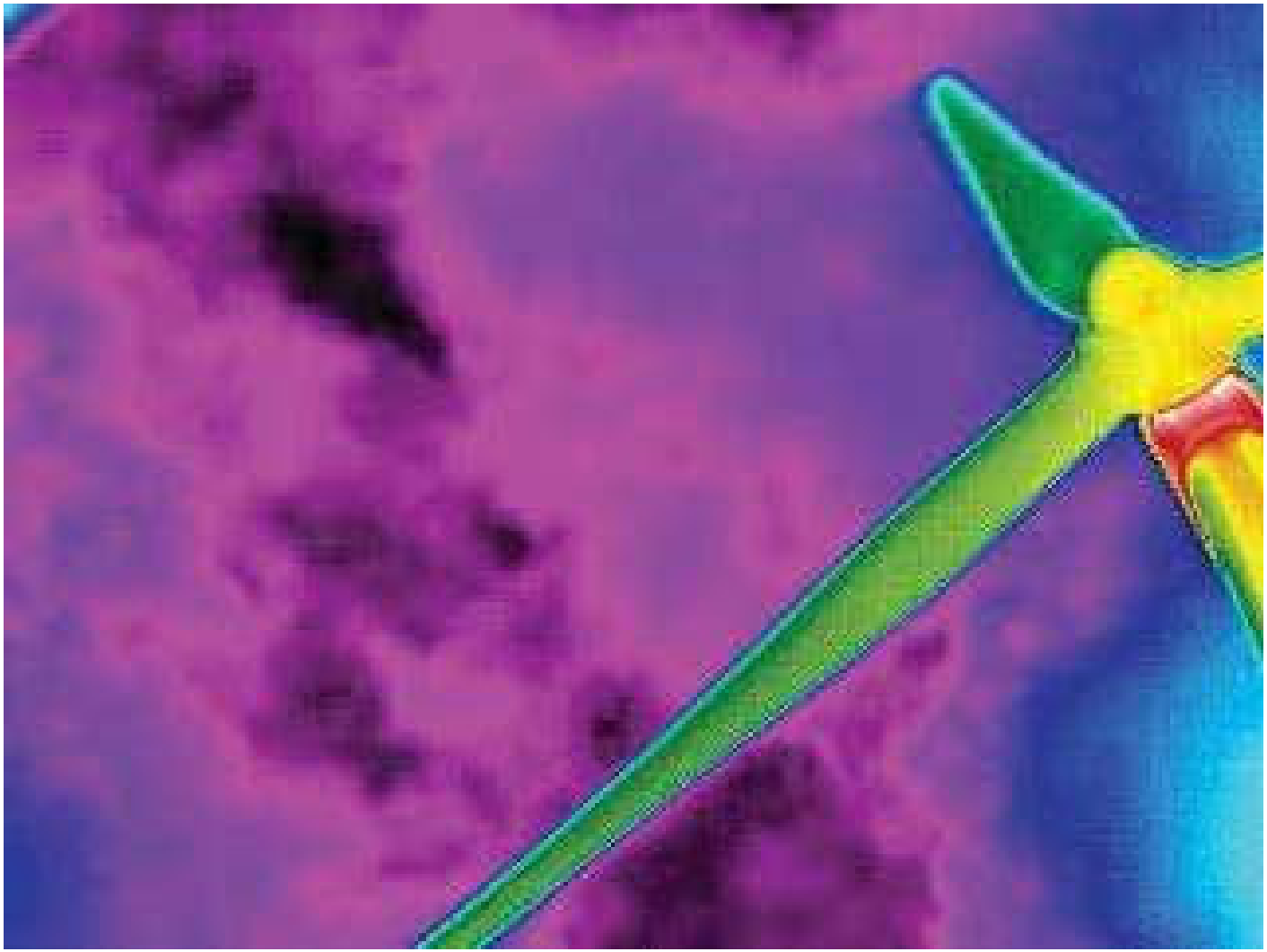


Response distance:

day = c. 3,000 meters (m)

night = c. 1,000 m

Bats Interactions: Curiosity?



Infrared Image of a Bat Flying Through a Wind Turbine Rotor

Video by Jason Horn, Boston University

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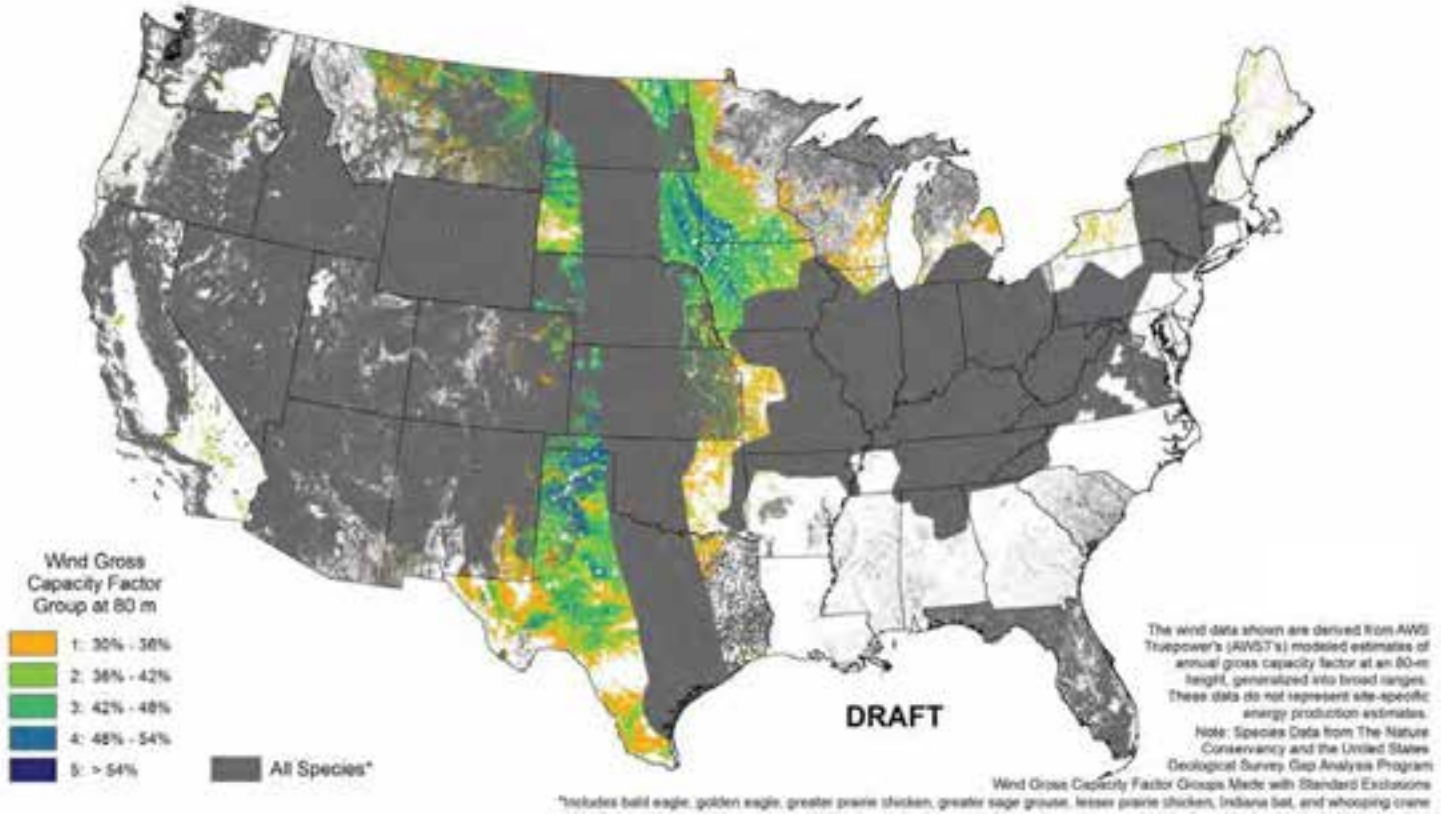
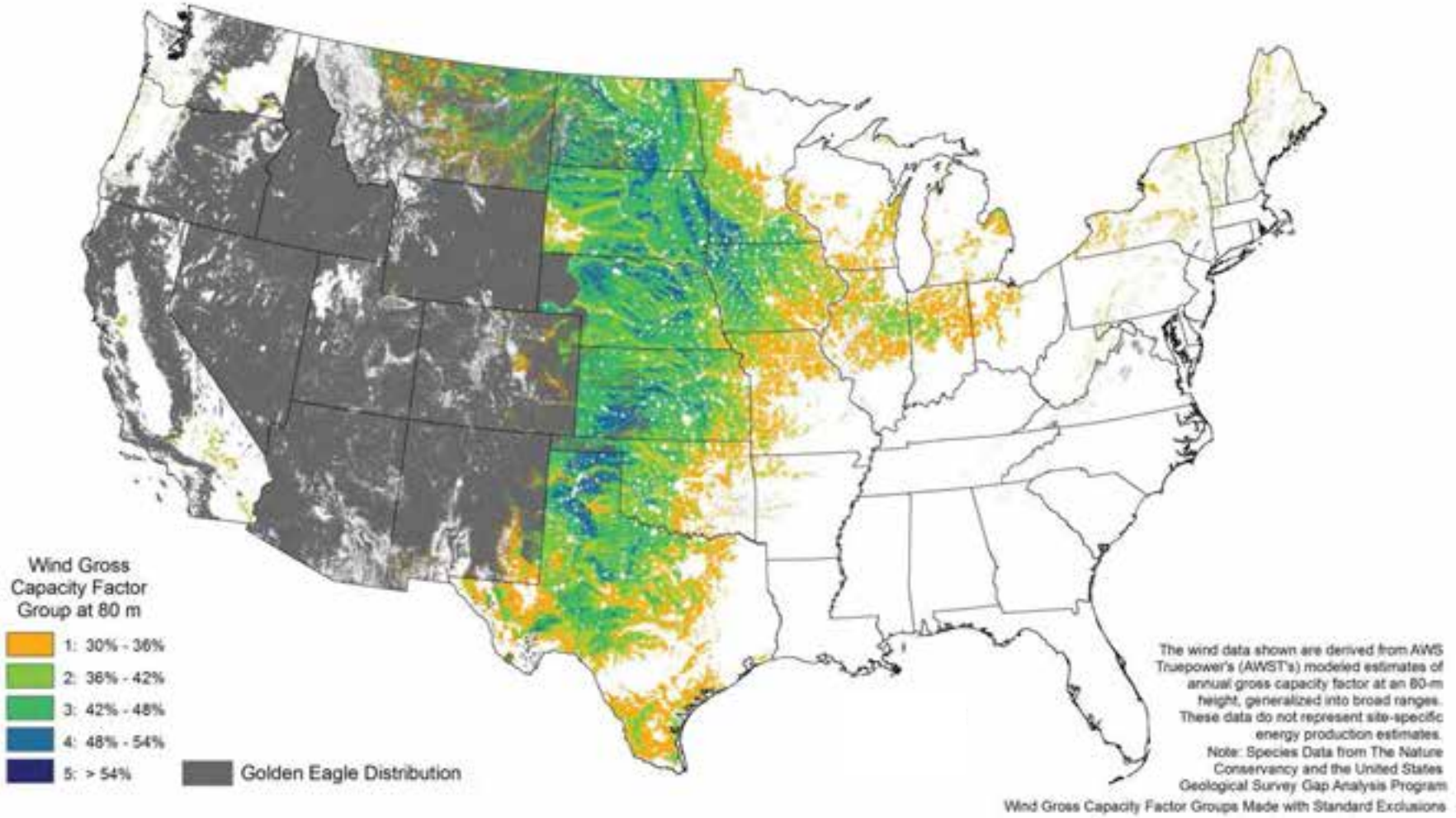
Key Species Habitat Distribution: Seven Species



Areas in grey indicate where wildlife species live, breed, and migrate. These areas are *not* no-build zones, but are of special concern for developers that could increase costs and time, or lead to project delays or cancellation.

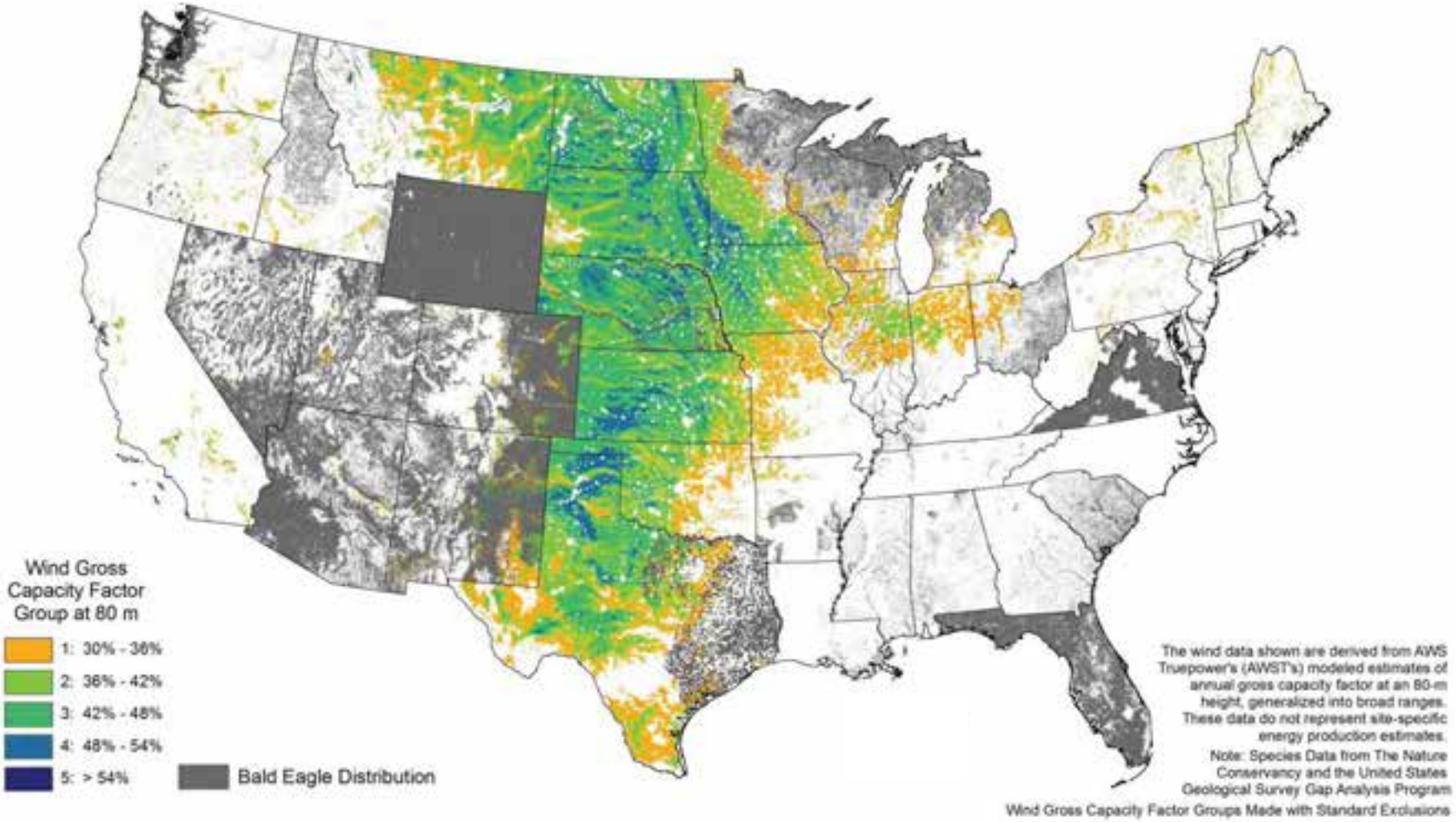
Wildlife distribution can impact local areas very differently. On a national scale, 44%–53% of land could be affected.

Key Species Habitat Distribution: Golden Eagles



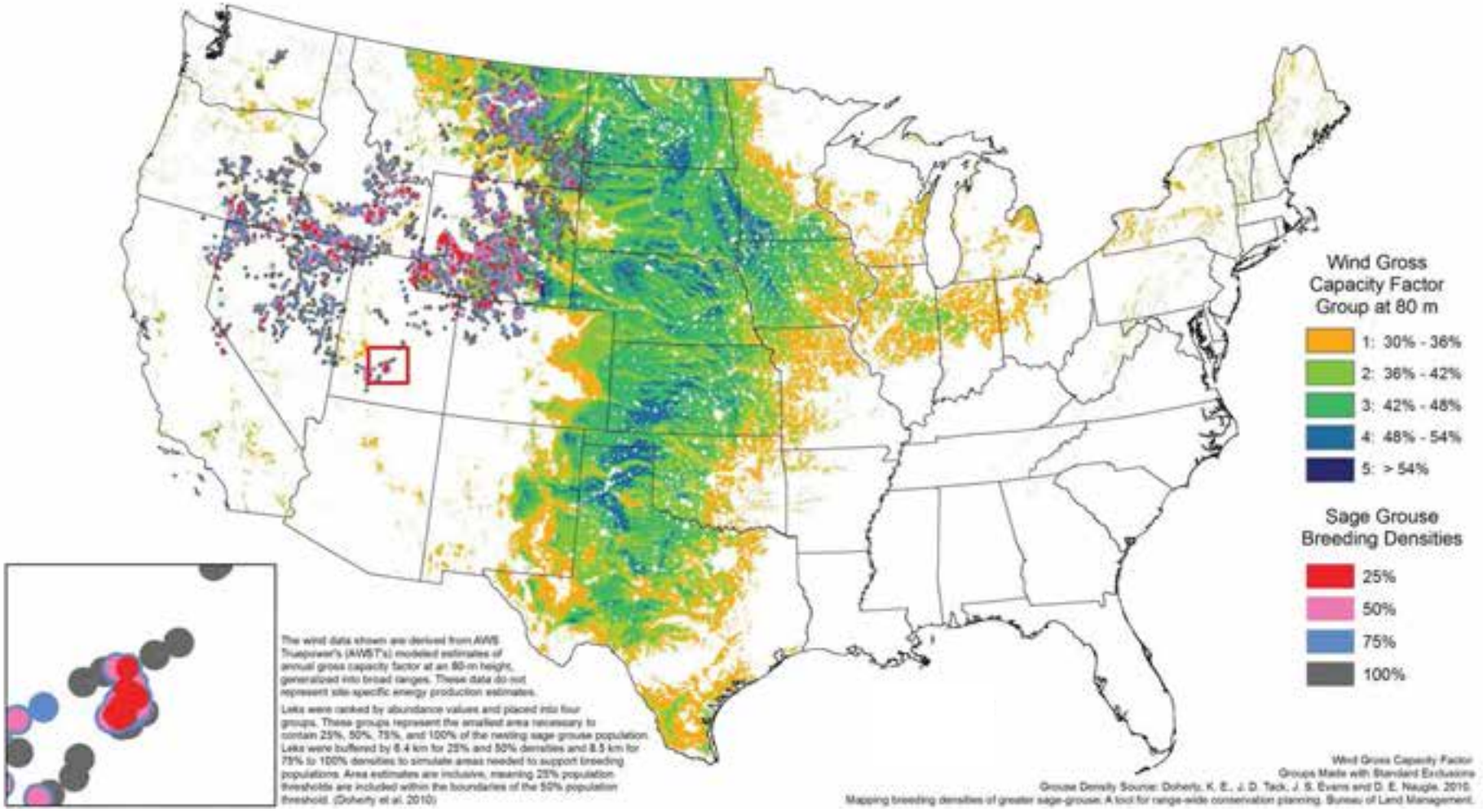
Golden eagle habitat: areas requiring additional consideration

Key Species Habitat Distribution: Bald Eagles



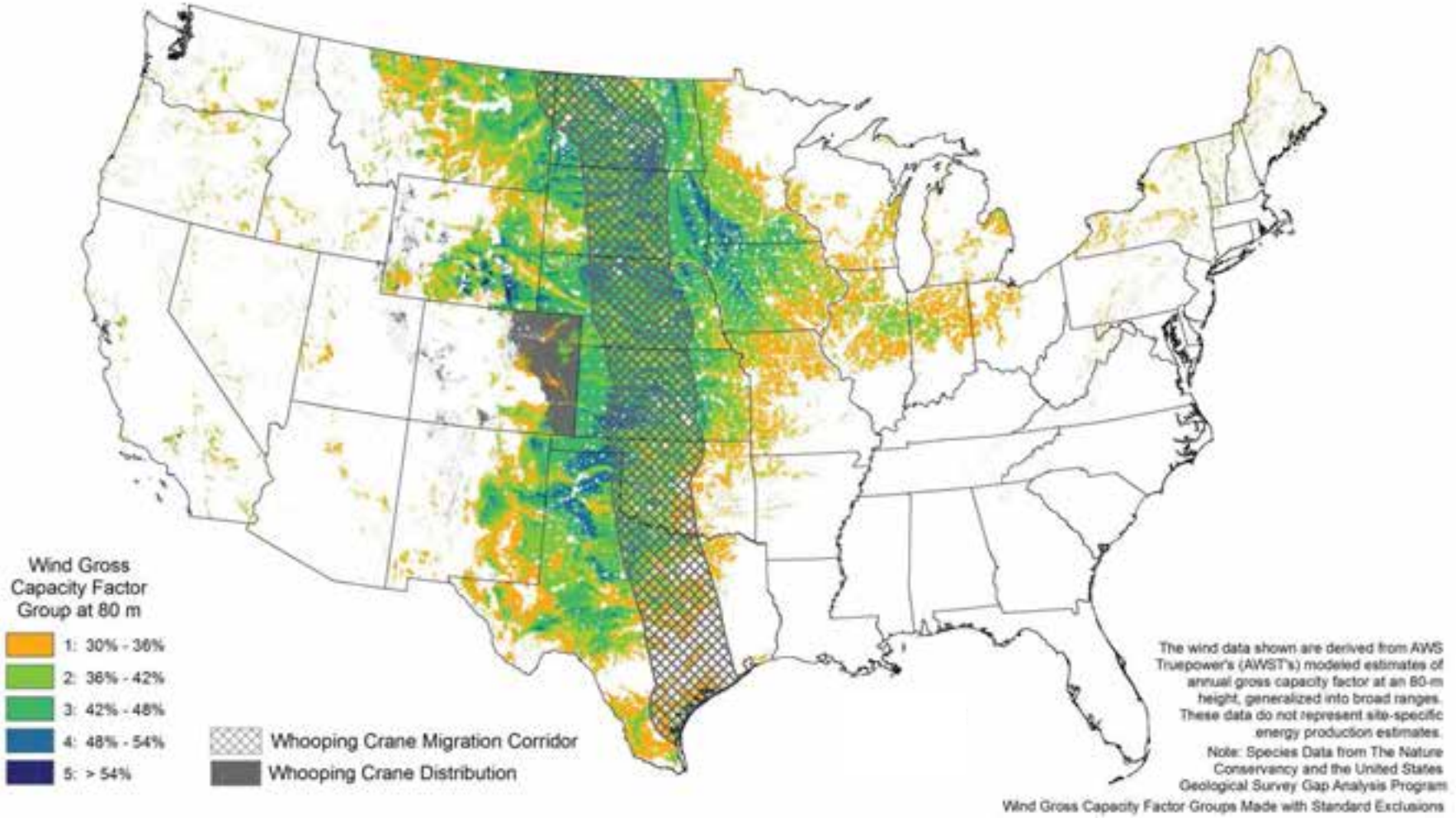
Bald eagle habitat: areas requiring additional consideration

Key Species Habitat Distribution: Sage Grouse



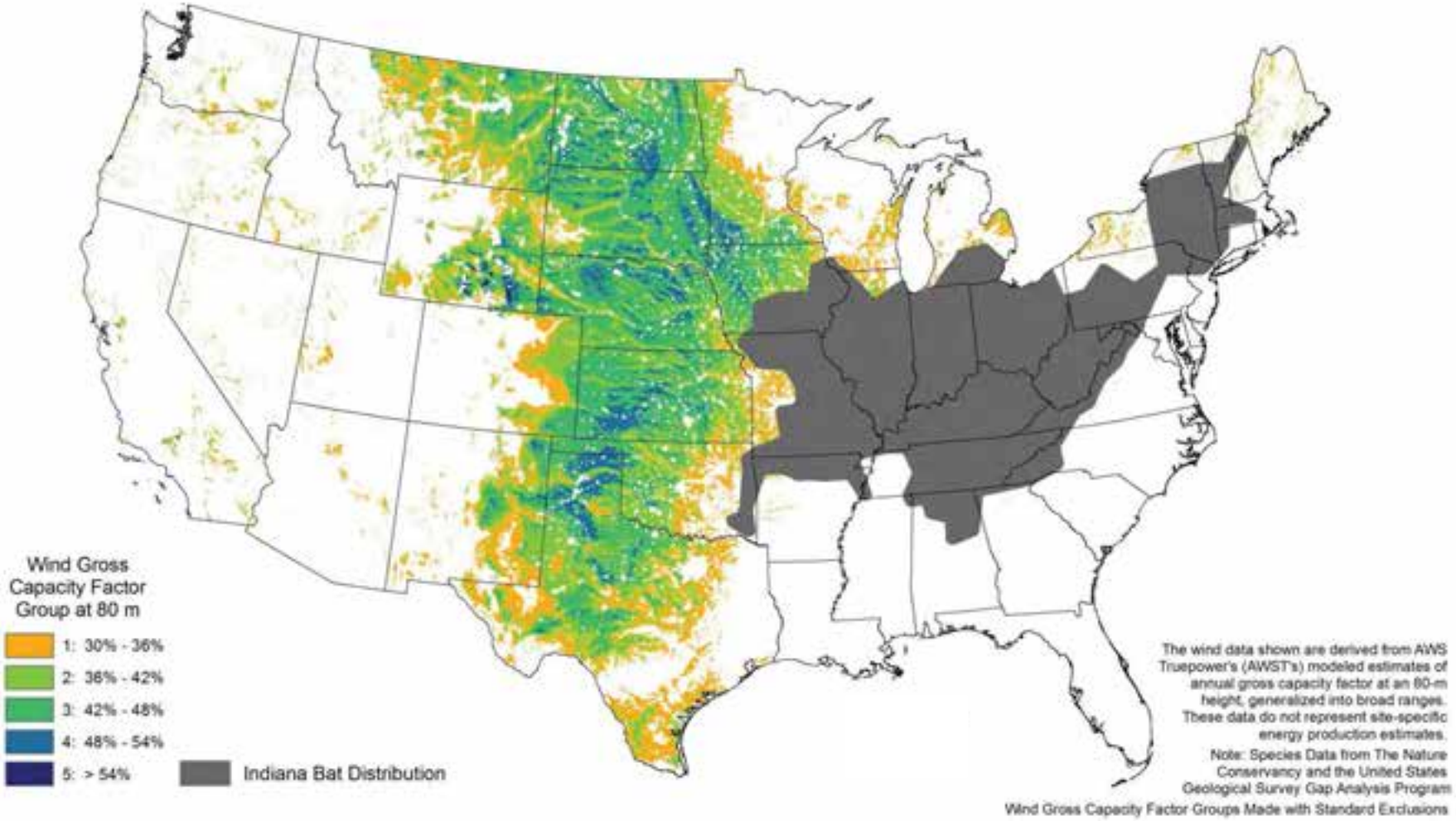
Sage grouse habitat and breeding sites: areas requiring additional consideration

Key Species Habitat Distribution: Whooping Crane



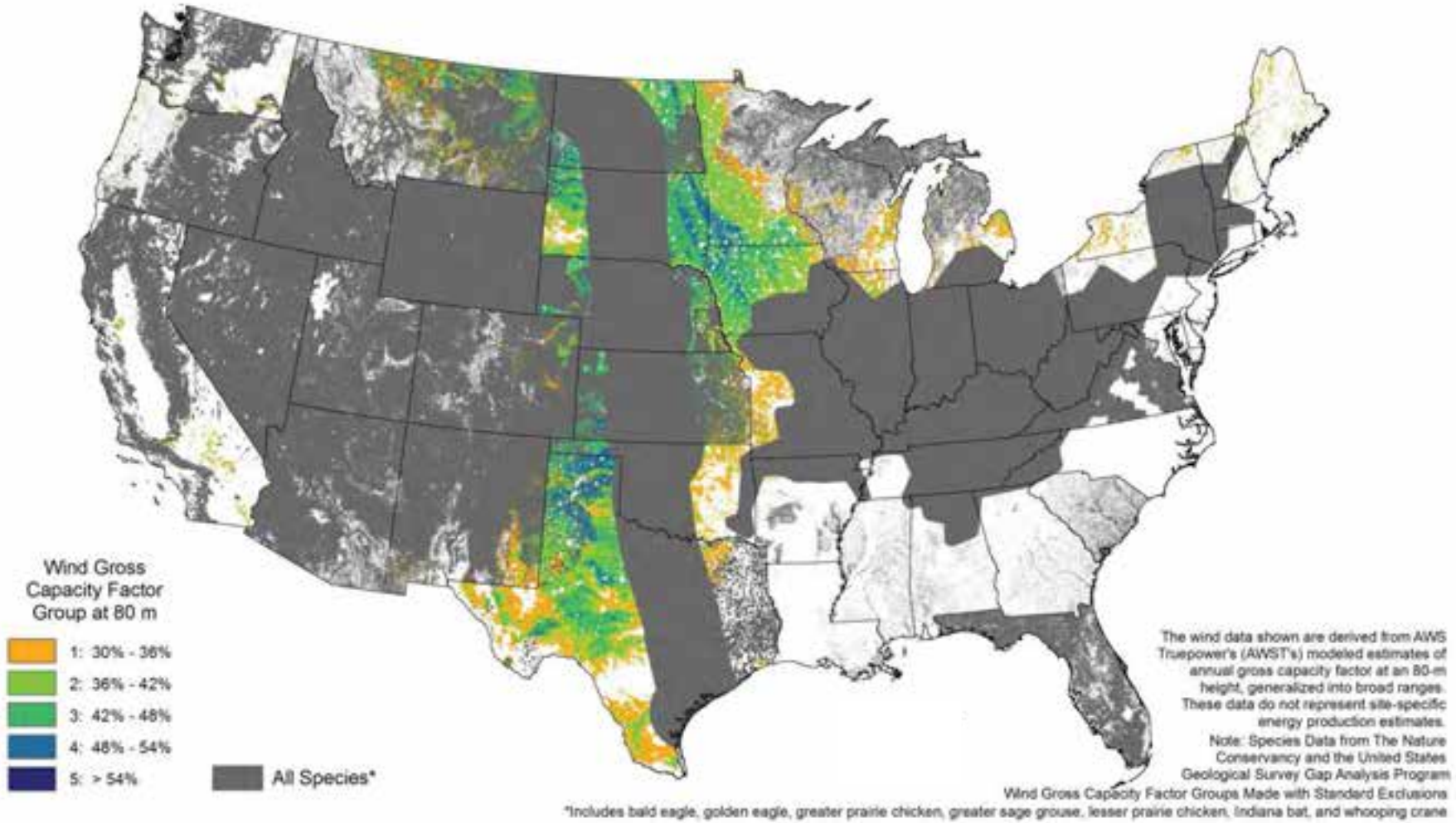
Whooping crane habitat and migratory corridor: areas requiring additional consideration

Key Species Habitat Distribution: Indiana Bat



Indiana bat habitat distribution: areas requiring additional consideration

Key Species Habitat Distribution: Combined



Combined wildlife impacts: areas requiring additional consideration

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Mitigation Research

Mitigation research focuses on:

- Deterrent development
- Correlating wind speed to utilization
- Correlating weather patterns to fatality patterns
- Offsite compensation
- Micrositing
- Turbine size
- Blade visibility
- Seasonal shutdowns
- Habitat manipulation
- Artificial roosts.

Greater Prairie Chicken. *Photo by Mark Herse, Kansas State University, NREL 27970*

Technology/Model Research

Technology/modeling research is focused on:

- Radar validation
- Thermal imaging cameras
- Near-infrared cameras
- Stable isotopes
- Predictive models.

Infrared camera. *Photo by Dennis Schroeder, NREL 20338*

Testing Detection Systems at the NWTC

Houdini in flight during FY15. GPS data logger can be seen on his right foot and UHF tracker can be seen on his left.

Testing of detection systems using Auburn University's golden and bald eagles

Importance of Convening Interdisciplinary Panel of Experts for Prioritizing Research

The National Renewable Energy Laboratory
together with
The Department of Energy's Wind and Water Power Technologies Office
are pleased to invite you to the
Eagle Detection and Deterrent Technology Research Gaps and Solutions Workshop

Land-based wind energy deployment is challenged by the lack of accepted solutions for reducing eagle fatalities at wind energy projects. Therefore, there is an expressed need for tools to reduce these fatalities and to facilitate permitting under the Bald and Golden Eagle Protection Act. For this workshop, we will be engaging experts from a wide range of fields to comprehensively assess the current state of technologies, key gaps, promising emerging technology solutions, novel ideas, and research and development needs.

Please join us...
The National Renewable Energy Laboratory
Research Support Facility
15013 Denver West Parkway
Golden, Colorado

Tuesday December 8th, 2015	Full day
Wednesday December 9th, 2015	Half day

CONTACTS
Bethany Straw
Karin Sinclair
Elise DeGeorge

RSVP required
Please provide a response **no later than September 21, 2015** to bethany.straw@nrel.gov

NREL NATIONAL WIND TECHNOLOGY CENTER

- Bringing people of different focus areas/expertise to the table to understand and prioritize solutions
- Outcome as it relates to wind energy and eagle impacts: need to understand fundamental behavior and physiology of species of concern

Recommendations from Physiology and Behavior Specialists

- Understand: population and habitat associations, threats, annual cycle, demography, flight behavior, diet, etc..
- Risk is when turbines intersect with a species basic needs (e.g. with eagles it is food, updraft and nesting sites)

Photo provided by T. Katzner

For auditory deterrent research, one expert recommends the following:

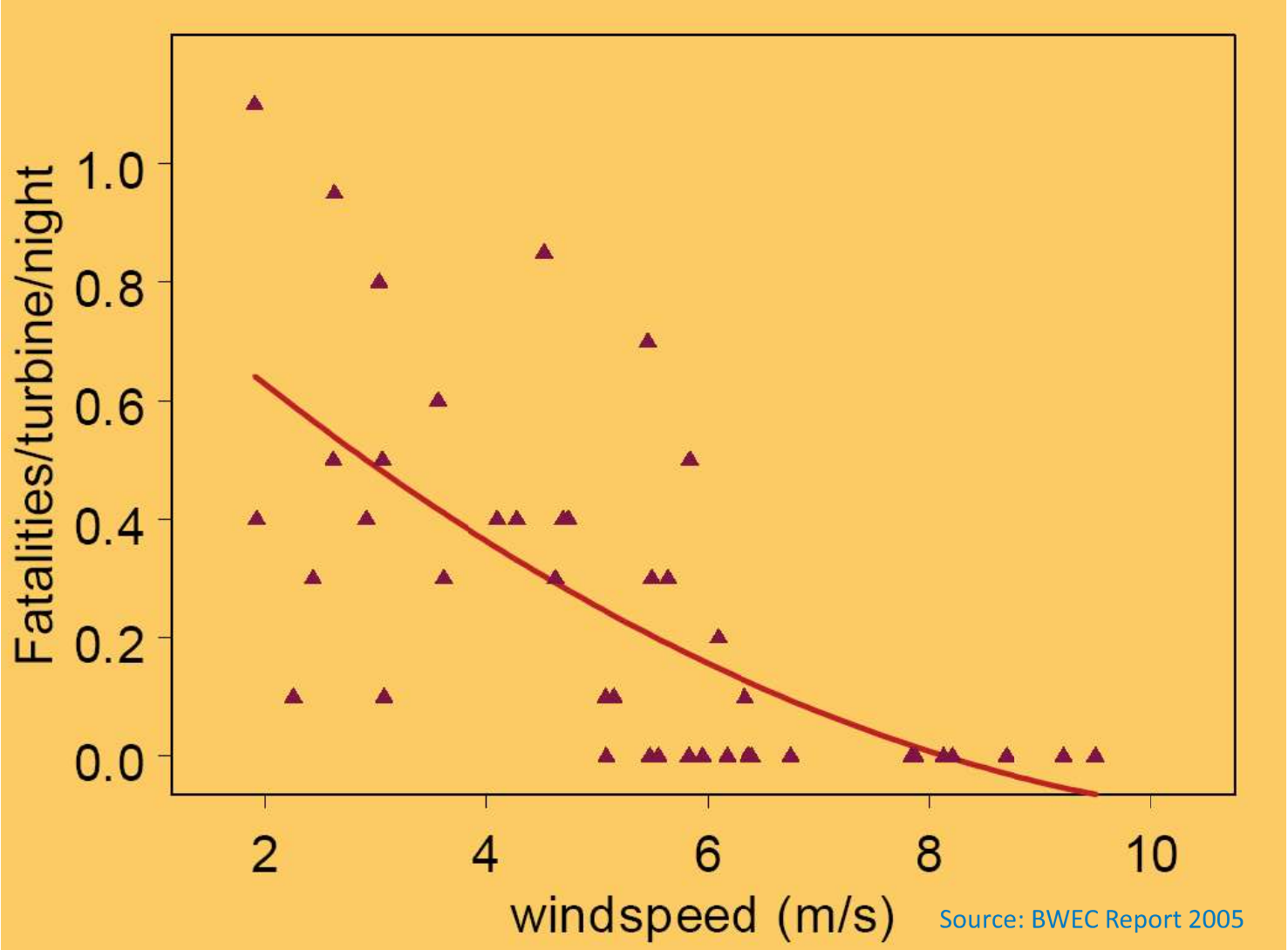
- Measure the auditory system of these birds
- Use this information to build a library of sounds that might be stressful (annoying)
- Use heart monitors to give us an index of stress (estimated by an increase in heart rate)
- Give a variety of different sounds to estimate stress induced by the sounds

Test birds over different time intervals (hours to weeks) to estimate the rate of adaptation to these sounds

Properties of the Vocal System Provide Clues about Properties of the Auditory System

Source: As presented by Jeff Lucas, Purdue University at Eagle Detection and Deterrent Technology Research Gaps and Solutions Workshop, December 2015

BWEC Study Results



Source: BWEC Report 2005

Research Conducted from Settlement Agreements

Duke Energy at Top of the World Windfarm in Casper, Wyoming

- Onsite wildlife specialists during daylight hours
- Working with FWS on an eagle trapping and tracking project
- GPS help to understand eagle migration movements
- Advancing IdentiFlight camera system
- Opportunities for R&D when faced with unsupported requirements

An aerial view of Duke's Top of the World wind farm, located in Casper, Wyo.
Photo courtesy of Duke Energy Renewables

Source: http://nawindpower.com/online/issues/NAW1604/FEAT_01_Duke-s-Avian-Mitigation-Techniques-Take-Flight-What-s-Working-And-Why.html

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Collaboratives are Often Beneficial for Advancing the Knowledge Base

Benefits of collaboratives include:

- Access to third party, unbiased research
- Accepted experts within collaborative
- Agreement on study design
- The ability to develop relationships (trust)
- A safe forum for discussion
- The ability to engage early and often
- Transparency/credibility
- Leveraging of funds
- Project access
- Access to interim results
- Accepted results
- A model for future interactions.

705-MW project in Tehachapi Pass Wind Resource Area, California.

Photo by David Hicks, NREL 18455

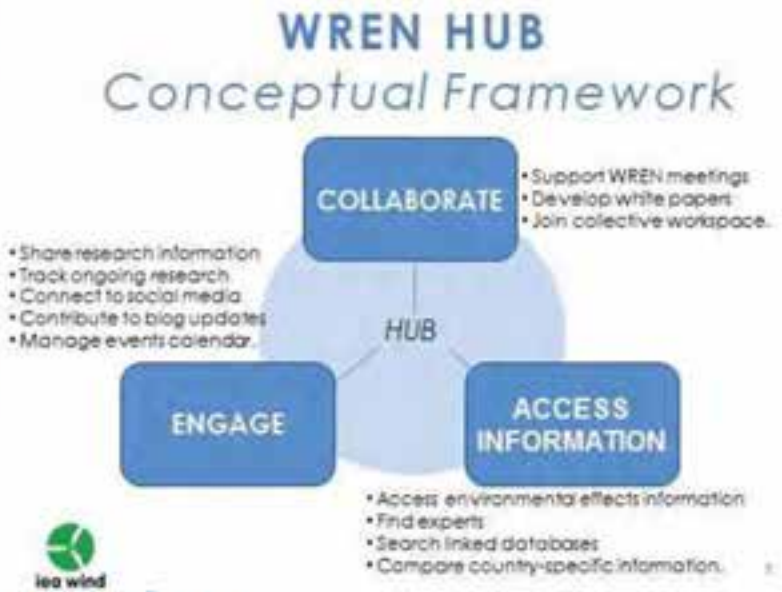
Current collaboratives

Current collaboratives include:

- The National Wind Coordinating Collaborative (NWCC). Includes federal, state, utilities, nongovernmental organizations (NGOs), and wind industry
  - Grassland Shrub Steppe Species Collaborative. Includes federal, state, NGOs, and wind industry
  - Sage Grouse Collaborative. Includes federal, state, NGOs, and wind industry
- Bats and Wind Energy Cooperative (BWEC). Includes federal, state, NGOs, and wind industry
- American Wind Wildlife Institute (AWWI). Includes industry and NGOs
- International Energy Agency Wind Task 34. Includes nine member countries.

More on International Energy Agency Wind Task 34

- Working Together to Resolve Environmental Effects of Wind Energy, known as **WREN**
- October 2012–2016; extension under discussion
- Current member countries: Ireland, Netherlands, Norway, Spain, Switzerland, United Kingdom, United States, France, and Sweden.



iea wind

Primary products:

- WREN Hub/Tethys (http://tethys.pnnl.gov/)
- White papers: Adaptive management, individual impacts to population effects, green versus green, cumulative impacts, transboundary issues
- Webinars: on land/offshore, birds/bats/marine mammals, tools http://tethys.pnnl.gov/environmental-webinars?content=wind

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Conclusions

- Wind-wildlife impact concerns are complicated
- Micrositing is key to avoiding, minimizing, and mitigating impacts; some locations may just not be appropriate for wind development
- Research and development of tools is ongoing and benefits from interdisciplinary approaches
- Collaboratives provide opportunities to leverage resources to find solutions for common challenges.

Grand Ridge Wind Energy Center. GE 1.5-MW turbines in Lasalle County, Illinois. *Photo by Invenergy, LLC, NREL 16040.*

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QUESTIONS?

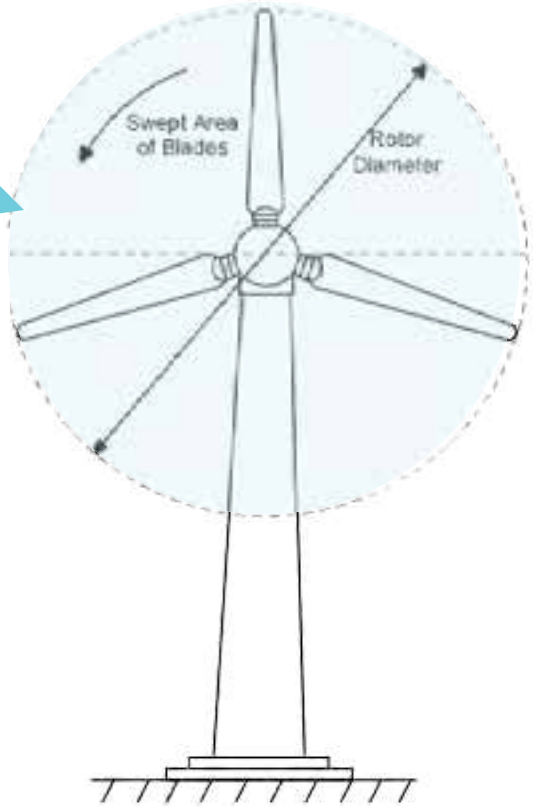
Turbine Power Basics

Power in the Wind = ½ρAV³

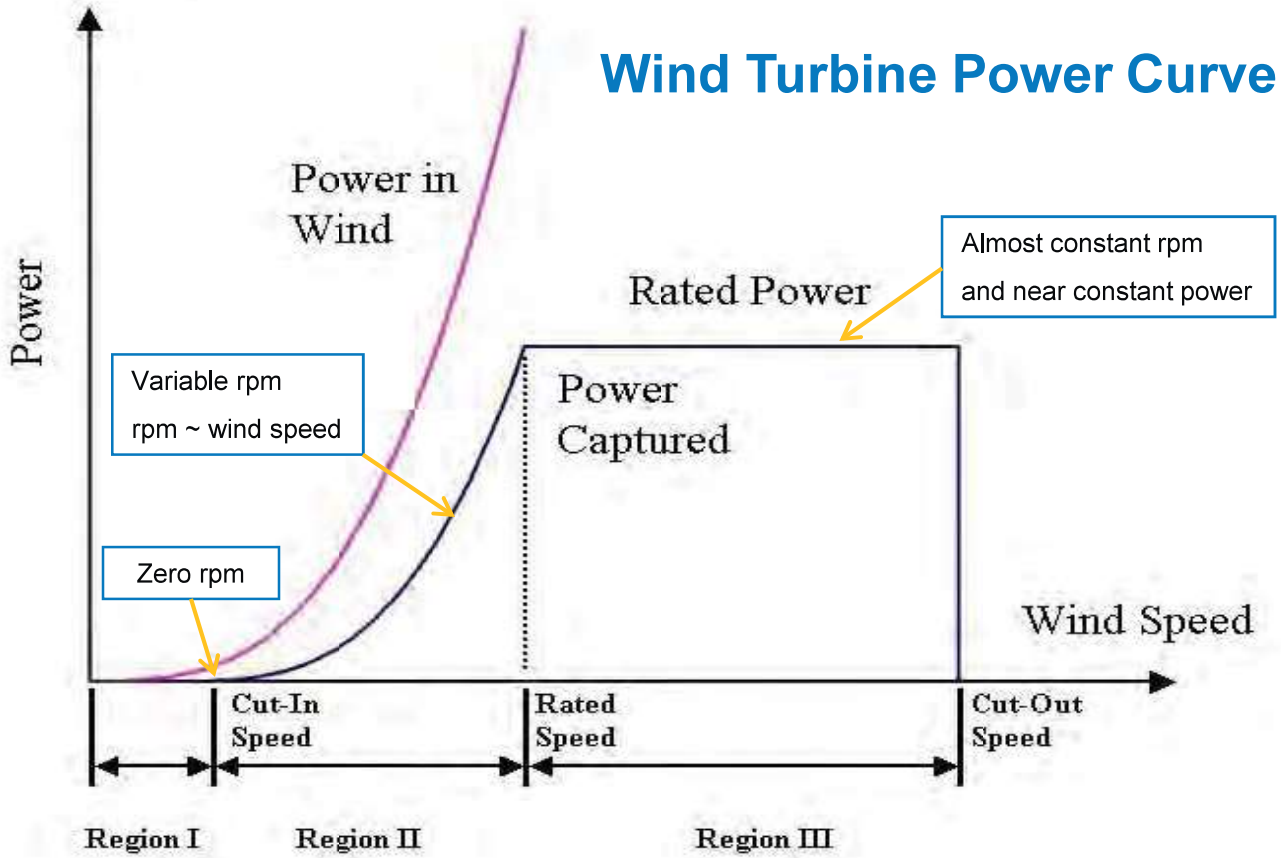
A - Area of the circle swept by the rotor

ρ = Air density

V = Wind Velocity



Wind Turbine Power Curve



NWCC

Formed in 1994, founding members included NREL and DOE, the American Wind Energy Association, National Audubon Society, Electric Power Research Institute, and Union of Concerned Scientists. Membership currently exceeds 1,500 people.

Major features of the NWCC include:

- Multistakeholder
- Facilitated; ground rules for engagement
- Coordinated field research
- Information dissemination (e.g., website; coordination of report preparation and publication; presentations at meetings)
- Biennial Research Meeting (X in December 2014)

Recent research activities were initiated under the Grassland Shrub Steppe Species Collaborative, and include:

- Grassland Community Collaborative (Prairie-Chicken research)
- Sage Grouse Collaborative (Sage Grouse research)

http://www.nationalwind.org/

BWEC

Formed in 2004, founding members included the American Wind Energy Association, Bat Conservation International, USFWS, and NREL, with DOE and the U.S. Geological Survey later. Major features of the BWEC include:

- Objective, science-based
- International expertise tapped
- Organizational structure includes an oversight committee, technical committee, and science committee
- Coordination of field research (e.g., operational curtailment, acoustic deterrent, other)
- Information dissemination (e.g., website; coordination of report preparation and publication; presentations at meetings)
- Frequent science meeting.

http://www.batsandwind.org/

Source: Arnett, et al. 2008. Effectiveness of Changing Wind Turbine Cut-in Speed to Reduce Bat Fatalities at Wind Facilities

AWWI

Formed in 2008, board members consist of 50 industry and 50% NGOs.

Primary activities include:

- Research
- Data repository

Wind-Wildlife Research Information System

- Landscape tools

Landscape Assessment Tool

- Mitigation strategies for eagle take

Through the use of expert elicitation, AWWI has facilitated the development of two models to predict numerical effects of compensatory mitigation on golden eagle survival and reproduction through: lead abatement and vehicle collision reduction strategies.

- Education

http://www.awwi.org/

Golden Eagle with a transmitter on its back.
Photo by Randy Flament, NREL 23585

Candidate Avian Risk Metrics

Hypothesis: "Mortality risk increases with flight time in the rotor zone (yellow zone), if the turbine is operating"

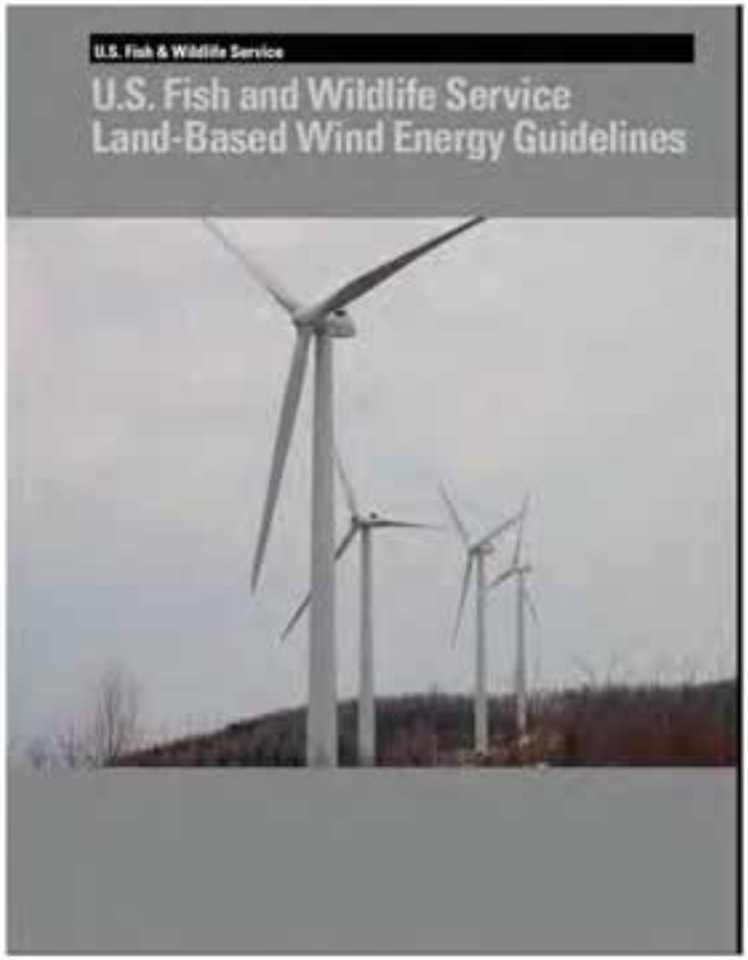
A Candidate Preconstruction Relative Risk Metric:

Species Relative Risk = (Flight Hours in Rotor Zone with Wind in Operating Range)/(Plant Swept Area x Hours with Wind in Operating Range)

A Candidate Postconstruction Fatality Metric:

Species Risk = Fatalities/(Swept Area x Turbine Operation Hours)

The USFWS Land-based Wind Energy Guidelines



Released March 2012

Provide a Tiered Approach, including:

- Tier 1 – Preliminary site evaluation (landscape-scale screening of possible project sites)
- Tier 2 – Site characterization (broad characterization of one or more potential project sites)
- Tier 3 – Field studies to document site wildlife and habitat and predict project impacts
- Tier 4 – Postconstruction studies to estimate impacts
- Tier 5 – Other postconstruction studies and research.

USFWS Guidelines: Developer and Service Roles

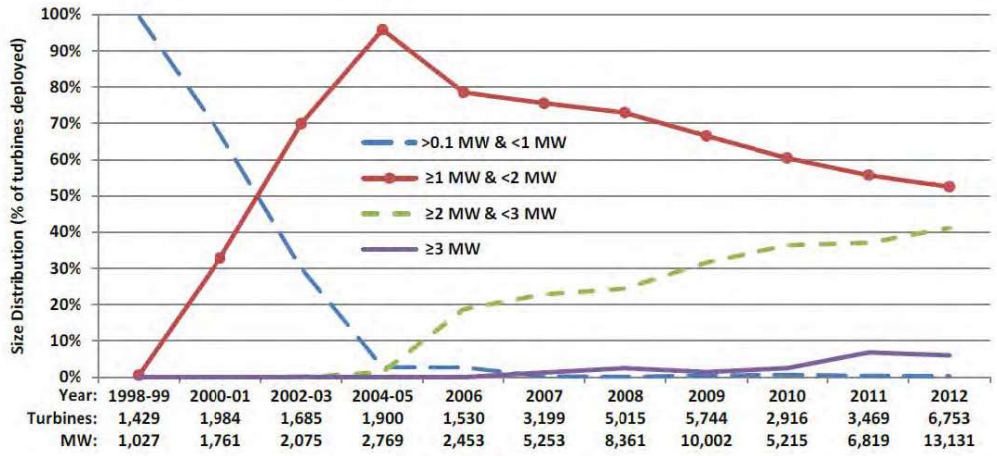
TIER	*Project Developer/Operator Role*	*Service Role*
Tier 1: Preliminary site evaluation	• Landscape level assessment of habitat for species of concern • Request data sources for existing information and literature	• Provide lists of data sources and references, if requested
Tier 2: Site characterization	• Assess potential presence of species of concern, including species of habitat fragmentation concern, likely to be on site • Assess potential presence of plant communities present on site that may provide habitat for species of concern • Assess potential presence of critical congregation areas for species of concern • One or more reconnaissance level site visit by biologist • Communicate results of site visits and other assessments with the Service • Provide general information about the size and location of the project to the Service	• Provide species lists, for species of concern, including species of habitat fragmentation concern, for general area, if available • Provide information regarding plant communities of concern, if available • Respond to information provided about findings of biologist from site visit • Identify initial concerns about site(s) based on available information • Inform lead federal agencies of communications with wind project developers
Tier 3: Field studies and impact prediction	• Discuss extent and design of field studies to conduct with the Service • Conduct biological studies • Communicate results of all studies to Service field office in a timely manner • Evaluate risk to species of concern from project construction and operation • Identify ways to mitigate potential direct and indirect impacts of building and operating the project	• Respond to requests to discuss field studies • Advise project proponent about studies to conduct and methods for conducting them • Communicate with project proponent(s) about results of field studies and risk assessments • Communicate with project proponents(s) ways to mitigate potential impacts of building and operating the project • Inform lead federal agencies of communications with wind project developers
Tier 4: Post construction studies to estimate impacts	• Discuss extent and design of post-construction studies to conduct with the Service • Conduct post-construction studies to assess fatalities and habitat-related impacts • Communicate results of all studies to Service field office in a timely manner • If necessary, discuss potential mitigation strategies with Service • Maintain appropriate records of data collected from studies	• Advise project operator on study design, including duration of studies to collect adequate information • Communicate with project operator about results of studies • Advise project operator of potential mitigation strategies, when appropriate

USFWS Eagle Conservation Plan Guidance (April 2013)

- To facilitate issuance of programmatic eagle take permits for wind energy facilities the USFWS finalized the Eagle Conservation Plan Guidance- Module 1- Land-based Wind Energy Version 2
- This Guidance provides a framework for developing and evaluating Advanced Conservation Practices, which is the framework for detect and deter technologies

Photo by T. Katzner

Power and Size of Turbines Over Time



Source: AWEA project database

Figure 16. Size Distribution of Number of Turbines (>100 kW) Deployed in Each Period

Source: 2012 Wind Technologies Market Report

Representative Wind Turbine Specifications

National Wind Technology Center – NREL Pic 25898

Danish National Wind Test Center – Photo by R. Thresher

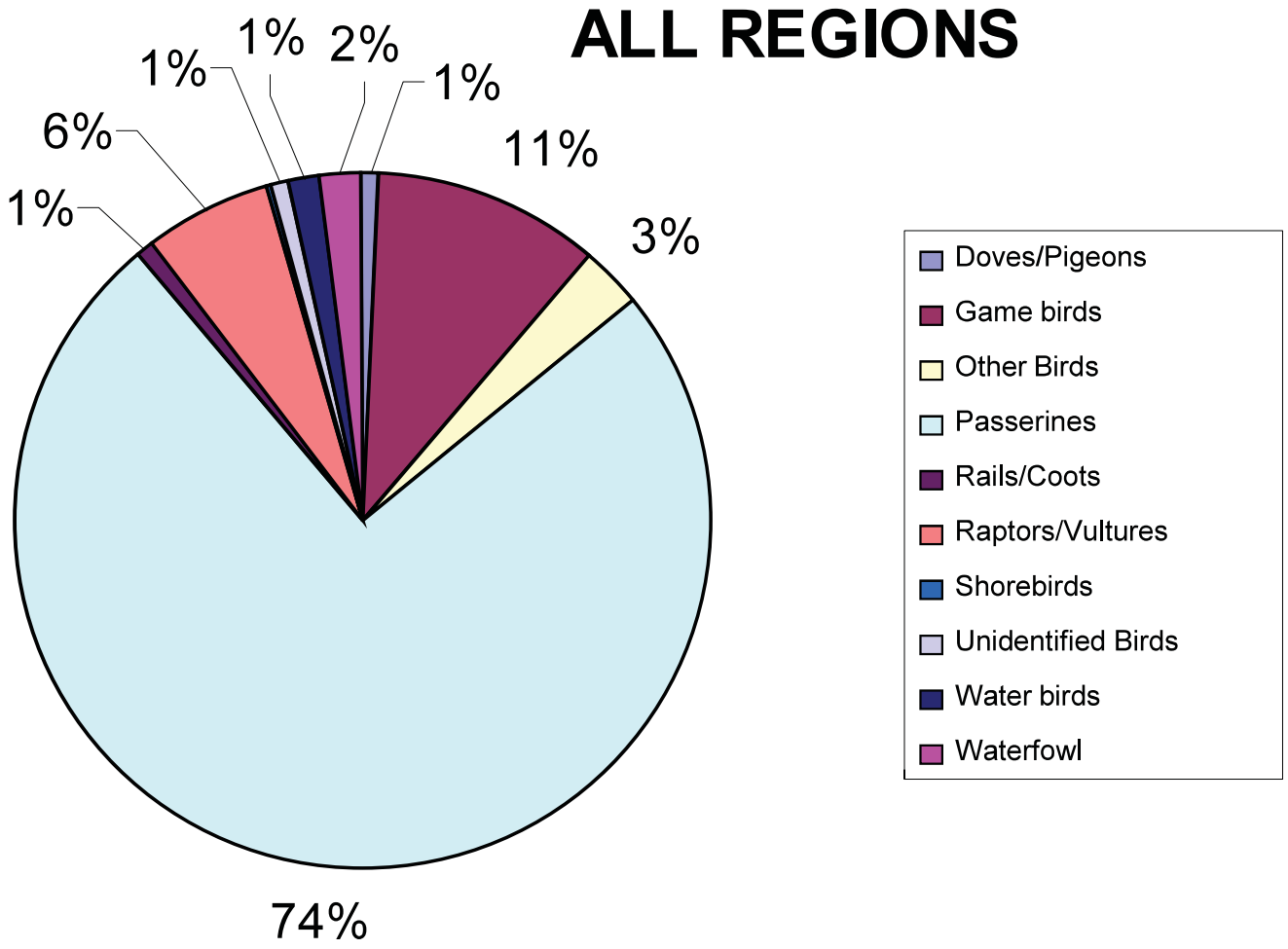
Turbine	Power - MW	Rotor Size - m	Rotor Area – m^2	Rotor Speed - rpm	Tower Height - m	Cut-in Wind Speed m/s
GE 1.5 se	1.5	70.5	3904	12-22.4	54.7 – 64.7	4
GE 1.5 sl	1.5	77	4657	11-20.4	61.4 - 100	3.5
GE 1.5 sle	1.5	77	4657	11-20.4	61.4 - 100	3.5
GE 1.5 xle	1.5	82.5	5346	10.1-18.7	58.7 - 100	3.5
GE 1.6 or 1.7	1.6 – 1.7	100	7854	?	80 -96	?
GE 2.5 -100	2.5	103	8333	?	75-100	3
GE 3.2 -103	3.2	103	8333	?	70-98	?
Siemens SWT 2.3	2.3	100	7854	6-16	80 or Site specific	3-4
Siemens Offshore SWT – 6.0 – 154	6	154	18,600	5-11	Site Specific	3-5

U.S. Department of Energy Wind Program's Mission

- Reduce challenges to project development to accelerate deployment of appropriate wind energy
- Support achievement of 20% wind energy by 2030
- Accelerate wind energy capacity growth/ development of domestic energy options (Energy Policy Act of 2005).

Northwind 100, 100-kW wind turbine; Hempstead, New York.
Photo by Town of Hempstead, NREL 28963

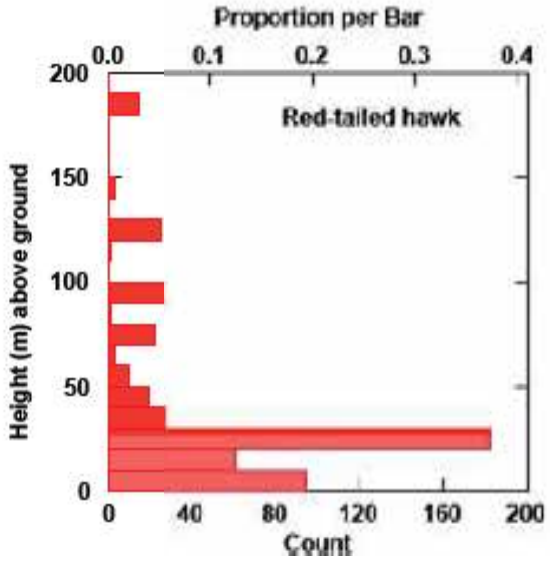
Research: Species Composition of Bird Fatalities



Proportion of fatalities at sites reporting fatalities by species, for all regions where studies have been conducted (the Pacific Northwest, Midwest, Rocky Mountains, and East).
Source: Strickland and Morrison, February 26, 2008.
http://www.fws.gov/habitatconservation/windpower/Past_Meeting_Presentations/Morrison_Strickland.pdf

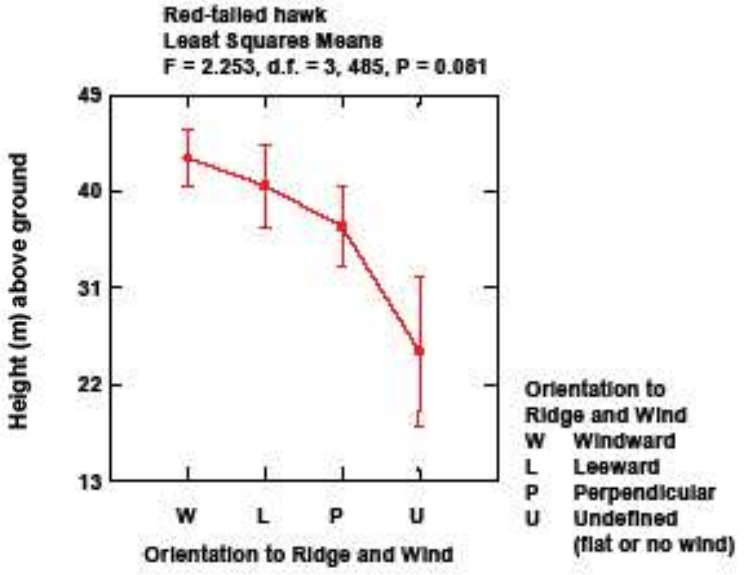
Red-Tailed Hawk Flight Observations in Altamont Pass

Height Histogram



Distribution of flight heights above ground level amount red-tailed hawks observed during behavioral observation sessions during 2003 and 2004 in the Altamont Pass Wind Resource Area.

Height versus Orientation



Mean flight heights of red-tailed hawk over aspect of ridge relative to oncoming winds.

Source: K. Smallwood and L. Neher, CEC-500-2005-005, December 2004

Highlights of One Interaction Study in Altamont Pass

Raptor Fatalities and Sightings

	Fatalities	Sightings	Rel. Risk F/S
Burrowing Owl	38	56	0.68
American Kestrel	22	429	0.05
Red-Tailed Hawk	100	1,780	0.06
Golden Eagle	10	401	0.02
Northern Harrier	2	114	0.02
Prairie Falcon	1	63	0.02
Turkey Vulture	0	756	0
Common Raven	0	792	0

From: *Bird Risk Behaviors and Fatalities at the Altamont Pass WRA*, Carl G. Thelander, et al

Sage Grouse Research

These are preliminary results and are not for distribution or citation.

Annual Report

A Study of the Impacts of a Wind Energy Development on Female Greater Sage-Grouse in Southeastern Wyoming

January 27, 2014

Presented to:
National Wind Coordinating Collaborative Sage-Grouse Research Collaborative Oversight Committee

Internal Document – Not for Distribution

Ecology of Male Greater Sage-Grouse in Relation to Wind Energy in Wyoming

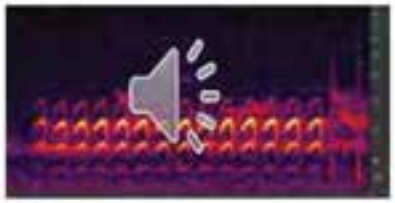
Research Team: Power Company of Wyoming and University of Missouri

Sage Grouse. *NREL 20649*

53

Properties of the Vocal System Provide Clues about Properties of the Auditory System

White-breasted nuthatch



Golden eagle copulation call

Golden eagle skonk call

Bald eagle chatter call

Examples of amplitude modulation and frequency spectrums

Source: As presented by Jeff Lucas, Purdue University at Eagle Detection and Deterrent Technology Research Gaps and Solutions Workshop, December 2015

Breakout Session 1 (Day 1)

Stakeholder Concerns, Additional Relevant Data Sources, and Additional Research underway

Breakout Group 1

Other things CWG should undertake?

- Greater stakeholder involvement
  - CWG & ASWG
  - FACA?
  - Use industry as a resource
  - Review of the Science Plan
- Outline next steps beyond the Science Plan
  - Implementation

New Information

- New solar project in Pahrump, NV
  - Panel spacing may diffuse the lake effect
- Widen the scope beyond AZ, CA, and NV
- USGS-FWS OFR on standardized monitoring

Group 2 (Day 2)

What other tasks should the CWG Undertake (1 of 2)

- Focusing on the science is the correct approach. Monitoring should be informed by research. Don't monitor for sake of monitoring. Interrelationship between monitoring and research.
- Consider costs when determining monitoring requirements (Danielle, Jeremiah)
- Monitoring should be designed to answer specific questions.
- Monitoring Guidelines due out in June. Will be publically available. Different from the CWG Science Plan.
- Monitoring procedures are a research question.
- Determine level of overall mortality
- Look at causation.
- Get data to focus the research
- Science plan should have priorities as a product
- What is the low hanging fruit?
- Leverage information and existing data

What other tasks should the CWG Undertake (1 of 2)

- Site specific monitoring vs understanding where projects should go
- What are we siting for? Any specific species? (Songbirds, migratory birds, etc.) E.g. wind now focuses on bats and raptors.
- Good model is San Juaquin Valley Least Conflict Plan (goes beyond science)
- What features in the landscape influence avian presence and behavior
- Keep in mind Technology specific effects
- Keep visibility on ongoing research efforts, common database? AWWI web site has extensive list of studies. When should studies be released?
- General research studies vs project data. CEC posts project data after review.
- Lots of folks want data/information, but many studies are still underway
- CWG and ASWG access to raw data? What questions can be answered?

Any ongoing or planned research or data collection efforts that are relevant to developing the science plan

- ASWG Research Panel looking at rough methodologies to answer ASWG questions
- ASWG Research Panel asked to sequence the research

Breakout Group 3

Stakeholder Concerns, Additional Relevant Data Sources, and Additional Research underway

Group 3

- Dan Boff, DOE
- Kirk LaGory
- Amy Fesnock,
- Bill Werner
- Katie Umekubo
- Chuck Griffin
- Juliette Falkner
- Karyn Coppinger
- Brian Boroski, H.T. Harvey
- Matt Hutchinson

Other things CWG should undertake?

- Need to specify focus on causation of mortality
- Look at sublethal effects (e.g., decreased reproduction, carrying capacity, etc.)
- Scope should go beyond regulatory requirements

Data and models

- Use of existing monitoring data: What does it tell us? What would we do differently?
- Making data available to the public. Data quality issues.
- Need to develop a toolkit

Relevant studies

- Genetic studies to examine population of origin
- Golden eagle research related to populations
- Look at rare and common species to provide bookends
- Condor Issue (vol 118): several papers population concerns related to renewable energy issues
- Draft article submitted to JWM, modeling estimates related to searcher efficiencies for rare species
- Draft paper looking at direct and indirect effects for solar, wind, and transmission

Conceptual Understanding of Avian-Solar Interactions

Lee Walston

Argonne National Laboratory

May 10-11, 2016

Sacramento, California

Argonne NATIONAL LABORATORY

NREL

Powered by SunShot U.S. Department of Energy

U.S. DEPARTMENT OF ENERGY
Energy Efficiency & Renewable Energy

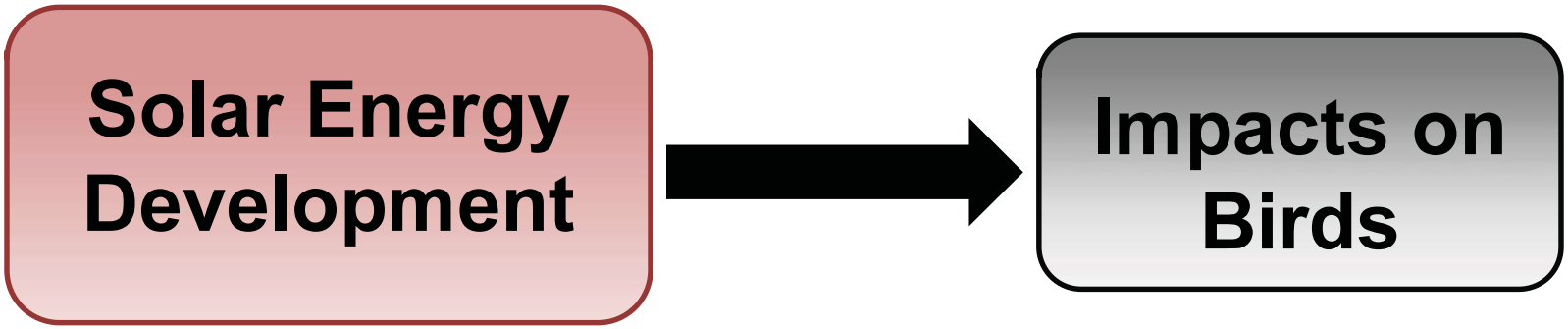
U.S. DEPARTMENT OF ENERGY

Why Develop a Conceptual Model?

- Illustrate important processes
  - Direct & indirect effects
  - Interactions and cumulative effects
- Synthesize current understanding of avian-solar interactions
  - Foster a common understanding
- Identify information gaps and research priorities
- Starting point for the avian-solar science plan

Avian-Solar Conceptual Model

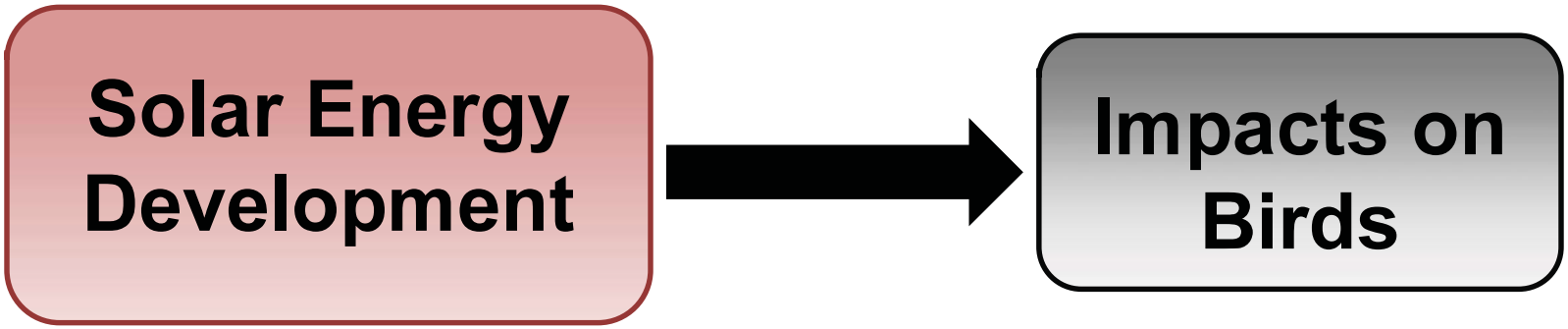
- Simple vs. Complex



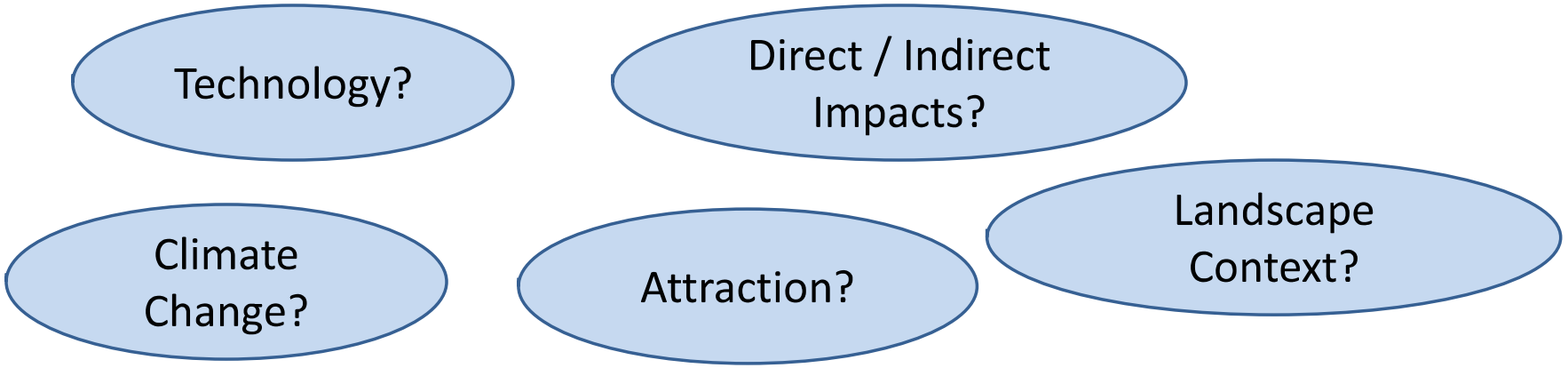
- Two main focal points

Avian-Solar Conceptual Model

- Simple vs. Complex

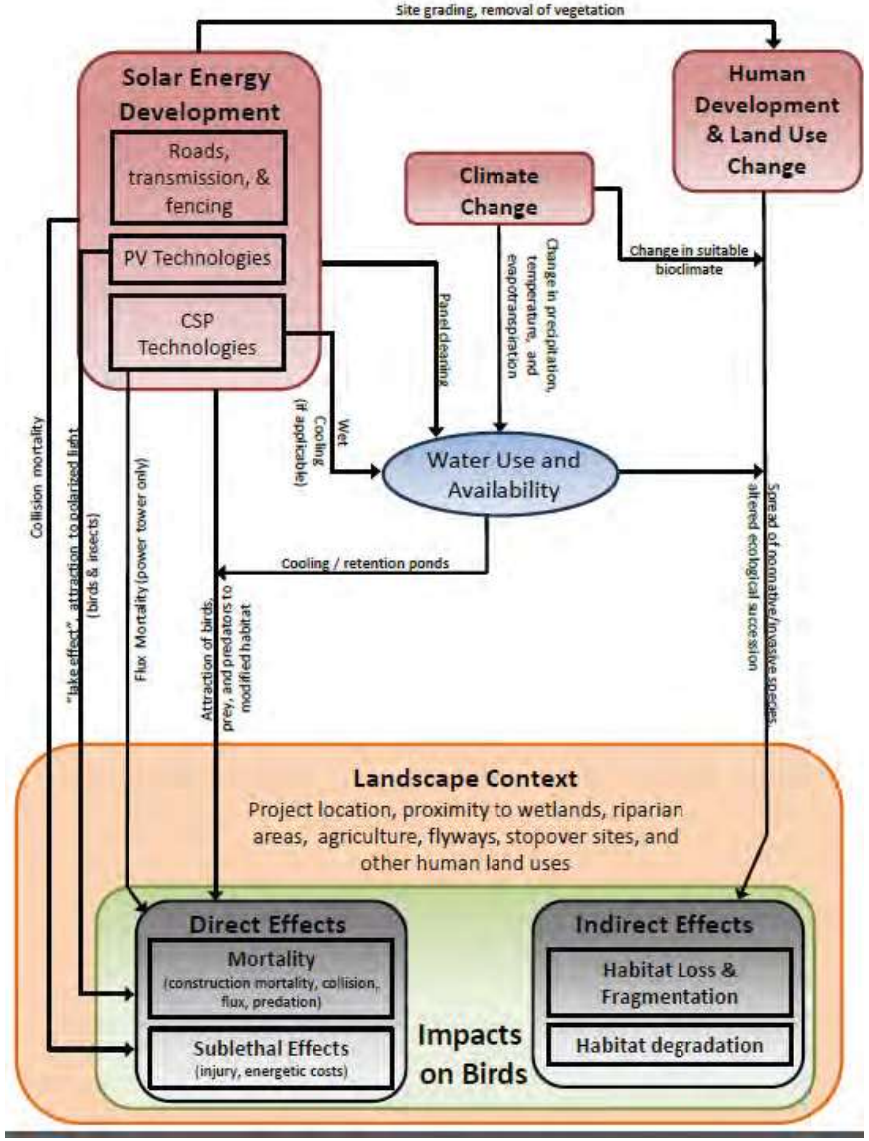


- Impacting factors, pathways, and interactions



Avian-Solar Conceptual Model

DRAFT



Multiagency CWG Stakeholder Workshop, May 2016

Avian-Solar Conceptual Model

Climate Change

Human Development & Land Use Change

Solar Energy Development

- Roads, transmission, & fencing
- PV Technologies
- CSP Technologies

Indirect Effects

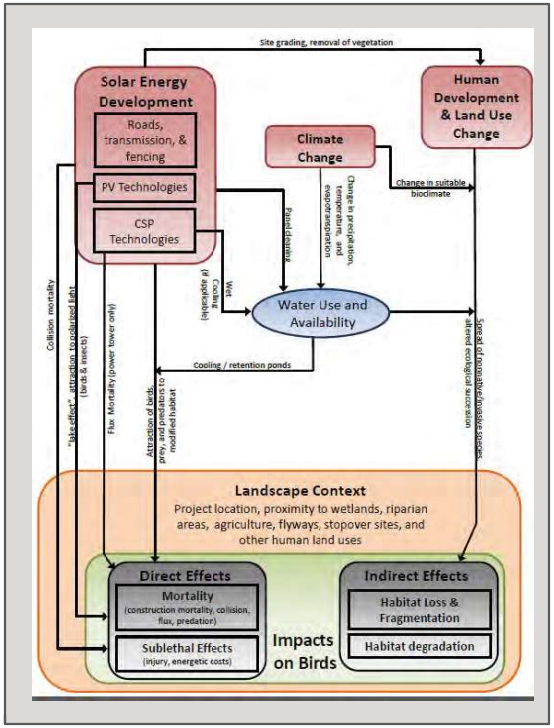
- Habitat loss & fragmentation
- Habitat degradation

Change in suitable climate

Habitat loss

Spread of nonnative / invasive species

Altered ecological succession



Avian-Solar Conceptual Model

Climate Change

Human Development & Land Use Change

Solar Energy Development

- Roads, transmission, & fencing
- PV Technologies
- CSP Technologies

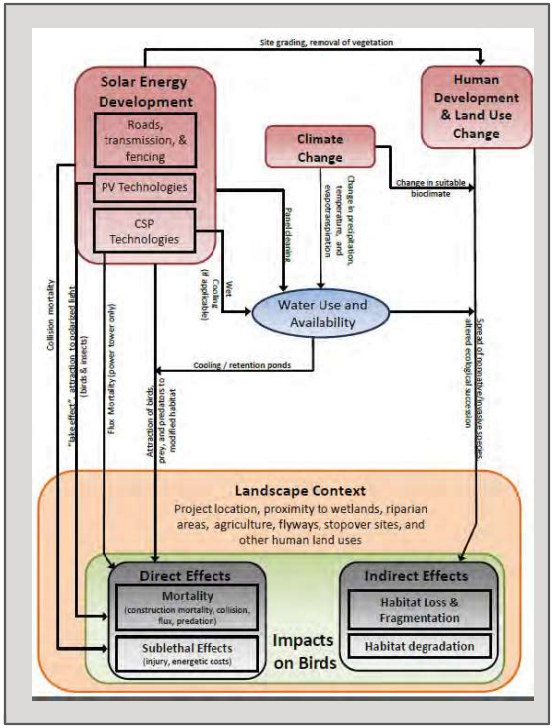
Direct Effects

- Mortality
- Sublethal Effects

Construction mortality, collision, flux, predation

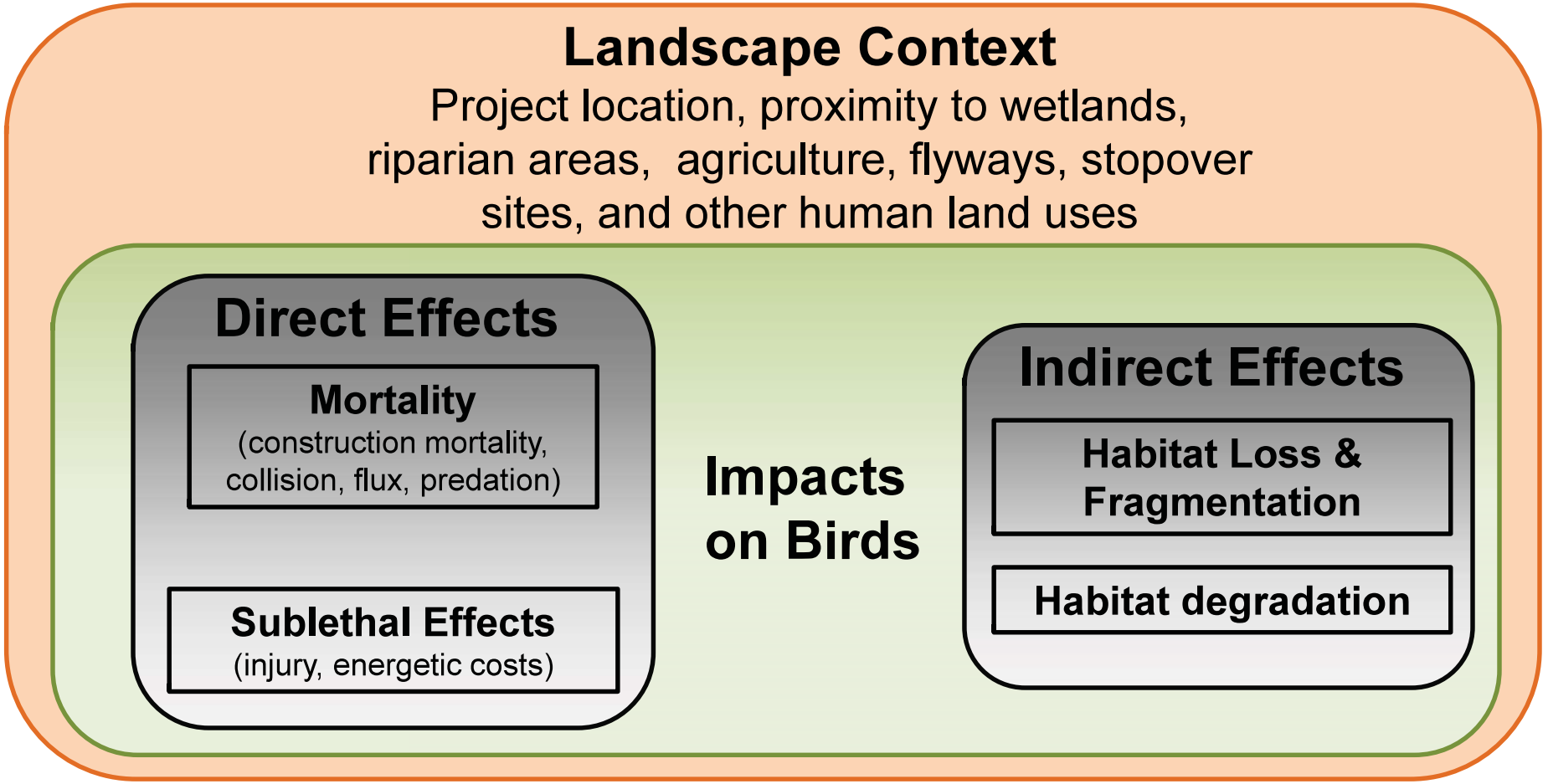
Attraction of birds, prey, and predators

Technological considerations & project design (e.g., water)



Avian-Solar Conceptual Model

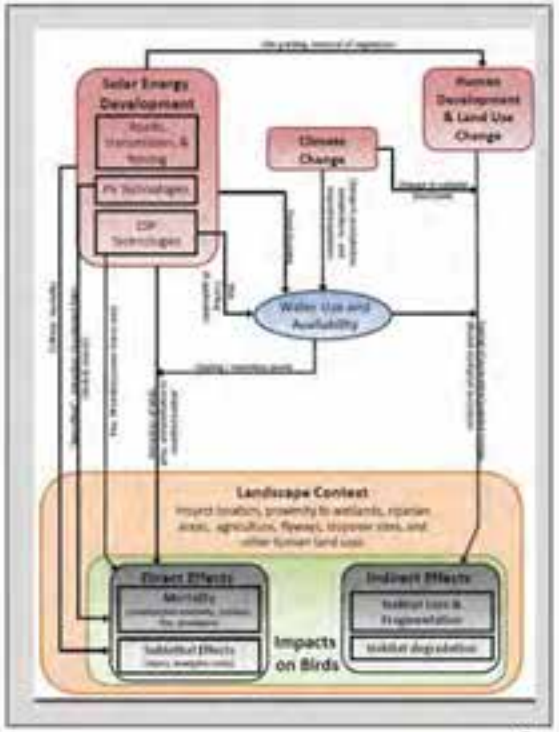
- Location matters



Avian-Solar Conceptual Model

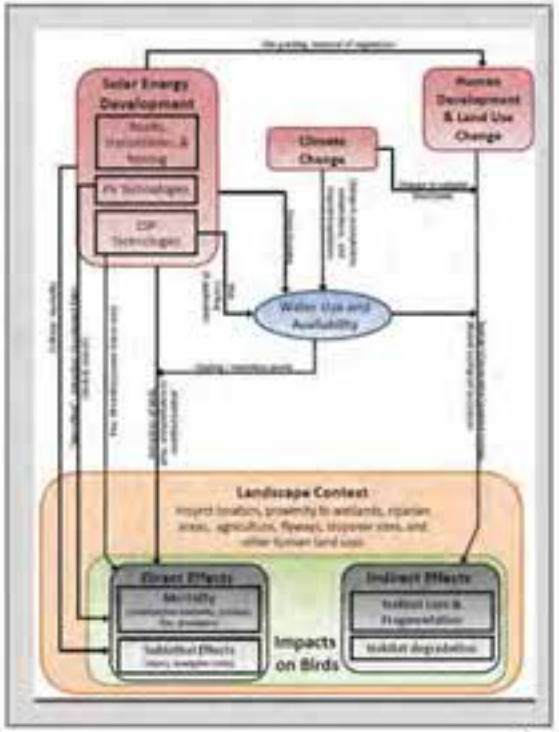
- Focus on processes and interactions the CWG may be most concerned about
- Supporting text to be provided in the science plan

- The diagram illustrates *potential* impacts that could occur
  - Projects sited on previously disturbed lands may have less impact
  - Projects with minimal water requirements (and no ponds) may have less impact



Avian-Solar Conceptual Model

- To inform selection and prioritization of the CWG management questions
  - Are any processes more important for agency decision making?
  - What are the information gaps?
  - Which information gaps should be addressed first?
- Future versions of the model may illustrate important information gaps and CWG priorities
  - Color / thickness of the arrows
  - Additional annotation



Questions?

Agency Management Questions and Related Research Needs

Tony Jimenez

May 11, 2016

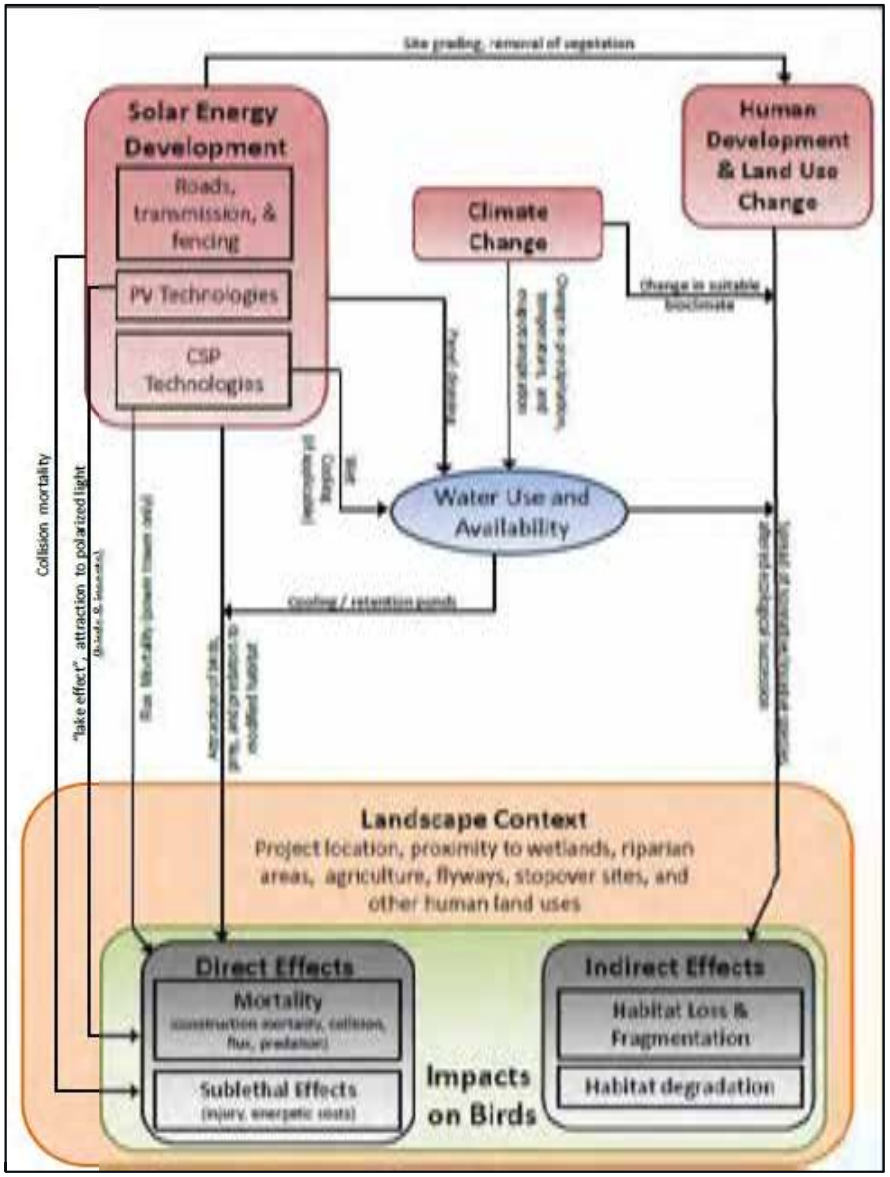
NREL is a national laboratory of the U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy, operated by the Alliance for Sustainable Energy, LLC.

Outline

- Avian-Solar Interaction Model
- "Management Question" Defined
- Sample Questions
- Management Question Categories
- Generalized Management Questions
- Research Prioritization
- Discussion

Red-tailed hawk eating a rabbit.
Photo by Dennis Schroeder, NREL 22325

Avian Solar Conceptual Framework



Management Questions Background

- Define what information the agencies need
- Define research needs
- Tied to the conceptual model
- Due to differing missions, different agencies may have different questions
- Received 108 questions
- Questions grouped into seven (7) categories
- Questions consolidated into 14 "generalized questions"

Sampling of Management Questions

- What are the most scientifically rigorous and cost-effective population monitoring tools available for: 1) quickly identifying potential impacts to populations, and 2) determining effectiveness of mitigation strategies at local and regional scales?
- Is higher mortality realized during any particular time of year?
- Are birds being attracted to the site to forage on insects killed by the concentrated solar flux?

Management Questions Categories

1. Landscape Considerations
2. Methods to Evaluate Avian Risk and Impacts
3. Sources of Mortality and Injury
4. Avian Behavior (Attraction/Avoidance)
5. Impacts to Habitat and Other Wildlife That Might Affect Birds
6. Taxonomic and Guild-Specific Impacts
7. Minimization, Mitigation, and Adaptive Management

Generalized Management Questions

1. Landscape Considerations	What are the larger-scale avian movement patterns in the region (including seasonal movements and factors that influence avian movements such as the presence of stopover sites in the landscape)? What are the landscape-level cumulative impacts on regional bird populations or on bird populations migrating through landscapes targeted for solar development? What is the anticipated solar energy build-out for the foreseeable future? (e.g., project size, location, technology type)
2. Methods to Evaluate Avian Risk and Impacts	What are the best methods for monitoring and evaluating avian mortality, specific to each type of solar energy technology? What are the best methods for identifying the bird species that would be most vulnerable during all phases of solar development (pre-construction, construction, and post-construction)?
3. Sources of Mortality and Injury	What are the sources of avian mortality and injury at solar facilities (i.e., project features), and what factors (e.g., location, habitat characteristics, time of year, species) affect frequency of those mortalities and injuries?

Generalized Management Questions

4. Avian Behavior (Attraction / Avoidance)	How do solar facilities affect landscape level movements of birds (i.e., migration and dispersal movements), and what factors (e.g., location, habitat characteristics, time of year, species) affect these movements? How do solar facilities affect local-scale movements/behaviors of birds (i.e., foraging and breeding behaviors), and what factors affect these behaviors?
5. Impacts to Habitat and Other Wildlife That Might Affect Birds	What are the impacts of solar development to other wildlife (such as predators or prey) and habitat that might affect birds?

Generalized Management Questions

6. Taxonomic and Guild-Specific Impacts	How do solar developments affect different bird taxa or guilds? What are the population effects from solar developments to individual bird species, particularly those of conservation concern? Which population or species-specific impacts are of greatest conservation concern?
7. Minimization, Mitigation, and Adaptive Management	What are the most effective minimization and mitigation methods to reduce or eliminate avian mortality? (e.g., project siting, technology engineering and project design to reduce attractiveness of facilities to birds, construction timing, operational parameters, deterrents, or offset) What off-site mitigation is most effective for off-setting mortalities for affected populations/species?

Research Prioritization

Based upon initial input from CWG members

- **Management:** Questions that are important for informing management decisions (management questions vs. research questions)
- **Timeliness:** Questions that can be answered in 3-5 years
- **Overlap:** Questions shared by multiple agencies

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QUESTIONS / DISCUSSION

Day 2 Breakout Group Discussions

Group #1

Conceptual Framework

- Add stranding as another form of mortality
- Add dust suppression as water use

Management Questions (General)

- Research questions cannot be fully addressed through monitoring; require research/study design
- Not all questions can be answered with existing data
- Focus on natural history of taxa most likely to interact with solar facilities (e.g., insectivores).

#1 Landscape Considerations

- Scope concerns with the amount of foreseeable development question.
- Meta-analysis of existing data could address landscape considerations
  - ebird
  - Breeding bird survey

#2 Monitoring Methods

- Consider changes to pre-construction baseline surveys for taxa most likely to be affected ("better" baseline monitoring data)
  - Different seasons
  - Species-specific protocols
  - What taxa are most likely to interact with solar facilities?

#3 Source of Mortality and Injury

- It is possible ("maybe") for existing data and monitoring protocols to help inform sources of mortality and causation.

#4 Behavior

- Existing data/studies that could be used to understand avian behavior:
  - Pre-construction radar study for at least one solar project
  - Raptor telemetry data

#5 Impacts to habitat and other wildlife

- Could use predictive information on ravens, raptors, and desert tortoise.

#6 Population-level effects

- Monitoring data could help address how solar impacts different taxa differently.

#7 Mitigation

- Look at deterrents used in other industries (wind, aviation)
- Connect new approaches to systematic monitoring designs

Climate Change

- Could also be used to determine species of concern.

Criteria

- Budget & duration
- Would the answer to the question affect decisions?

Group 2 (Day 2)

Any Important elements missing or misrepresented in the conceptual framework?

- These were mostly captured in the discussion after Lee's presentation
- All birds lumped as one. Consider differential impacts to different guilds/species
- Take into account potential benefits and risks? Or relabel "Potential Negative Impacts" which acknowledges that there may be potential benefits.

Can any of the management questions be addressed with existing information/data? What questions would require additional field work?

- Do we have a good understanding of current monitoring protocols? Protocols evolve based on past experience.
- Look at monitoring approaches for uniformity.
- What are the sources of mortality? (Partial).
- How do impacts of development affect different guilds/taxonomies (Partial)
- Most of the questions will need research.
- Some/many effects appear to be location specific. Depend upon landscape and terrain features.
- Use existing data to develop hypothesis and inform the next iteration of research

Additional critical research needs that weren't identified

- Preconstruction monitoring (as research) to establish baseline mortality for areas that will see lots of development.
- How do we gather baseline mortality data? How funded?
- What before/after data already exists?
- Effect of emerging/future/sunsetting technologies? E.g. types of panels, antireflective coatings. tracking/fixed tilt.

What criteria should be considered by the agencies in establishing priorities for future research? Can you rank in terms of importance for guiding future research (e.g. allocation of funds)?

- Prioritize questions that can be answered sooner?
- Cost/difficulty
- Avoid duplication
- Foundationality
- Fills an important gap
- Should different agencies focus on different questions?
- What are the priorities of the individual agencies?
- Scope and applicability
- Unique to solar
- Solicit public comment on criteria & research needs

Other

- No definitive focus yet (as to priorities)
- Need to do background comparisons
- How do we ensure these agreed-upon priorities are carried out by the member agencies (implementation)

Breakout Session 3

Conceptual Framework, Management Questions, Research Needs and Priorities

Group 3

- Dan Boff, DOE
- Kirk LaGory
- Amy Fesnock,
- Bill Werner
- Katie Umekubo
- Chuck Griffin
- Juliette Falkner
- Karyn Coppinger
- Brian Borowski, H.T. Harvey
- Matt Hutchinson

Conceptual Framework

- Suggestions included
  - Place solar impact box within human development to show proper context
  - Solar should show as positive effect on climate change
  - Add season and weather as influencing factors
  - Present as hypothesis driven
  - Include avian behavior as factor
  - Define indirect
  - Factors are not comprehensive list. Add “e.g.,”
  - Water availability and use should be placed within solar box
  - Need to include potential benefits (e.g., use more neutral language regarding change rather than just degradation)

Management Questions

- Many questions have landscape context but not included in landscape bin
- Data are available on solar development projections, but may not have specific information on where these would go
- Monitoring data available on limited questions regarding mortality

Research Needs and Priorities

- What are the fundamental data needs to answer questions?
- Focus on basic processes:
  - Why are birds at site?
  - What are they exposed to?
  - What results in fatality?
- What is net effect on birds

Breakout 4 –

- *Landscape Framework comments*
  - *Broader context would be good beyond just solar.*
  - *Also, put INTO context to ensure it isn't misinterpreted when seen as a standalone document.*
  - *Should be entitled "pathway for potential impacts";*
  - *Suggest that at the core, it begins with the concepts lifecycle/life history perspective*

Breakout 4

- *Management questions comments*
  - *'landscape considerations' is not a management question but rather required background for solving other management questions.*
    - *Importance of background mortality*
  - *Level of pre-construction needed*
    - *BACI versus geospatial*
    - *Understand first what agency's want to see*
  - *Different ways to determine which guilds/species to study, e.g.*
    - *disproportional impacts, water birds, subset example of all guilds, other?*

Breakout 4

- ASWG compared to CWG questions
  - Feather spots…include clearly in CWG
  - *climate change futures with landscape considerations management question*
  - *Standardization - what attributes are needed to determine best methods?*
- *Criteria Ranking*
  - *#1 Fundamental need – recommend adding this*
  - *#2 Management*
  - *#3 Overlap*
  - *#4 Timeliness*

Multiagency Avian-Solar Collaborative Working Group: Stakeholder Workshop

Next Steps

May 10-11, 2016

Sacramento, California

Stakeholder Input Wanted

- All handouts and presentations will be available on the CWG webpage: http://blmsolar.anl.gov/program/avian-solar/
- Stakeholders can comment during this meeting and/or in writing following the workshop by **June 1, 2016**
- Agencies are seeking input from stakeholders on all matters relevant to the CWG objectives:
  - Concerns about avian-solar issues
  - Relevant existing data and studies
  - Understanding of avian-solar interactions
  - Focus of future research
  - Priorities for research needs
  - Future activities of the CWG
  - Level and mode of future stakeholder engagement

Draft Avian-Solar Science Plan

- Revise draft elements incorporating stakeholder comments
  - Summary of available data
  - Conceptual framework
  - Management questions
- Develop additional elements
  - Prioritization of management questions
  - Implementation plan
  - Comparative cost data
- Draft plan released for stakeholder review mid summer

Future Stakeholder Engagement

- A stakeholder webinar will be hosted to present and take comments on the draft avian-solar science plan (late summer 2016)
- For more information:
  - Subscribe for email updates: send request to rollins@anl.gov
  - CWG webpage: http://blmsolar.anl.gov/program/avian-solar/

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:44 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] NextEra Energy Resources NEPA Scoping Comments on Crimson Solar Project

---

---------- Forwarded message ----------
From: **Stein, Kenneth** <Kenneth.Stein@nexteraenergy.com>
Date: Mon, Apr 23, 2018 at 6:37 PM
Subject: [EXTERNAL] NextEra Energy Resources NEPA Scoping Comments on Crimson Solar Project
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>
Cc: "Busa, Scott" <Scott.Busa@nexteraenergy.com>

Dear Ms. Liberatore:

NextEra Energy Resources (NextEra) appreciates the opportunity to provide this NEPA scoping comment pertaining to the Crimson Solar Project. As an owner, operator and developer of solar projects located near the proposed Crimson Solar Project and the existing Colorado River Substation (CRS), NextEra wants to ensure that BLM is setting aside a sufficient infrastructure-free corridor/buffer leading to and around the CRS to accommodate future renewable energy projects that may need to interconnect to the CRS. NextEra would welcome participating in any future discussions regarding the size and configuration of such a corridor/buffer.

Thank you for the opportunity to comment. If you have any questions, please contact:

Scott Busa

NextEra Energy Resources

Scott.Busa@nexteraenergy.com

(561) 691-2889

Kenny Stein | Sr Manager, Environmental Permitting | kenneth.stein@nee.com

NextEra Energy Resources, 700 Universe Boulevard, Juno Beach, FL. 33408

T: 561.691.2216| M: 561.762.5875

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:44 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] RE Crimson Solar Project NOP Scoping Comments

Attachments: 2018 04 23 RE Crimson Solar Project NOP Comments.pdf

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---------- Forwarded message ----------
From: **Nicholas Whipps** <nwhipps@wittwerparkin.com>
Date: Mon, Apr 23, 2018 at 12:16 PM
Subject: [EXTERNAL] RE Crimson Solar Project NOP Scoping Comments
To: "magdalena.rodriguez@wildlife.ca.gov" <magdalena.rodriguez@wildlife.ca.gov>, "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>
Cc: "Ken_Corey@fws.gov" <Ken_Corey@fws.gov>

Dear Ms. Rodriguez and Ms. Liberatore:

Attached, please find comments regarding the RE Crimson Solar Project NOP and NOI, submitted on behalf of the Southwest Regional Council of Carpenters.

Very truly yours,

NICHOLAS WHIPPS

wittwer / parkin

WITTWER PARKIN LLP
147 S. RIVER ST., STE. 221
SANTA CRUZ, CA 95060
831.429.4055
WWW.WITTWERPARKIN.COM

The information contained in this email message is privileged, confidential and protected from disclosure. If you are the intended recipient, any dissemination, distribution or copying is strictly prohibited. If you have received this email message in error, please email the sender at lawoffice@wittwerparkin.com or telephone 831.429.4055.

wittwer / parkin

April 23, 2018

VIA EMAIL

Magdalena Rodriguez, Project Manager
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C220
Ontario, CA 91764
magdalena.rodriguez@wildlife.ca.gov

Miriam Liberatore, Project Manager
RE Crimson Solar, Bureau of Land Management
3040 Biddle Road
Medford, OR 97504
blm_ca_crimsonsolar@blm.gov

Re: RE Crimson Solar Project NOP Scoping Comments

Dear Ms. Rodriguez and Ms. Liberatore:

This law firm represents the Southwest Regional Council of Carpenters (Southwest Carpenters) and submits this letter on the above-referenced project on its behalf.

Southwest Carpenters represents 50,000 union carpenters in six states, including in Southern California, and has a strong interest in addressing the environmental impacts of development projects such as the Crimson Solar Project (Project). The California Department of Fish and Wildlife (DFW) released a Notice of Preparation (NOP) and the U.S. Bureau of Land Management released a Notice of Intent (NOI) signaling these agencies' intent to prepare a Joint Environmental Impact Report/Environmental Impact Statement (EIR/EIS). The agencies held their final scoping meeting on April 12, 2018.

The Project includes development of roughly 2,700 acres of undeveloped land within the BLM-administered Riverside East Solar Energy Zone into a 350-megawatt solar farm. The solar farm, itself, is estimated to include approximately 2 million panels, undisclosed miles of security fencing, up to four substations of about 30,000 square feet each, an "optional" storage system of up to 3,000 electrical enclosures measuring approximately 40 feet by 8 feet by 8.5 feet high and installed on concrete foundations. The applicant proposes access from Power Line Road; however, the proposed access route may change, depending on whether the applicant is able to obtain a private right-of-way. Proposed approvals include a Lake and Streambed Agreement and

Incidental Take Permit from DFW; a Right-of-Way and Amendments to the California Desert Conservation Area Plan from BLM; and, presumably, a Biological Opinion from the U.S. Fish and Wildlife Service.

These comments reflect preliminary concerns based on DFW's Notice of Preparation and BLM's Notice of Intent (NOI) and will focus on potential impacts to biological resources and the preliminary information in the agencies' notices. Southwest Carpenters look forward to reviewing the EIR/EIS and its full discussion of impacts, alternatives, and mitigation.

Project Description

BLM and DFW have provided conflicting descriptions of the base acreage of the Project. Whereas BLM estimates the Project will be sited on 2,700 acres of undeveloped land, DFW has stated the Project will consist of development on 2,500 acres. Moreover, the Project site map provided in DFW's NOP seems to delineate approximately 2,250 acres. In the EIR/EIS, please provide an accurate, stable description of the Project acreage.

In addition, the NOP and NOI fail to define several aspects of the Project. For instance, the NOP states that the Project may consist of "up to" four substations and include an "optional" storage system. The NOP further indicates the Project applicant has yet to negotiate means of entry into the Project site, so entry may potentially occur at multiple locations. The NOI states the Project may require amendments to the California Desert Conservation Area Plan but provides no further clarification as to what these amendments may entail, or whether they will be required at all. In the EIR/EIS, please provide complete information as to the specifics of the Project. If Project features remain uncertain, the agencies should proceed by evaluating the worst-case scenario of the potential environmental impacts of the Project.

Biological Resources

The Project site shares an approximate 3.5-mile-long border with desert tortoise critical habitat. The NOP and NOI do not provide sufficient information regarding the proposed access to the Project site, but it appears that access via Power Line Road will traverse this critical habitat. Moreover, there is a high likelihood that desert tortoise habitat and individuals are present within the thousands of acres that comprise the Project site. The agencies should proceed under the assumption that the Project will cause significant impacts to and result in the take of desert tortoise habitat and individuals.

BLM has not indicated whether it intends to initiate formal Section 7 consultation with the U.S. Fish and Wildlife Service. However, BLM should request the preparation of a

Biological Assessment and Biological Opinion, as the Project has the potential to jeopardize the continued existence of an endangered or threatened species. 16 U.S.C. § 1536.

Potential impacts to desert species from the construction of solar farms is well documented. Impacts include, but are not limited to, the following:

- avian impacts related to migratory birds colliding with solar PV panels due to the "lake effect";
- increase in canine distemper due to passive relocation from solar sites (if San Joaquin kit fox is present);
- loss of habitat;
- take of desert tortoises and other protected species;
- loss of movement corridors;
- habitat fragmentation;
- fringe effects;
- changes in surface hydrology;
- impacts to soils and other resources from loss of Cryptobiotic crusts and desert pavement
- increased dust and subsequent use of dust suppressants;
- construction of and increased traffic on roads;
- upstream impacts related to Project construction and development of solar panels;
- increased noise;
- temperature changes, and creation of microclimates;
- electromagnetic field generation;
- pollution from spills;
- water consumption;
- increased fire risks; and
- light pollution;

A solar farm project of this magnitude should be expected to cause all the above impacts. The Project should be required to provide substantial mitigation, and to adopt an environmentally superior alternative, to reduce or avoid these impacts to the maximum extent possible.

Conclusion

Southwest Carpenters thanks DFW and BLM for the opportunity to comment on the NOP and NOI and look forward to commenting on the agencies' subsequent environmental review documents when these documents are released for public review. Moving forward, please send

all future notices relating to the Project to Nicholas Whipps at nwhipps@wittwerparkin.com. Thank you for your consideration of these comments.

Very truly yours,
WITTWER PARKIN LLP

Nicholas Whipps

cc: Key Corey, Assistant Field Supervisor, Palm Springs Fish and Wildlife Office (Ken_Corey@fws.gov)

SCAG
SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS
900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
T: (213) 236-1800
www.scag.ca.gov

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Transportation
Curt Hagman, San Bernardino County

April 23, 2018

Magdalena Rodriguez, Project Manager
California Department of Fish and Wildlife
3602 Inland Empire Boulevard, Suite C220
Ontario, California 91764
E-mail: Magdalena.rodriguez@wildlife.ca.gov

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the RE Crimson Solar Project [SCAG NO. IGR9560]

Dear Ms. Rodriguez,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the RE Crimson Solar Project ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS) pursuant to Senate Bill (SB) 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS) goals and align with RTP/SCS policies.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the RE Crimson Solar Project in Riverside County. The proposed project includes a 350 megawatt solar photovoltaic energy generation and storage facility on 2,500 acres of public lands managed by BLM.

When available, please send environmental documentation to *SCAG's office in Los Angeles or by email to au@scag.ca.gov* providing, at a minimum, the full public comment period for review. Please note our new headquarters in Downtown Los Angeles is at *900 Wilshire Boulevard, Ste. 1700, Los Angeles, California 90017*.

If you have any questions regarding the attached comments, please contact the Inter-Governmental Review (IGR) Program, attn.: Anita Au, Associate Regional Planner, at (213) 236-1874 or au@scag.ca.gov. Thank you.

Sincerely,

Ping Chang

Ping Chang
Acting Manager, Compliance and Performance Monitoring

[1] Lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2016 RTP/SCS for the purpose of determining consistency for CEQA. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a determination of consistency with the 2016 RTP/SCS for CEQA.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE RE Crimson Solar Project [SCAG NO. IGR9560]

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS. For the purpose of determining consistency with CEQA, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the RTP/SCS.

2016 RTP/SCS GOALS

The SCAG Regional Council adopted the 2016 RTP/SCS in April 2016. The 2016 RTP/SCS seeks to improve mobility, promote sustainability, facilitate economic development and preserve the quality of life for the residents in the region. The long-range visioning plan balances future mobility and housing needs with goals for the environment, the regional economy, social equity and environmental justice, and public health (see http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx). The goals included in the 2016 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2016 RTP/SCS are the following:

SCAG 2016 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and active transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies**
	**SCAG does not yet have an agreed-upon security performance measure.*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG 2016 RTP/SCS GOALS		
Goal		Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

2016 RTP/SCS STRATEGIES

To achieve the goals of the 2016 RTP/SCS, a wide range of land use and transportation strategies are included in the 2016 RTP/SCS. Technical appendances of the 2016 RTP/SCS provide additional supporting information in detail. To view the 2016 RTP/SCS, please visit: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx. The 2016 RTP/SCS builds upon the progress from the 2012 RTP/SCS and continues to focus on integrated, coordinated, and balanced planning for land use and transportation that the SCAG region strives toward a more sustainable region, while the region meets and exceeds in meeting all of applicable statutory requirements pertinent to the 2016 RTP/SCS. These strategies within the regional context are provided as guidance for lead agencies such as local jurisdictions when the proposed project is under consideration.

DEMOGRAPHICS AND GROWTH FORECASTS

Local input plays an important role in developing a reasonable growth forecast for the 2016 RTP/SCS. SCAG used a bottom-up local review and input process and engaged local jurisdictions in establishing the base geographic and socioeconomic projections including population, household and employment. At the time of this letter, the most recently adopted SCAG jurisdictional-level growth forecasts that were developed in accordance with the bottom-up local review and input process consist of the 2020, 2035, and 2040 population, households and employment forecasts. To view them, please visit http://www.scag.ca.gov/Documents/2016GrowthForecastByJurisdiction.pdf. The growth forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts			Adopted Unincorporated Riverside County		
	Year 2020	Year 2035	Year 2040	Year 2020	Year 2035	Year 2040
Population	19,663,000	22,091,000	22,138,800	385,600	471,200	499,200
Households	6,458,000	7,325,000	7,412,300	121,800	153,200	162,900
Employment	8,414,000	9,441,000	9,871,500	96,700	139,700	156,600

MITIGATION MEASURES

SCAG staff recommends that you review the Final Program Environmental Impact Report (Final PEIR) for the 2016 RTP/SCS for guidance, as appropriate. SCAG's Regional Council certified the Final PEIR and adopted the associated Findings of Fact and a Statement of Overriding Considerations (FOF/SOC) and Mitigation Monitoring and Reporting Program (MMRP) on April 7, 2016 (please see: http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx). The Final PEIR includes a list of project-level performance standards-based mitigation measures that may be considered for adoption and implementation by lead, responsible, or trustee agencies in the region, as applicable and feasible. Project-level mitigation measures are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:45 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar Project - Draft EIS/EIR

---------- Forwarded message ----------
From: **Liberatore, Miriam** <mliberat@blm.gov>
Date: Thu, Apr 26, 2018 at 10:20 AM
Subject: Re: [EXTERNAL] Crimson Solar Project - Draft EIS/EIR
To: ssannadan@adamsbroadwell.com
Cc: "Anderson, Brandon" <bganderson@blm.gov>, BLM_CA CrimsonSolar <blm_ca_crimsonsolar@blm.gov>

Shelia, your email was forwarded to me. I'm the BLM's project manager for the Crimson Solar project. The project is still on track to issue a draft EIS this summer. I don't have a firm date. We will publish an NOA in the Federal Register and post the issuance on our e-planning site for the project, located here.

You are always welcome to contact me if you have any questions or to follow up on the progress of the project.

Respectfully,

Miriam Liberatore

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

Phone: 541-618-2412

On Wed, Apr 25, 2018 at 4:25 PM, Anderson, Brandon <bganderson@blm.gov> wrote:

---------- Forwarded message ----------
From: **Sheila M. Sannadan** <ssannadan@adamsbroadwell.com>
Date: Wed, Apr 25, 2018 at 2:04 PM
Subject: [EXTERNAL] Crimson Solar Project - Draft EIS/EIR
To: "bganderson@blm.gov" <bganderson@blm.gov>

Hello Brandon,

Could you please confirm when the Draft EIS/EIR of the proposed Crimson Solar Project located in Riverside County is anticipated to be released? Is it on schedule to be released in Summer 2018 as mentioned on the BLM website? https://edit.blm.gov/press-release/blm-schedules-public-scoping-meeting-crimson-solar-project

Thank you,

Sheila

Sheila Sannadan

Legal Assistant

Adams Broadwell Joseph & Cardozo
601 Gateway Boulevard, Suite 1000
South San Francisco, CA 94080
Phone (650) 589-1660
Fax (650) 589-5062

ssannadan@adamsbroadwell.com

--

Brandon G. Anderson
Project Manager
Bureau of Land Management
Palm Springs-South Coast Field Office
1201 Bird Center Drive
Palm Springs, CA 92262
Desk: 760-833-7140

Mobile: 760-422-9120
bganderson@blm.gov

--

Miriam Liberatore

Planning and Environmental Coordinator

Bureau of Land Management

3040 Biddle Road

Medford, OR 97504

Phone: 541-618-2412

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:46 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar Project EIR scoping

---------- Forwarded message ----------
From: **Anne Cassell** <Anne.L.Cassell@gmail.com>
Date: Thu, Apr 26, 2018 at 10:37 PM
Subject: [EXTERNAL] Crimson Solar Project EIR scoping
To: blm_ca_crimsonsolar@blm.gov

Hello,
I am writing to comment on the EIR scoping for the proposed Crimson Solar Project in Riverside County.

This area is an ecologically rich site home to many species of sensitive wildlife and unique microphyll woodland habitat. Please consider the potentially significant impacts on the desert tortoise, mojave fringe-toed lizard, burrowing owl, desert kit fox, golden eagle, elf owl, and gila woodpecker populations that rely on this area. Microphyll woodland is a unique desert ecosystem that should be considered "riparian" as it provides similar habitat qualities to riparian areas--in the project area specifically, this takes the shape of slow-growing desert ironwood trees that provide habitat for a high diversity of resident and migrating wildlife.

Furthermore, it is unnecessary to build massive solar arrays in the Mojave desert, as California has already met it's 30% renewable energy goal, and rooftop solar makes more economic and ecological sense. Please include in the EIR a serious "no project" alternative--we need renewable energy but we need it done right--on rooftops and not by destroying the desert ecosystems that BLM is supposed to protect.

Thank you,

Anne Cassell

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:45 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] comment on RE Crimson Solar Project

---------- Forwarded message ----------
From: **Ryan Carle** <ryan@oikonos.org>
Date: Thu, Apr 26, 2018 at 10:12 PM
Subject: [EXTERNAL] comment on RE Crimson Solar Project
To: blm_ca_crimsonsolar@blm.gov

Hello,

I am writing to comment on the EIR scoping for the proposed Crimson Solar Project in Riverside County.

This area is an ecologically rich site home to many species of sensitive wildlife and unique microphyll woodland habitat. Please consider the potentially significant impacts on the desert tortoise, mojave fringe-toed lizard, burrowing owl, desert kit fox, golden eagle, elf owl, and gila woodpecker populations that rely on this area. Microphyll woodland is a unique desert ecosystem that should be considered "riparian" as it provides similar habitat qualities to riparian areas--in the project area specifically, this takes the shape of slow-growing desert ironwood trees that provide habitat for a high diversity of resident and migrating wildlife.

Furthermore, it is unnecessary to build massive solar arrays in the Mojave desert, as California has already met it's 30% renewable energy goal, and rooftop solar makes more economic and ecological sense. Please include in the EIR a serious "no project" alternative--we need renewable energy but we need it done right--on rooftops and not by destroying the desert ecosystems that BLM is supposed to protect.

Thank you,

Ryan Carle

2621 N Rodeo Gulch Rd

Soquel CA 95073

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:46 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] No Crimson Solar Project

---------- Forwarded message ----------
From: **Emma Kelsey** <emmacashmankelsey@gmail.com>
Date: Fri, Apr 27, 2018 at 7:00 AM
Subject: [EXTERNAL] No Crimson Solar Project
To: blm_ca_crimsonsolar@blm.gov

Hello,

I am writing to comment on the EIR scoping for the proposed Crimson Solar Project in Riverside County, urging you to consider a "no project" alternative.

This area of Riverside County is an ecologically rich site home to many species of sensitive wildlife and unique microphyll woodland habitat. Please consider the potentially significant impacts on the desert tortoise, mojave fringe-toed lizard, burrowing owl, desert kit fox, golden eagle, elf owl, and gila woodpecker populations that rely on this area. Microphyll woodland is a unique desert ecosystem that should be considered "riparian" as it provides similar habitat qualities to riparian areas--in the project area specifically, this takes the shape of slow-growing desert ironwood trees that provide habitat for a high diversity of resident and migrating wildlife.

Furthermore, it is unnecessary to build massive solar arrays in the Mojave desert, as California has already met it's 30% renewable energy goal, and rooftop solar makes more economic and ecological sense. Please include in the EIR a serious "no project" alternative--we need renewable energy but we need it done right--on rooftops and not by destroying the desert ecosystems that BLM is supposed to protect.

Thank you,

Emma Kelsey

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:46 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL]

---------- Forwarded message ----------
From: **Tess Taylor** <tess_taylor@mac.com>
Date: Fri, Apr 27, 2018 at 2:14 PM
Subject: [EXTERNAL]
To: blm_ca_crimsonsolar@blm.gov

Hello,
I am writing to comment on the EIR scoping for the proposed Crimson Solar Project in Riverside County.

This area is an ecologically rich site home to many species of sensitive wildlife and unique microphyll woodland habitat. Please consider the potentially significant impacts on the desert tortoise, mojave fringe-toed lizard, burrowing owl, desert kit fox, golden eagle, elf owl, and gila woodpecker populations that rely on this area. Microphyll woodland is a unique desert ecosystem that should be considered "riparian" as it provides similar habitat qualities to riparian areas--in the project area specifically, this takes the shape of slow-growing desert ironwood trees that provide habitat for a high diversity of resident and migrating wildlife.

Furthermore, it is unnecessary to build massive solar arrays in the Mojave desert, as California has already met it's 30% renewable energy goal, and rooftop solar makes more economic and ecological sense. Please include in the EIR a serious "no project" alternative--we need renewable energy but we need it done right--on rooftops and not by destroying the desert ecosystems that BLM is supposed to protect.

Tess Taylor
tess_taylor@me.com

From: mliberat@blm.gov on behalf of CrimsonSolar, BLM_CA

Sent: Monday, May 7, 2018 3:47 PM

To: Cristina Gispert; Crimson Solar Project

Subject: Fwd: [EXTERNAL] Crimson Solar Comments for Submission

Attachments: Crimson comments.pdf

---------- Forwarded message ----------
From: **Ray Huaute** <RHuaute@morongo-nsn.gov>
Date: Mon, Apr 30, 2018 at 8:25 AM
Subject: [EXTERNAL] Crimson Solar Comments for Submission
To: "blm_ca_crimsonsolar@blm.gov" <blm_ca_crimsonsolar@blm.gov>
Cc: "Liberatore, Miriam" <mliberat@blm.gov>

Dear Ms. Liberatore,

Please see the attached comments from Morongo and include them in the Public Comments written record.

MORONGO CULTURAL HERITAGE PROGRAM
12700 PUMARRA RD BANNING, CA 92220
OFFICE 951-755-5025 FAX 951-572-6004

April 30, 2018

RE: Crimson Solar Project

Dear Ms. Liberatore,

The Morongo Band of Mission Indians would like to enter into the public record, our continued concern regarding potential impacts to tribal cultural resources and properties, including sacred landscapes and view sheds for the above mentioned project. The tribe is also interested in the results of the archaeological assessment that was conducted last fall by Applied Earthworks, which we have not received a draft copy of yet. During a public scoping meeting on September 19, 2017, which was attended by representatives from Morongo and several other tribes, the BLM notified the tribes that the archaeological survey and assessment was still being conducted. Morongo subsequently notified Miriam Liberatore of the BLM that they had not been initially invited to participate in tribal monitoring as part of the study and that the tribe desired to have a representative present to observe the survey methodologies being implemented by Applied Earthworks. Ms. Liberatore put me in touch with the project field manager for the project, Matt Tennyson, to arrange to have a tribal monitor on-site for the final weeks of survey work however. Mr. Tennyson never returned any of my phone calls nor did he respond to any emails during those final weeks and therefore the tribe was not able to participate in the study. For this reason, the tribe would like to remain engaged in the project and receive a copy of any draft versions of the cultural assessment study as soon as it becomes available to the BLM so that we may provide feedback before a final report is published. Again, Morongo wishes to remain a consulting party for the duration of the Crimson Solar Project and reserves its right to engage in meaningful government-to-government consultation as stipulated under the law. If you have any questions, feel free to contact our office at any time.

Respectfully,

Raymond Huaute
Cultural Resource Specialist
Morongo Band of Mission Indians
Email: rhuaute@morongo-nsn.gov
Phone: (951) 755-5025