

Appendix A Comment Letters and Reclamation's Response to Comments

This Appendix contains a copy of the comment letters received on the Draft Finding of No Significant Impact (FONSI) and Draft Environmental Assessment (EA) entitled *San Luis Solar Project* (EA-14-059). The Bureau of Reclamation (Reclamation) received comment letters from 1 Federal agency, 3 State agencies, 2 local agencies, 4 Organization, and 3 individuals. Table 1 identifies each commenting entity as well as the abbreviation used to identify the commenting entity in the response to comments. Individual comments in each comment letter are identified by the commenting entities abbreviation and a sequential number (e.g., FWS-1). A response to the comments is provided after each specific comment letter. The responses are also numbered, corresponding to the numbers assigned in the letter.

Table 1 Comment Letters Received and Abbreviations Used for Response to Comments

Comment Letter	Abbreviation
Federal Agencies	
U.S. Fish and Wildlife Service, San Luis National Wildlife Refuge Complex	FWS
State Agencies	
California Department of Fish and Wildlife	DFW
California State Parks	CSP
California Department of Water Resources	DWR
Local Agencies	
Grassland Water District	GWD
San Luis and Delta-Mendota Water Authority	SLDMWA
Organizations	
Audubon California	Audubon
California State Park Rangers Association	CSPRA
California Unions for Reliable Energy	Coalition
San Luis Sailboard Safety Patrol	SLSSP
Individual	
David Beaudry	Beaudry
Scott Campbell	Campbell
David Milam	Milam



Lewis, Jennifer <jllewis@usbr.gov>

San Luis Solar Project EA

1 message

Forrest, Kim <kim_forrest@fws.gov>

Fri, Jan 15, 2016 at 10:28 AM

To: jllewis@usbr.gov

Cc: Ric Ortega <rortega@gwdwater.org>, Ellen Wehr <ewehr@adamsbroadwell.com>, Bill Cook <wcook@dfg.ca.gov>, Bob Parris <bob_parris@fws.gov>

Jennifer --

FWS-1

Please accept this email as a comment from the U.S. Fish & Wildlife Service, San Luis National Wildlife Refuge Complex; Los Banos, CA. This office endorses the comments submitted by the Grassland Water District / Grassland Resource Conservation District ("San Luis Solar Project EA Comments"), attached.

Thank you for your consideration.

—

-- Kim

Kim Forrest, Refuge Manager
San Luis NWR Complex
U.S. Fish & Wildlife Service
P.O. Box 2176
7376 S. Wolfsen Road
Los Banos, CA 93635
209/826-3508 ext. 116 (phone)
209/826-1445 (fax)

**Response to U.S. Fish and Wildlife Service San Luis National Wildlife Refuge Complex
Comment Letter, January 15, 2016**

FWS-1 The comment attaches and endorses the comments submitted by the Grassland Water District on the San Luis Solar Project (EA-14-059). The comment is noted. Responses to comments submitted by the Grassland Water District are addressed following the Grassland Water District comment letter included later in this Appendix.



State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
Central Region
1234 East Shaw Avenue
Fresno, California 93710
(559) 243-4005
www.wildlife.ca.gov

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



January 15, 2016

Jennifer L. Lewis
United States Bureau of Reclamation
1243 "N" Street
Fresno, California 93721

Subject: Draft Environmental Assessment (EA) and Plan of Development for San Luis Solar Project (EA-14-059).

Dear Ms. Lewis:

The California Department of Fish and Wildlife (CDFW) has reviewed the Draft Environmental Assessment (DEA) and Plan of Development (POD) submitted by the Bureau of Reclamation (Reclamation) for the San Luis Solar Project (Project). The Project includes the issuance of a 30-year Land Use Authorization from Reclamation to San Luis Renewables and/or their assignee(s) to access, construct, operate, maintain and remove a 26-megawatt (MW) solar photovoltaic (PV) energy generating system on 246.5 acres of Federal lands. The Project will consist of 3 separate solar sites and include a 75-foot-wide corridor for a 70-kilovolt (kV) generation interconnection (gen-tie) transmission line and associated access roads, solar PV systems, substations, power conversion units, switchgear, battery energy storage system (BESS), staging and spoil pile areas, detention basins, security fencing and lighting, and other related facilities.

DFW-1

The Project is located approximately 1 mile west of Santa Nella, California, adjacent to the southern edge of the O'Neill Forebay (Site 1) and between the northeastern edge of the O'Neill Forebay and the Delta Mendota Canal (Sites 2 and 3), and to the southwest and west of the intersection of Interstate 5 and State Route (SR) 33/152, in western Merced County.

The O'Neill Forebay Wildlife Area is located adjacent to eastern side of the O'Neill Forebay, between Site 1 and Sites 2 and 3, and is bordered to the east and north by the proposed gen-tie line for the Project. The previously approved Fox Hills and Villages of Laguna San Luis developments, the proposed Wright Solar Project and San Luis Transmission Project, and the Agua Fria Multi-Species Conservation Bank are located in close proximity to the southeast, and the proposed Quinto Solar Project is located within the immediate vicinity.

DFW-2

As previously stated in our comment letter on the Administrative Draft of the DEA and POD prepared for this Project, the Project is located within a critical portion of the remnant north-south movement corridor for the San Joaquin kit fox (*Vulpes macrotis mutica*, SJKF), which is listed as threatened and endangered pursuant to the California Endangered Species Act (CESA) and the federal Endangered Species Act (ESA), respectively. CDFW and the United States Fish and Wildlife Service (USFWS) consider the Santa Nella area a "pinch-point" in the connectivity between the north and south SJKF populations, and the associated movement corridor is considered critical to the continued existence and genetic diversity of the northern

DFW-2
cont.

↑ SJKF population. The Project would reduce the remaining habitat in the north-south movement corridor and would contribute to its permanent fragmentation. CDFW disagrees with the DEA and POD finding that habitat within the proposed Project is marginal and there is a low likelihood of SJKF to use the Project footprint. CDFW is also concerned about potential Project-related impacts to several other special status species, including but not limited to, Swainson's hawk (*Buteo swainsoni*, SWHA), which is listed as threatened pursuant to CESA, California tiger salamander (*Ambystoma californiense*, CTS), which is listed as threatened pursuant to both CESA and ESA, blunt-nosed leopard lizard (*Gambelia sila*, BNLL) which is listed as endangered pursuant to CESA and as fully protected by the State, burrowing owl (*Athene cunicularia*, BUOW) and American badger (*Taxidea taxus*), which are both listed as Species of Special Concern, and tricolored blackbird (*Agelaius tricolor*), which is listed as candidate species pursuant to CESA.

DFW-3

While Reclamation, as the Federal Lead Agency, is submitting a DEA and POD to satisfy the requirements of the National Environmental Policy Act (NEPA), please note that since it does not appear that this is a Federal Project, being built on Federal lands with Federal money, due to the necessity of Reclamation to issue an LUA to San Luis Renewables and/or their assignee(s), this Project is subject to the California Environmental Quality Act (CEQA) and a CEQA document will be required for any State or local permits necessary for Project development, including an Incidental Take Permit (ITP) pursuant to Fish and Game Code Section 2081(b) if "take" of species listed pursuant to CESA and/or a Lake or Streambed Alteration Agreement (LSAA) pursuant to Fish and Game Code Section 1600 *et seq.*, if impacts to CDFW jurisdictional aquatic features and associated habitat will occur. Based on the information contained within the DEA and POD, and CDFW's knowledge of the Project area, the Project has the potential to impact several special status species, and therefore, CDFW strongly recommends the Project obtain an ITP and potentially an LSAA prior to the initiation of any Project-related activities. Our specific comments follow.

Department Jurisdiction

DFW-4

Trustee Agency Authority: CDFW is a Trustee Agency with the responsibility under CEQA for commenting on projects that could impact plant, fish and wildlife resources. Pursuant to Fish and Game Code Section 1802, CDFW has jurisdiction over the conservation, protection and management of fish, wildlife, native plants and habitat necessary for biologically sustainable populations of those species. As a Trustee Agency for plant, fish and wildlife resources, CDFW is responsible for providing, as available, biological expertise to review and comment on environmental documents and impacts arising from project activities, as those terms are used under CEQA.

Responsible Agency Authority: CDFW has regulatory authority over projects that could result in take of any species listed, or that is a candidate for listing, by the State (State-listed) as threatened or endangered, pursuant to CESA. For this or any other project which impacts listed species, an ITP is the mechanism for providing take authorization under CESA. CEQA requires a Mandatory Finding of Significance if a project is likely to substantially impact threatened or endangered species (sections 21001(c), 21083, Guidelines sections 15380, 15064, 15065).

↓ Impacts must be avoided or mitigated to less than significant levels unless the CEQA Lead

↑ Agency makes and supports a Statement of Overriding Consideration (SOC). A CEQA Lead Agency's SOC would not preclude the Project proponent's obligation to comply with CESA.

Other Rare Species: Species of plants and animals need not be listed as Endangered, Rare or Threatened (E, R or T) pursuant to CESA and/or the ESA to be considered E, R or T under CEQA. If a species can be shown to meet the criteria for a listing as E, R or T under CESA and/or ESA as specified in the CEQA Guidelines (California Code of Regulations [CCR], Title 14, Chapter 3, Section 15380), it should be fully considered in the environmental analysis for the Project.

Fully Protected Species: CDFW has jurisdiction over fully protected species of birds, mammals, amphibians, reptiles, and fish, pursuant to Fish and Game Code sections 3511, 4700, 5050, and 5515. Take of any fully protected species is prohibited, and CDFW cannot authorize their take in association with a general project except under the provisions of a Natural Communities Conservation Plan (NCCP). The Project is not within an NCCP area. The fully-protected BNLL, white-tailed kite (*Elanus leucurus*) and golden eagle (*Aquila chrysaetos*) are known to occupy habitat within the vicinity of the Project and the white-tailed kite and golden eagle are known to forage within the Project footprint. CDFW recommends the DEA and POD be revised to include appropriate avoidance measures to ensure full avoidance of BNLL, white-tailed kite and golden eagle. Additional comments on potential Project-related impacts to these species are provided below.

Bird Protection: CDFW has jurisdiction over actions that may result in the disturbance or destruction of active nest sites or the unauthorized take of birds. Sections of the Fish and Game Code that protect birds, their eggs and nest include sections 3503 (regarding unlawful take, possession or needless destruction of the nest or eggs of any bird), 3503.5 (regarding the take, possession or destruction of any birds-of-prey or their nests or eggs), and 3513 (regarding unlawful take of any migratory nongame bird).

Lake and Streambed Alteration Notification: CDFW has regulatory authority with regard to activities occurring in streams and/or lakes that could adversely affect any fish or wildlife resource, pursuant to Fish and Game Code sections 1600 *et seq.* Section 1602(a) of the Fish and Game Code requires an entity to notify CDFW before engaging in activities that would substantially change the bed, channel, or bank of a stream or substantially divert or obstruct the natural flow of a stream. Based on the information provided in the DEA and POD, and aerial photographs of the Project footprint, it appears that the Project may impact CDFW jurisdictional aquatic features and associated habitat and acquisition of a Streambed Alteration Agreement may be necessary, therefore submittal of a Streambed Alteration Notification (Notification) to CDFW is warranted to comply with Fish and Game Code. The Notification should include all Project-related CDFW jurisdictional aquatic features and associated habitat disturbances and mitigation for the disturbances in order for CDFW to efficiently determine if the Project is occurring within CDFW 1600 jurisdiction. This will reduce the need for CDFW to require extensive additional environmental review for a Streambed Alteration Agreement for the Project in the future.

DFW-4
cont.

Potential Impacts and Recommendations

San Joaquin Kit Fox: As noted in the Administrative Draft of the DEA and POD and in our comments above, the Santa Nella area has been identified by CDFW and the USFWS as a pinch point in the connectivity between the north and south populations of SJKF. There is a very narrow area remaining in the Santa Nella vicinity that is available for north-south dispersing kit fox, and the Project has the potential to further restrict movement by removing additional habitat that could serve as foraging, movement and denning areas for SJKF.

Implementation of the proposed Project, in conjunction with other development planned in the Santa Nella Community Specific Plan (SNCSP), as well as the previously approved Fox Hills and Villages of Laguna San Luis developments, and the proposed Wright Solar Project and San Luis Transmission Project would likely result in permanent fragmentation between the Los Banos Valley core kit fox population and the northern kit fox population. An influx of individuals from the Los Banos Valley is thought to be critical to the continued existence and genetic diversity of the northern kit fox population. As a result, any habitat in this area that could serve as foraging, movement and denning areas for SJKF has high conservation values for this species.

Since the Project footprint could support foraging, movement and denning opportunities for kit fox, and for the reasons stated above, Project implementation would, at a minimum, impact the kit fox range north of the Project area in addition to the Project footprint. Therefore, prior to any ground-disturbing activities in this area that could result in take, as defined by Section 86 of the Fish and Game Code, acquisition of a State ITP is warranted to comply with CESA.

CDFW also recommends that Protection Measures BIO-1 and BIO-8 of the DEA and POD be revised to **require** the Project developer follow the USFWS's "Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance" (2011) and include specific proposed mitigation measures for impacts to the SJKF movement corridor.

Blunt-Nosed Leopard Lizard: BNLL have been documented within the vicinity of the Project and have the potential to occur within the Project footprint. Please note that CDFW cannot authorize take of BNLL in association with the Project because it is a fully protected species (Fish and Game Code Section 5050). Therefore, full avoidance of BNLL is required. CDFW would like to emphasize that we do not agree with the conclusions that were offered in the DEA and POD because CDFW does not consider habitat surveys as a suitable substitute for protocol-level BNLL surveys. CDFW recommends that the DEA and POD be revised to include enforceable minimization measures to preclude take within the Project footprint during construction, operation, maintenance and decommissioning activities. For example, CDFW recommends Protection Measures BIO-2 and BIO-8 be revised to address full avoidance of BNLL and require protocol-level BNLL surveys (CDFG 2004) be completed for the entire Project footprint no more than one year prior to initiation of construction-related activities. CDFW also recommends Protection Measures BIO-8 be revised to require all construction, operation, maintenance and decommissioning activities avoid all observed BNLLs by a minimum of the distance that BNLLs are known or expected to travel within their home range, based on telemetry, mark-recapture, or other data. Additional buffers may also be warranted to ensure that the Project would not reduce species' abundance or distribution over time due to habitat loss.

California Tiger Salamander: The DEA and POD states that CTS was determined to be absent from the site. The determination was based on a habitat assessment and no aquatic or upland surveys were conducted. CDFW recommends the DEA and POD be revised to require the "Interim Guidance on Site Assessment and Field Surveys for Determining Presence or a Negative Finding of the California Tiger Salamander" (USFWS and Department 2003) be followed prior to the initiation of Project-related activities to determine if CTS may occur within the Project footprint. If CTS is detected within the Project footprint prior to or during construction, the Project applicant should stop or delay initiation of construction and contact CDFW immediately to determine how to implement the Project and avoid take under CESA. If take cannot be avoided, then an ITP would be necessary to comply with CESA.

Burrowing Owl: CDFW recommends that Protective Measure BIO-3 be revised to require the developer follow the methodology, avoidance buffers and mitigation in the *Staff Report on Burrowing Owl Mitigation* dated March 7, 2012 (CDFG 2012), in its entirety, as written and without modification, before starting Project-related activities likely to impact burrowing owls. The staff report can be found on our website at www.dfg.ca.gov/wildlife/nongame/docs/BUOWStaffReport.pdf. If Project-related activities are delayed or suspended for more than 30 days, re-surveying is warranted.

As outlined in the *Staff Report on Burrowing Owl Mitigation*, burrow exclusion in and of itself will not always avoid or minimize and mitigate BUOW impacts, and eviction of BUOWs is a potentially significant impact under CEQA. When temporary or permanent burrow exclusion and/or burrow closure is implemented, BUOWs should not be excluded from burrows unless or until:

- A BUOW Exclusion Plan is developed and approved by the Lead Agency and CDFW;
- Permanent loss of occupied burrow(s) and habitat and temporary exclusion is mitigated; and
- Monitoring is conducted prior to, during and after exclusion of BUOWs from their burrows sufficient to ensure take is avoided; and

Swainson's Hawk: SWHAs nest and forage within the whole of the Project footprint and recent nests are located within 0.5 mile of the Project's gen-tie line. CDFW recommends Protective Measure BIO-4 be revised to state that if active nests are found within a 0.5 mile of the Project footprint, a minimum no-disturbance buffer of 0.5 mile will be implemented around active nests until the breeding season has ended or until a qualified biologist has determined, and CDFW has agreed in writing, that the birds have fledged and are no longer reliant upon the nest or parental care for survival. If such a buffer cannot feasibly be implemented, and work will occur during the avian nesting season (January through September 15), consultation with CDFW will be required well in advance of ground-disturbing activities to determine if the Project can avoid take. If take cannot be avoided, then an ITP from CDFW is required to comply with CESA.

CDFW also recommends Protective Measure BIO-4 be revised to include compensation for SWHA foraging habitat in accordance with CDFW's Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (CDFG, 1994).

DFW-10

Tricolored Blackbird: Tricolored blackbirds have been documented in close proximity to the Project site. They are known to nest in fresh water wetlands with thick vegetation growth and in some agricultural crops. CDFW recommends that a habitat assessment be conducted by a qualified biologist familiar with the species to determine if the Project would impact potential breeding grounds. An adequate habitat assessment would include the Project footprint including a 0.5-mile buffer. If potential breeding grounds are identified then surveys would need to be conducted during the appropriate time of year to determine if tricolored blackbirds are nesting within the Project footprint or the surrounding area. If tricolored blackbirds are identified within a 0.5 mile of the Project footprint, consultation with CDFW would be warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, an ITP would be necessary to comply with CESA.

DFW-11

Fully Protected Raptors: As mentioned above, the white tailed kite, golden eagle and bald eagle are species listed as fully protected pursuant to Fish and Game Code Section 3511, and are known to forage within and adjacent to the Project footprint. CDFW recommends that focused surveys be conducted by experienced biologists prior to Project implementation in accordance with survey methodology developed by CDFW (CDFG, 2010) to determine if any of these species are nesting within or near the Project footprint. In the event that an active nest is found within 0.5 mile of the Project, CDFW recommends that a qualified wildlife biologist be on-site during all ground disturbing/construction related activities and that a 0.5-mile no-disturbance buffer be put into effect. If the 0.5-mile no-disturbance buffer cannot feasibly be implemented, consultation with CDFW is advised well in advance of ground disturbing activities to determine how to implement the Project and avoid take.

DFW-12

Raptors and Migratory Birds: For the protection of raptors and migratory song birds and to assist in avoiding take of avian species as required by Fish and Game Code sections 3503, 3503.5 and 3513, CDFW recommends Project implementation occur during the non-nesting bird season. However, if ground-disturbing activities must occur during the breeding season (January through September 15th), the Project applicant is responsible for ensuring that implementation of the Project does not result in any violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above. Prior to work commencing, CDFW recommends surveys for active nests be conducted by a qualified wildlife biologist no more than 10 days prior to the start of the Project and that the surveys be conducted in a sufficient area around the work site to identify any nests that are present and to determine their status. A sufficient area means any nest within an area that could potentially be affected by the Project. In addition to direct impacts, such as nest destruction, nests might be affected by noise, vibration, odors, and movement of workers or equipment. CDFW recommends that identified nests are surveyed for the first 24 hours prior to any construction-related activities to establish a behavioral baseline, and once work commences, that all nests are continuously monitored by a qualified wildlife biologist to detect any behavioral changes. If behavioral changes are observed, we recommend that the work causing that change cease and CDFW be consulted for additional avoidance and minimization measures. If continuous monitoring of identified nests by a qualified wildlife biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around the nests of unlisted raptors until the breeding season has ended, or until a qualified biologist has determined, and CDFW has agreed in writing, that the birds have fledged and are no longer reliant upon the nest or parental care for survival. Variance

DFW-12
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from these no-disturbance buffers may be implemented when there is a compelling biological or ecological reason to do so, such as when the Project footprint would be concealed from a nest site by topography. Any variance from these buffers is advised to be supported by a qualified wildlife biologist and it is recommended CDFW be notified in advance of implementation of a no-disturbance buffer variance. We recommend revising Protection Measures BIO-6 and BIO-7 to reflect these recommendations.

DFW-13

Bird Strikes: The DEA and POD refers to a report written by DeVault, Seamans, Schmidt, Belant, Blackwell, Mooers, Tyson and Van Pelt for the United State Department of Agriculture and Mississippi Department of Wildlife (DeVault et al. 2014) which concluded "that solar PV systems did not increase bird hazards at aviation airports, including where systems were placed in previous grassland areas". This report was not provided with the DEA and POD and therefore CDFW has not had a chance to review and comment on these findings. However, based on the brief synopsis of the report included in the DEA and POD, CDFW would like to emphasize that there appear to be large differences between the study sites in the report and the proposed Project footprint location. For example, the proximity to an airport and its associated disturbances verses the proximity to the O'Neill Forebay, O'Neill Forebay Wildlife Area, and other nearby lands that are protected and managed specifically for the benefit of wildlife species, including seasonal bird migration. In addition, the proposed Project and its associated 6.2 mile long, 70-kilovolt (kV) gen-tie line that surrounds the O'Neill Forebay Wildlife Area, is located within the Pacific Flyway, is adjacent to the O'Neill Forebay, and within the immediate vicinity of the San Luis Reservoir, the Grasslands Ecological Area, the Agua Fria Multi-Species Conservation Bank and the Los Banos Reservoir and associated State Park. These areas all provide potential nesting and foraging habitat for migratory and special status bird species and in the case of the Agua Fria Multi-Species Conservation Bank, the Grasslands Ecological Area, and the O'Neill Forebay Wildlife Area, they are actively managed to attract and provide habitat for migratory bird species which increases the potential for bird mortalities due to lake effect and gen-tie line strikes. The installation of the Project within such close proximity to the aforementioned mitigation lands may also result in a reduction in conservation value of these lands that were protected in perpetuity to offset impacts created by another development project.

In addition, the ability of birds to be able to differentiate between the PV solar panels that have been designed for minimal light reflection and the surrounding waters and wetland habitats described above has not been demonstrated in the literature. Therefore, the assumption of the DEA and POD that the birds are less likely to focus on the San Luis Solar facility in comparison to the surrounding available habitat is unsubstantiated. Furthermore, lake effect has also been shown to have a similar effect on bats foraging over solar project sites.

DFW-14

Rodenticides, Pesticides and Vegetation Management: CDFW strongly discourages the use of rodenticides, pesticides and herbicides because they have the potential to directly and indirectly impact State-listed species such as the SJKF and SWHA, which may result in take of these species and would warrant acquisition of an ITP.

Please note that many solar projects are proposed, some of which are in construction and operation, and are several thousand acres in size, which will not engage in any form of rodent control, pesticide or herbicide use. As a result, it does not appear that the operation of

DFW-14
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utility-scale solar projects require the use of rodenticides, pesticides and/or herbicides. If rodent pests are an issue, CDFW recommends the use of live traps for pest rodent control. The traps should be sized such that inadvertent trapping of a San Joaquin kit fox would not occur. If vegetation cannot be controlled by mechanical means (i.e. mowing) CDFW recommends the implementation of a grazing plan. CDFW does not recommend disking of the Project footprint due to the potential for impacts to special status species and their associated habitats, and contrary to a statement included in the DEA and POD, CDFW does not agree that disking of the Project footprint preserves underground root structure, top soil nutrients or the seed bank.

DFW-15

Temporary Impacts: CDFW recommends the Project be redesigned to require all temporary impacts associated with Project construction (i.e., construction office facilities, staging and laydown areas, signage, temporary parking lots, etc.) be confined within areas of the Project footprint that will be permanently impacted. CDFW also recommends clearing, grading and soil compacting activities and construction of the BEES be limited to areas within the Project footprint that will be permanently impacted to minimize potential impacts to special status species and their associate habitats.

DFW-16

Water Flow Patterns: CDFW disagrees with a statement in the DEA and POD that water flow patterns adjacent to the Project footprint will not be impacted by the construction of up to five (5) detention basins and the grading to level of the Project footprint. Grading of the Project footprint and the construction of up to five (5) detention basins that will collect up to 0.5 inch of rainwater runoff from the Project will alter water flow patterns on and adjacent to the Project footprint and may alter special status species habitat and behavior patterns on and adjacent to the Project footprint. CDFW recommends eliminating widespread Project grading, leveling and compacting and removing all five (5) detention basins from the Project design.

DFW-17

Project Fencing: CDFW agrees with the requirement that all fencing on the Project footprint have a four- to eight-inch separation between the bottom of the fence and the ground, along the entire fence; however, CDFW also recommends that Protection Measure BIO-1 be revised to include the requirement that the bottom of the fence edges be wrapped back to form a smooth edge to aid in the movement of wildlife through the Project footprint.

DFW-18

Open Holes and Trenches: For the protection of wildlife species during construction of the Project, CDFW recommends the following language be incorporated as a Protective Measure in the DEA and POD. Trenches or holes more than six (6) inches deep will be provided with one or more escape ramps constructed of earthen fill or wooden planks and will be inspected by a qualified biologist prior to being filled. Any such features that are left open overnight will be searched each day prior to construction activities to ensure no animals are trapped. Work will not continue until trapped animals have moved out of open trenches. A Qualified Biologist shall inspect all open holes, sumps, and trenches within the Project footprint at the beginning, middle, and end of each day for wildlife. All trenches, holes, sumps, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and that are between two- and eight feet deep shall be covered when workers or equipment are not actively working in the excavation, which includes cessation of work overnight, or shall have an escape ramp of earth or a non-slip material with a less than 1:1 (45 degree) slope. All trenches, holes, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and greater than eight feet deep shall be covered when workers or equipment are not actively working in the excavation and at the end of

DFW-18
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↑ each work day. To prevent inadvertent entrapment of wildlife, a Qualified Biologist shall oversee the covering of all excavated, trenches, holes, sumps, or other excavations with a greater than 1:1 (45 degree) slope of any depth with barrier material (such as hardware cloth) at the close of each working day such that wildlife are unable to dig or squeeze under the barrier and become entrapped. The outer two feet of excavation cover shall conform to solid ground so that gaps do not occur between the cover and the ground and secured with soil staples or similar means to prevent gaps. Each morning, mid-day, the end of each day (including weekends and any other non-work days), and immediately before trenches, holes, sumps, or other excavations are back-filled, a Qualified Biologist shall thoroughly inspect them for wildlife. Trenches, holes, sumps, or other excavations that are covered long term shall be inspected at the beginning of each working day to ensure inadvertent entrapment has not occurred. If any worker discovers that wildlife has become trapped, all activities in the vicinity shall cease and the Qualified Biologist notified immediately. Project workers and the Qualified Biologist shall allow the trapped wildlife to escape unimpeded before activities are allowed to continue. If the entrapped animal is a State-listed species and an ITP has been acquired by the Project proponent for that species, the Qualified Biologist may capture and relocated the animal in accordance with the Project ITP provisions. If the entrapped animal is a State-listed species and an ITP has not been acquired by the Project proponent for that species, the Project proponent should contact CDFW immediately.

DFW-19

Dust Control: The Project's DEA and POD states that water will be used for dust suppression. CDFW recommends a Protective Measure be incorporated into the document that will require the sole use of water for dust control and prohibit the use of soil strengthening agents, geo fabric and dust suppression products. CDFW strongly discourages the use of the above mentioned products because they have the potential to directly and indirectly impact CDFW jurisdictional aquatic features and associated habitat, and State-listed species such as the SJKE and SWHA, which may result in take of these species and would warrant the acquisition of an ITP. CDFW also recommends the Project developer minimize the use of water within the Project footprint for dust control and PV panel washing in order to minimize potential changes in the existing vegetative structure and composition of the Project footprint. CDFW also recommends the Project developer obtain written concurrence from CDFW on the species composition of the seed mix prior to reseeding the Project footprint.

DFW-20

Night Work and Lighting: The DEA and POD states that construction will typically occur from 7:00 a.m. to 5:00 p.m. and that artificial nighttime lighting within the Project footprint will be shielded, directed downward and minimized at night. However, CDFW also recommends that **all** night lighting be installed using motion activated sensors and that nightwork be prohibited to reduce impacts on foraging, migration and breeding behaviors of special status species. CDFW recommends these measures be included as Protective Measures in a revised DEA and POD.

DFW-21

Vertical Tubes: Vertical tubes such as solar mount poles and chain link fencing poles can result in the entrapment and death of a variety of bird species. CDFW recommends that the DEA and POD be revised to require all hollow vertical tubes such as solar mount poles and chain link fencing poles be permanently capped at the time they are installed to prevent the entrapment and death of birds.

DFW-22

↓ **Erosion Control:** CDFW recommends that only natural-fiber, biodegradable meshes be used in erosion control mats, blankets and straw or fiber wattles and that silt fencing and the

DFW-22 ↑
cont. | aforementioned erosion control features be installed in such a way as to prevent entrapment of special status species while maintaining access to potential aquatic and upland habitat.

DFW-23 | **Project Footprint Consolidation:** CDFW recommends continuing to refine the Project layout to reduce Project impacts, mostly by designing a more compact footprint. It would be better for wildlife in general to design a smaller, more consolidated Project footprint that eliminates and fragments less habitat than to expect or encourage wildlife to use habitat fragments between arrays and Project sites. Clustering arrays as densely as possible would substantially reduce habitat loss and fragmentation for SJKF, BNLL, badger, raptors, and all other species occurring on and around the Project footprint.

DFW-24 | Thank you for the opportunity to comment on the San Luis Solar Project DEA and POD. Due to the failure of Reclamation to notify CDFW of the release of the DEA and POD for public review, even after CDFW provided comments on the Administrative Draft during informal consultation, CDFW may have additional comments on the Project that could have been provided if we were allowed adequate time for review instead of being restricted to a three-day review and comment period. If you have any questions regarding these comments, please contact Lori Bono, Senior Environmental Scientist (Specialist) at (559) 243-4014, extension 350, or lori.bono@wildlife.ca.gov.

Sincerely,



Julie A. Vance
Regional Manager

ec: Annee Ferranti
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Response to California Department of Fish and Wildlife Comment Letter, January 15, 2016

DFW-1 The California Department of Fish and Wildlife's (DFW) comment is a summary of the Proposed Action described in Environmental Assessment (EA)-14-059. The comment does not raise specific issues or concerns related to the environmental analysis presented in EA-14-059. As such, no changes have been made to the EA and no further response is required.

DFW-2 DFW states that they disagree "with the DEA and POD finding that habitat within the proposed Project is marginal and there is low likelihood of San Joaquin kit fox to use the Project footprint". They also express concerns for Project impacts to other special-status species, including but not limited to, Swainson's hawk, California tiger salamander, blunt-nosed leopard lizard, burrowing owl, and American badger.

It should be noted, that as a Federal agency, Reclamation is required to comply with National Environmental Policy Act (NEPA), Migratory Bird Treaty Act (MBTA), and the federally Endangered Species Act (ESA). As described in Section 3.4 of EA-14-059, Reclamation analyzed potential impacts to special-status species, including those noted by DFW, and has consulted with the U.S. Fish and Wildlife Service (USFWS) on the Proposed Action. USFWS issued a biological opinion for potential impacts to the federally listed species that could potentially be affected by the Proposed Action, specifically the San Joaquin kit fox and blunt-nosed leopard lizard (Appendix B of EA-14-059). Based on the incorporation of conservation measures into the Proposed Action, Reclamation determined that potential impacts to other special-status species would be avoided and/or minimized.

The acreages of temporary and permanent impacts to potential San Joaquin kit fox foraging or dispersal habitat from Project activities are listed in Table 8 of EA-14-059. The permanent loss of potential foraging or dispersal habitat would be approximately 13.61 acres, or approximately 5.5 percent of the total Project footprint. The Proposed Action has incorporated conservation measures (see Table 6 of EA-14-059) so as not to impede movement of kit fox through the Proposed Action Area. These conservation measures include fencing that will allow terrestrial species to pass through the solar PV system sites. Furthermore, artificial denning structures will be placed at the sites to help support San Joaquin kit fox to evade predator species, escape temperature extremes, and provide suitable resting cover, should they be present. Currently, denning structures suitable for the use by San Joaquin kit fox do not exist at the sites or along the generation interconnection (gen-tie) route.

Since the Project has been designed to allow use of the area by San Joaquin kit fox or other species using non-exclusive fencing methods as prescribed by the USFWS, the entire area is accessible to species other than where permanent

structures are placed. Therefore, habitat for San Joaquin kit fox would continue to function in the same capacity as current conditions.

DFW-3 DFW states that the Project is subject to the California Environmental Quality Act (CEQA) and the California Endangered Species Act (CESA) requiring a CEQA document and an Incidental Take Permit (ITP).

The Proposed Action is a completely Federal project as it occurs on Federal lands requiring federal authorization from Reclamation. As described in Section 1 of EA-14-059, Reclamation proposed to issue a Land Use Authorization (LUA) to the Applicant for the construction and operation of the Project (Proposed Action described in Section 2.2 of EA-14-059). Further, as stated in Section 1.2 of EA-14-059, “Reclamation issued a Request for Interest in a lease arrangement to construct a renewable resource generation project on Federal lands in the vicinity of the San Luis Project.¹ The development of such projects is “intended to curb the dependence on foreign oil, reduce use of fossil fuels, and promote new industries” (Reclamation 2011). The Project was proposed in response to the Request for Interest.”

As a Federal agency, Reclamation is not required to comply with CEQA or CESA or consult with DFW.

DFW-4 The comment summarizes DFW’s jurisdiction as a Trustee and Responsible, Agency and provides recommendations for compliance with CEQA and CESA. See Response to DFW-3.

DFW-5 DFW states that “acquisition of a State ITP is warranted to comply with CESA”. DFW also recommends that Protection Measures BIO-1 and BIO-8 in EA-14-059 be revised to “require the Project developer to follow the USFWS’s “Standardized recommendations for protection of the San Joaquin kit fox prior to or during ground disturbance” (2011) and include specific proposed mitigation measures for impacts to the SJKF [San Joaquin kit fox] movement corridor.”

As noted above, this is a completely Federal project and Reclamation is not required to comply with CESA or consult with DFW. Protection Measure BIO-1 has been revised to state “The Applicant **will** implement the U.S. Fish And Wildlife Service Standardized Recommendations For Protection Of The Endangered San Joaquin Kit Fox Prior To Or During Ground Disturbance (USFWS 2011).” (Emphasis added). BIO-1 already includes minimization measures that reduce potential impacts to the San Joaquin kit fox movement corridor.

¹ The boundaries of the San Luis Project Lands, shown at http://www.usbr.gov/mp/cvo/renproj/docs/SL_ON_Right-of-Way_Map.pdf, encompass the San Luis State Reservoir Recreation Area and adjacent portions of the Delta-Mendota Canal, San Luis Wasteway, and California Aqueduct.

DFW-6 DFW states that “CDFW cannot authorize take of BNLL in association with the Project because it is a fully protected species (Fish and Game Code Section 5050). Therefore, full avoidance of BNLL is required.” In addition, DFW recommends that the Protection Measures in the EA be revised to address “full avoidance of BNLL and require protocol-level BNLL surveys” and that the EA be revised to include “enforceable minimization measures to preclude take within the Project footprint during construction, operation, maintenance and decommissioning activities.”

As noted above, this is a completely Federal project and Reclamation is not required to comply with CESA or consult with DFW. However, in consultation with the USFWS, Reclamation has revised Protection Measure BIO-2 to avoid take of blunt-nosed leopard lizard pursuant to the ESA and in compliance with the Biological Opinion issued by USFWS for the Project (see Appendix B in EA-14-059).

DFW-7 DFW recommends that the EA be revised to require surveys for California tiger salamander (CTS) prior to start of Project-related activities to determine if CTS occurs in the project area. They also state that if CTS are found that an “ITP would be necessary to comply with CESA”.

As noted above, this is a completely Federal project and Reclamation is not required to comply with CESA or consult with DFW. However, as stated in Section 3.4.1.1 of EA-14-059, “The Project area does not contain any wetland habitat, including vernal pools and complexes, bed and banks, seasonal or perennial drainages, or swale features.” In addition, no suitable upland habitat for CTS was identified during the field surveys for the Project. The closest CNDDDB occurrence of CTS was recorded approximately 4 miles south of Site 1, and the closest USFWS critical habitat unit for CTS is approximately 6 miles southwest of the Project area. Overland migration of CTS has been documented to extend up to 1.24 miles (USFWS 2003). Due to the lack of suitable aquatic and upland habitat and the distance of recorded occurrences and critical habitat from the Project area, CTS is not expected to occur in the Project area or be affected by the Project.

DFW-8 DFW recommends that “Protective Measure BIO-3 be revised to require the developer to follow the methodology, avoidance buffers, and mitigation in the Staff Report on Burrowing Owl Mitigation dated March 7, 2012 (CDFG 2012), in its entirety”.

Reclamation has reviewed the potential presence of burrowing owl within the Project footprint and, as noted in Section 3.4.1.2 of EA-14-059, “The species is not expected to occur within the Project area” as suitable habitat for the species is absent, no sign of the species was found within the project footprint or the 150-foot buffer around the project area during surveys, and the last known occurrence of the species in the area was approximately 0.5 miles south of State Route 152 in

2003. However, in compliance with the MBTA, Reclamation is requiring pre-construction surveys consistent with DFW's *Staff Report on Burrowing Owl Mitigation* (CDFW 2012; see Measure BIO-3 in Section 2.2.5). In the unlikely event that signs of burrowing owl sign are observed during the surveys, the applicant shall consult with Reclamation and USFWS prior to start of construction in order to avoid take of burrowing owl.

DFW-9 DFW recommends revision to Protective Measure BIO-4 to state "that if active nests are found within a 0.5 mile of the Project footprint, a minimum no-disturbance buffer of 0.5 mile will be implemented around active nests until the breeding season has ended or until a qualified biologist has determined, and CDFW has agreed in writing, that the birds have fledged and are no longer reliant upon the nest or parental care for survival." They also recommend the measure be revised to include "compensation for SWHA [Swainson's hawk] foraging habitat".

As noted above, this is a completely Federal project and Reclamation is not required to comply with CESA. Reclamation is therefore not required to consult with DFW or provide compensation for potential impacts to Swainson's hawk foraging habitat. However, to insure no take of birds protected under the MBTA, including Swainson's hawk, Reclamation is requiring the Applicant complete protocol-level surveys for nesting raptors, including Swainson's hawk, during the breeding season (between February 1 and August 31), as noted in Table 6 of EA-14-059 (BIO-4).

DFW-10 DFW states that tricolored blackbirds have been documented in "close proximity" to the Project site and recommends "that a habitat assessment be conducted by a qualified biologist familiar with the species to determine of the Project would impact potential breeding grounds."

Measures to avoid construction-related impacts to nesting tricolored blackbirds are included in Section 2.2.5, Table 6 (see Measures BIO-6 and BIO-7).

DFW-11 DFW states that white tailed kite, golden eagle, and bald eagle are "known to forage within and adjacent to the Project footprint and "recommends that focused surveys be conducted by experienced biologists prior to Project implementation in accordance with survey methodology developed by CDFW (CDFG, 2010) to determine if any of these species are nesting within or near the Project footprint."

As described in Table 6 of EA-14-059, Reclamation is requiring the Applicant to complete protocol-level surveys for nesting raptors, including white tailed kite, golden eagle, and bald eagle as well as any others that may occur in the Project area, during the breeding season (between February 1 and August 31). As stated in Section 3.4.2, Reclamation has determined that "with implementation of Protection Measures BIO-4 through BIO-7, construction-related effects to special-

status bird species would be avoided and there would be no take of raptors or birds protected under the MBTA or Bald and Golden Eagle Protection Act.”

DFW-12 DFW recommends revising Protection Measures BIO-6 and BIO-7 to incorporate their recommendations to protect raptors and migratory birds including active nest surveys during the nesting season. See Responses to DFW-8 through DFW-11.

DFW-13 DFW expresses concerns regarding the potential for bird and bat strikes due to the Proposed Action and its proximity to O’Neill Forebay, O’Neill Forebay Wildlife Area, and other nearby lands that are protected and managed specifically for the benefit of wildlife species. DFW also posits that the “installation of the Project within such close proximity to the aforementioned mitigation lands may also result in a reduction in conservation value of these lands”.

The Proposed Action has been revised to reduce the potential for raptors to strike the proposed gen-tie lines in Section 2.2.5 (Table 6). Measure BIO-5 incorporates the Avian Power Line Interaction Committee’s guidelines. The Applicant will prepare and implement an Avian Protection Plan based on the *Avian Protection Plan Guidelines* (Avian Power Line Interaction Committee and USFWS 2005) to further reduce the potential for bird strikes.

Reclamation disagrees with DFW that the project has the potential to reduce the conservation value of nearby mitigation lands due to “lake effect” and gen-tie bird strikes. There are no studies that have researched the attractiveness of solar PV facilities to birds or bats. As discussed in Section 2.2.1.1 of EA-14-059, the Applicant will use high-efficiency solar PV panels made from crystalline silicon anti-reflective glass that minimizes the amount of reflected light. Additional information has been added to the Final EA regarding the assumption that birds are attracted to solar facilities; however, actual scientific studies are lacking. The area surrounding the San Luis Reservoir contains hundreds of thousands of acres of water-bearing properties. The combined area comprising the Grasslands Ecological Area, the Agua Fria Multi-Species Conservation Bank, the Los Banos Wildlife Area, and the O’Neill Forebay Wildlife Area total over 172,000 acres. San Luis Reservoir accounts for approximately 12,700 acres of surface water, and O’Neill Forebay accounts for approximately 2,250 acres of surface water. The project would represent approximately 49 discontinuous acres of solar arrays. When the project is put into context with the backdrop of these large tracts specifically designed to entice usage by migratory bird species, the potential for bird strikes associated with “lake effect” is statistically nominal. Therefore, we have determined that the potential for bird strikes associated with the “lake effect” from the proposed project is believed to be nominal.

DFW-14 DFW “strongly discourages the use of rodenticides, pesticides and herbicides because they have the potential to directly and indirectly impact State-listed species such as SJKE and SWHA, which may result in take of these species and

warrant acquisition of an ITP.” DFW also recommends either live trapping, mowing, or grazing for weed control. DFW does not recommend disking.

As noted above, this is a completely Federal project and Reclamation is not required to comply with CESA or consult with DFW.

As described in Section 2.2.1.7 of EA-14-059, areas between the solar PV panels will be managed (e.g., mowed or weed whacked) to allow annual grassland species to recolonize the sites. To prevent primary or secondary poisoning of kit foxes and the depletion of prey populations on which they depend, the Project will not use rodenticide or pesticide, and herbicide application will be limited to areas where mowing is not possible, such as around buildings and against poles and other infrastructure. The Applicant will coordinate with Reclamation, DWR, SLDMWA and State Parks on weed eradication

The use of grazing animals for vegetation control of the solar PV sites is not feasible. As stated in Section 2.2.11 of EA-14-059, the solar PV panels would be mounted on steel brackets to a horizontal single-axis tracking system, which is essentially a moving rack that tilts the panels to track the sun in an east-west direction throughout the day and seasons. The tracking system would be mounted on vertical steel supports. Cattle are likely to cause damage because they are too large and tall to move among panels and they also tend to rub on structures, causing damage. Goats tend to climb onto structures, which would damage the PV panels, and are indiscriminant nibblers, which could cause damage to any exposed material or equipment. Sheep are a possible alternative but they tend to remove excessive amounts of vegetation. In addition, the use of grazing animals would produce excrement, which has the potential to introduce odor, vectors, and potential pathogenic sources contained in the fecal material and to cover the panels.

DFW-15 DFW recommends that the Project be “redesigned to require all temporary impacts associated with the Project construction...be confined within areas of the Project footprint that will be permanently impacted.”

The Applicant will confine temporary Project impacts to the permanent Project footprint to the greatest extent practicable.

DFW-16 DFW recommends “eliminating widespread Project grading, leveling and compacting and removing all five (5) detention basins from the Project design.

The proposed detention basins have been included in the Project designs because Reclamation requires stormwater drainage to be contained on-site. The Applicant will minimize grading activities and maintain the overall grading patterns; however, some grading is necessary to allow for solar PV panel tracking and spoils pile relocation. The Project’s Storm Water Pollution Prevention Plan

(SWPPP) will include construction best management practices to minimize downstream erosion and sedimentation.

- DFW-17** DFW recommends that “Protection Measure BIO-1 be revised to include the requirement that the bottom of the fence edges be wrapped back to form a smooth edge to aid in the movement of wildlife through the Project footprint.”

In accordance with the USFWS Biological Opinion for the Project (Appendix B of EA-14-059), the bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that pass under the fence. Protection Measure BIO-1 has been updated to include this requirement.

- DFW-18** DFW recommends specific language be added as a Protective Measure regarding open holes and trenches in order to protect wildlife species.

Comment noted. Measures to prevent inadvertent entrapment of wildlife are included in Section 2.2.5, Table 6 (see Measures BIO-11).

- DFW-19** DFW recommends that the EA include a Protection Measure that requires the “sole use of water for dust control and prohibit the use of soil strengthening agents, geo fabric and dust suppression products.”

In accordance with the USFWS Biological Opinion for the Project (Appendix B of EA-14-059), no monofilament plastic or soil strengthening agents, geo fabrics, and dust suppression products that would adversely affect these species will be used for erosion control. Only natural fiber, biodegradable meshes shall be used in erosion control mats, blankets, and straw or fiber wattles, and these features shall be installed in such a way as to prevent entrapment of special-status reptiles or amphibians while maintaining access to potential breeding habitat. The Applicant would reseed with an approved grass mix from the USFWS.

- DFW-20** DFW recommends that “all night lighting be installed using motion activated sensors and that nightwork be prohibited to reduce impacts on foraging, migration and breeding behaviors of special status species.”

As described in Section 2.2.1.10 of EA-14-059 and in the USFWS’s Biological Opinion for the Project (Appendix B of EA-14-059), nighttime work during Project operations would be limited to maintenance work that can only be performed when the solar PV modules are not producing energy. Shielded area-specific lighting for security purposes will be limited to the control buildings, Site 1 and 2 substations, and Site 3 combining switchgear. The level and intensity of lighting will be the minimum needed for security and safety purposes. The lights will be down-shielded and turned on by motion sensors that will be triggered by movement at a human’s height during maintenance or emergency activities, or by a local switch as needed. There will be no lights around the site perimeters in order to minimize the Project’s visual impact.

In addition, based on comments received during the public comment period and additional review, Section 2.2.1.10 of EA-14-059 has been modified to state that the Project will incorporate International Dark-Sky Association-approved (or similar) light fixtures for Project lighting. These guidelines require that lighting be designed to minimize light spill to neighboring properties or upward into the night sky.

DFW-21 DWR recommends that the EA be “revised to require all hollow vertical tubes such as solar mount poles and chain link fencing poles be permanently capped at the time they are installed to prevent the entrapment and death of birds.”

Protection Measure BIO-10 has been added to Table 6 which states “Vertical tubes and poles will be capped to prevent entrapment of birds and small mammals.”

DFW-22 DFW recommends that only natural-fiber, biodegradable meshes be used in erosion control mats, blankets and straw or fiber wattles and that silt fencing and aforementioned erosion control features be installed in such a way as to prevent entrapment of special status species”.

See Response to DFW-19 above.

DFW-23 DFW recommends project footprint consolidation.

The Project has undergone several iterations to reduce its footprint, and the proposed Project included in Final EA-14-059 is the result of those efforts. See also Response to DFW-15.

DFW-24 DFW states that Reclamation failed to notify CDFW of the release of the Draft EA for public review, although they “provided comments on the Administrative draft during informal consultation” and that they could have provided additional comments if they had not been restricted to a “three-day review and comment period”.

As part of our NEPA scoping process, Reclamation coordinated with DFW and provided an opportunity for the agency to comment on the Administrative Draft EA prior to its release for public review. Comments provided by DFW on the Administrative Draft were addressed in the Draft EA, where applicable. In addition, at DFW request, Reclamation’s point of contact was added to Reclamation’s notification list.

Reclamation initially provided the public an opportunity to comment on the Draft Finding of No Significant Impact and Draft EA during a 30-day public review period. By request, the comment period was extended an additional 7 days. Reclamation notified the public via press release of the initial public review

period and the extension of public review. It is unclear why DFW only had “three days” to review the Draft EA when it was released for public review between December 14, 2016 and January 22, 2017.



DEPARTMENT OF PARKS AND RECREATION

Central Valley District • 22708 Broadway Street • Columbia, CA 95310
(209) 536-5930

Lisa Ann L. Mangat, Director

January 15, 2016

Ms. Jennifer L. Lewis
Bureau of Reclamation
South Central California Office
1243 N Street
Fresno, CA 93721

Subject: Comments on San Luis Renewable Solar Project Draft EA & FONSI 14-059
SAN LUIS RESERVOIR STATE RECREATION AREA

Dear Ms. Lewis:

This letter is written in response to the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) to the public for the San Luis Renewables Solar Project.

California State Parks (CSP) has been engaged in dialog with the Bureau of Reclamation (BOR) and the project proponent about the impacts the project would have to current recreation experiences as well as the future of recreational facilities development as called for by the San Luis Reservoir State Recreation Area Resource Management Plan/General Plan (RMP/GP) approved in late 2013.

CSP does not oppose the general concept of a potential renewable energy project at a mutually agreed upon location at San Luis Reservoir. CSP also recognizes the need to work within the reality of changing priorities and the need to consider all parties so as to forge synergistic solutions for competing priorities such as project purpose, recreation, and clean energy development. CSP would like to see continued dialogue between BOR and CSP to reach a mutually agreed upon location and project scope to ensure all parties reach an agreeable project size and location.

CSP respectfully submits the following comments related to the draft EA analysis leading to the FONSI conclusion:

Land Use

- The project, as proposed, will affect the placement of the additional camping facilities or prevent them from being implemented as called for in the RMP/GP.
- The Land Use designation of the Medeiros Use Area per the RMP/GP is Front Country. This designation is "the most active visitor use area in the land-based management zones and where the largest concentration of visitors will congregate". Further, "The intent is also to cluster proposed development within and around the existing development to ensure that large expanses of open space are left in a natural state, and the existing open vistas remain uninterrupted." We encourage continued dialogue in order to reach a project

CSP-2 cont. ↑ scope that allows for the intended future development of 200 additional campsites near the water feature as called for by the RMP/GP.

Visual and Aesthetic

- The Visual and Aesthetics section of the draft EA leading to the FONSI conclusion acknowledges that the “solar PV system and fence would dominate the landscape due to [its] immediate proximity”. The 50’ set back offered by the project proponent, slatted fencing and vegetation are inadequate to offset the project from being a dominating landscape feature.
- With regard to the power transmission lines, the draft EA states that “the most noticeable change to the landscape would be the increased density of the overhead utilities and their overall presence in the landscape.” CSP believes that 105 acres of PV panel’s placed in close proximity to existing and future campsites will dominate the landscape and goes beyond the threshold of a FONSI. We encourage continued dialogue on this concern.
- The EA suggests mitigating the visual effect of the project by planting native shade trees along the slatted fence. The type of tree is not provided; nor is there a way included to provide water for the first several years to establish the trees. Trees grow very slowly in this area so this mitigation would not actually be available for a number of years.
- CSP encourages review and consideration of the Department of the Interior, Bureau of Land Management document entitled “Best Management Practices (BMP) for Reducing Visual Impacts of Renewable Energy Facilities on BLM Administered Lands” in 2013 which calls for a Visual Resource Inventory that assesses and rates the inherent scenic qualities in existing landscapes. We also encourage a Sensitivity Level Analysis to measure the public concern for scenic qualities so as to develop a Distance Zone Delineation – foreground-middle ground, background, or seldom seen zones.
- Since there is existing overnight camping in the immediate and surrounding areas of the proposed project and since skies free from sky glow are a highly valued recreational resource, we recommend greater analysis and consideration of night time lighting impacts be analyzed within the EA.

Recreation

- The draft EA identifies temporary project impacts as a result of the construction phase, but does not identify permanent/long term project impacts under the Recreation analysis. CSP believes the mere proximity of the project as a dominant landscape feature that precludes future camping and facility development near the water feature is a significant project impact. We encourage continued dialogue on this concern.
- The FONSI states “The proximity of Site-1 to recreational campsites at the Medeiros Use area could adversely affect visitors’ perceived recreational value of the campsites and day use opportunities in that area during operation of the Project.” We agree this will be an impact to current and future users and encourage continued dialogue on this concern.

Ms. Jennifer L. Lewis
January 15, 2016
Page 3

CSP-5 | For the reasons stated above CSP does not concur with the FONSI. We recommend that BOR and CSP continue to have dialogue in order to reach a mutually agreed upon alternative for the project. Please contact me at (209) 536-5930 should any of our comments need clarification or further explanation.

Sincerely,


Jess Cooper
District Superintendent

cc: Tara Lynch, Chief Counsel, California State Parks
Jack Harper, Four Rivers Sector Superintendent
Liz Steller, District Services Manager
Sheryl Carter, Chief, BOR Land Resource Management Division
Michael Jackson, PE, Area Manager, BOR

Response to California State Parks Comment Letter, January 15, 2016

CSP-1 California State Parks (CSP) states that they “would like to see continued dialog between BOR [Reclamation] and CSP to reach a mutually agreed upon location and project scope to ensure all parties reach an agreeable project size and location.”

Reclamation, CSP, and the Applicant have collaborated over the location and project scope of the San Luis Solar Project. CSP and the Applicant have developed a mutually acceptable mitigation agreement included as Appendix C of Final Environmental Assessment (EA)-14-059. Implementation of the terms of the mitigation agreement is a condition of Reclamation’s approval of the Proposed Action.

CSP-2 CSP expresses concerns regarding the Project’s impact on land use and encourages “continued dialogue in order to reach a project scope that allows for the intended future development of 200 additional campsites near the water feature as called for by the RMP/GP [Resources Management Plan/General Plan].”

See Response to CSP-1.

CSP-3 CSP expresses concerns regarding the Project’s impact on visual and aesthetic resources.

Based on collaboration between Reclamation, CSP, and the Applicant, REC-4 has been added to Table 6 of EA-14-059 to minimize impacts to Visual and Aesthetic Resources. As stated in Section 2.2.1.7, native shade trees will be planted along Site 1 between the perimeter fence and O’Neill Forebay. The specific type of tree will be identified as part of the Applicant’s landscaping plan for the Project in coordination with CSP. During Project initiation and operation, water for landscaping establishment and maintenance at Site 1 will be trucked in by an outside provider to ensure establishment (see Section 2.2.4.3 of EA-14-059).

As stated in Section 3.8.2 of EA-14-059, potential impacts to visual resources were assessed using the Bureau of Land Management (BLM) methodology. The landscape character of the Project area was assessed using methods and terminology consistent with the BLM Visual Resource Inventory (VRI) process. The VRI process, including the Sensitivity Level Analysis (SLA), typically takes place as part of the Resource Management Plan process for BLM-administered lands (BLM 1986:

http://www.blm.gov/style/medialib/blm/wo/Information_Resources_Management/policy/blm_handbook.Par.31679.File.dat/H-8410.pdf).

The visual resource analysis considered the factors typically evaluated in an SLA. Sensitive viewers were identified as recreationists, residents, and roadway

travelers. Key observation points (KOPs) were identified that represent viewing platforms used by these potentially sensitive viewers in and around the Project area. The BLM's Visual Contrast Rating System was used to evaluate impacts from each of the KOPs, which takes into account visibility and distance from the Project. Public comments regarding concerns about the Proposed Action's potential effects have been considered and are individually addressed in Reclamation's response to comments.

See Response to DFW-20 regarding dark-sky compliant lighting.

CSP-4 CSP states that the "draft EA identifies temporary project impacts as a result of the construction phase, but does not identify permanent/long term project impacts under the Recreation analysis."

Potential permanent, long-term recreation impacts of the Project are addressed in Section 3.9.2.2 of EA-14-059, under "Operation." See also Response to CSP-1 and CSP-3.

CSP-5 CSP does not concur with the FONSI and recommends "that BOR and CSP continue to have dialog in order to reach a mutually agreed upon alternative for the project."

See Response to CSP-1.

January 15, 2016

Jennifer L. Lewis
Natural Resources Specialist
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Environmental Assessment and Plan of Development, San Luis Solar Project, Merced County, San Luis Field Division, EA-14-059

Dear Ms. Lewis:

Thank you for the opportunity to review and comment on the environmental assessment and plan of development (EA-POD) of the San Luis Solar Project (Project) in Merced County. The EA-POD describes the proposal by HORUS Renewables Corporation to develop and construct a solar photovoltaic energy generating project on federal lands, under the jurisdiction of the United States Bureau of Reclamation (Reclamation), along the State-Federal Joint Use Facility of O'Neill Forebay. The following three sites where the Project is proposed are: Site 1, approximately 108 acres, at the south of the Forebay, and Sites 2 and 3, approximately 61 acres, at both sides of the Delta-Mendota intake channel. The following comments are based on our review of the proposed project:

DWR-1

DWR-2

1. The proposed San Luis Solar Project is in keeping with State and federal policy to encourage the development of renewable energy sources.

2. The Draft FONSI and EA are NEPA documents, and not CEQA documents.

Even if DWR has no discretionary approval authority over the project, other state agencies likely do (e.g., SWRCB, California State Parks, SLDMWA).

Accordingly, the proposed San Luis Solar Project is subject to CEQA

DWR-3

compliance. To avoid unnecessary duplication of efforts, CEQA encourages

preparation of joint NEPA/CEQA documents when a project is subject to both

federal and state approvals. (14 CCR § 15220.) The NEPA regulations also

encourage interagency cooperation in the preparation of one document that

satisfies both statutes. (40 CFR §1506.2.) Therefore, DWR recommends that the

USBR consider preparing a joint FONSI/Mitigated Negative Declaration (MND)

that would comply with the requirements of both NEPA and CEQA.

3. If no joint NEPA/CEQA document is prepared for the proposed project, a state

agency with discretionary approval authority over the project would be able to

use the FONSI/EA for the purposes of CEQA review if it determines that the

FONSI complies with the requirements of CEQA. (14 CCR § 15221.) The Draft

FONSI appears to generally comply with the requirements of CEQA regarding

DWR-4

the content of an MND. (See 14 CCR § 15071.) However, CEQA Guidelines

require an MND to include discussion of mitigation measures designed to reduce

the project's potentially significant impacts on the environment. (14 CCR §

15071.) Although mitigation measures are discussed in the Draft EA, they are

currently not included in the Draft FONSI. DWR recommends that mitigation

DWR-4
cont.



measures be also added to the FONSI to make this document consistent with the relevant CEQA requirements.

4. The description of DWR's role in the Draft FONSI/EA is limited to "reservoir and water distribution operations." (FONSI at 1; Draft EA at 3, 139.) To present an accurate picture of the Project Area and Background (Draft EA at pp. 1-3), the Draft EA should also describe that:
 - a. Pursuant to the federal San Luis Act (P.L. 86-488) and the 1961 Joint Use Facilities Agreement between USBR and DWR—DWR manages, operates, and maintains the "joint-use" portion of the San Luis Facilities including the San Luis Reservoir, the Giannelli Pumping-Generating Plant, and the O'Neill Forebay.
 - b. State Water Project Water flows into the O'Neill Forebay through the California Aqueduct, just as federal Central Valley Project water flows into the O'Neill Forebay from the Delta-Mendota Canal, so that potential impacts on the Forebay would affect the SWP as well as the CVP.

(Please add 'State Water Project' as a defined term. This would also include adding 'State Water Project' as a defined term in the Acronym list on pp. vii and viii, since the abbreviation SWP is used in the text of the EA but is not defined.)
 - c. By federal statute and contract, DWR has the right to use roughly 55 percent of the capacity of the San Luis Joint Use Facilities, including the O'Neill Forebay and the San Luis Reservoir.

DWR-5

5. Based on the facts outlined in Item 4, DWR has a significant and continuing interest in the safe construction, operation and maintenance of the proposed project and in safeguarding the water and power operations at the Joint Use Facilities. Therefore DWR requests to stay informed of all significant project developments and of the USBR's coordination with other state agencies, some or all of which may have discretionary approval authority over the project. DWR also requests copies of hazard management plans referred to in the EA, including but not limited to:

DWR-6

- a. Emergency Action Plan (Draft EA at p. 23)
- b. Waste Management plan (Draft EA at p. 26)
- c. Hazardous Materials Management plan (Draft EA at p. 26)
- d. Fire Prevention and Protection Plan (Draft EA at p. 27)

6. Given that the project is proposed in the immediate vicinity of the JUF operated and managed by DWR, Draft EA sections 3.11 (Utilities and Emergency Services) and 3.12 (Hazardous Waste and Materials) should provide for coordination with DWR regarding day-to-day maintenance of the proposed project and hazardous materials containment and disaster response. Additionally, Section 4 (Consultation and Coordination) should be supplemented with discussion regarding USBR's coordination with DWR.

DWR-7

7. Page 4 of the Draft EA states that "a portion of the solar power from the Project may be consumed by pump load at Gianelli and O'Neill pumping-generating plants." It is not clear whether the reference to the Gianelli plant has been included in the Draft EA by mistake or whether the proposed project

DWR-8





DWR-8
cont.

contemplates interconnecting at Gianelli. DWR's understanding is that the proposed interconnection would not impact any of the JUF interconnection facilities, including the Gianelli pumping-generating plant. If that changes or if the proposed project in fact contemplates interconnection at Gianelli, DWR needs to be consulted and provide approval of the interconnection and further environmental and engineering review by DWR would be required. Additionally, any use by the JUF and/or DWR and/or any DWR facilities of the solar power generated by the project will require an agreement, most likely a Power Purchase Agreement; that would be a discretionary action by DWR which would trigger a CEQA requirement for DWR.

DWR-9

8. Page 4 of the Draft EA states that "remaining power produced by the Project would be sold ... and transmitted over the WAPA transmission system using a new transmission line that is being constructed to serve the San Luis Unit..." First, it is misleading to state that a new transmission line "is being constructed" given that environmental review for the SLTP project has not yet been completed. Second, construction of the SLTP is not expected to begin until 2018 and the project is not expected to be operational until 2021. However, construction of the San Luis Solar Project is expected to be completed by the end of 2016. Accordingly, FONSI and EA should acknowledge that the power generated by the San Luis Solar Project would necessarily have to be transmitted through the CAISO system, at least for the first several years of project operations.

DWR-10

9. Table 2 at page 6 of the Draft EA contains incorrect data regarding the number of solar PV panels planned for Sites 2 and 3. According to information at page 15 of the Draft EA, Site 2 will have 7,440 panels, while Site 3 will have 28,080 panels. These numbers are reversed in Table 2.

DWR-11

10. The project contemplates planting trees for visual purposes (see e.g., Draft EA at pp. 25, 81, 108) and hydroseeding or other reseeding within each construction site (see e.g., Draft EA at pp. 25, 32, 35). Water use associated with these activities should be acknowledged and quantified in Sections 2.2.2.7 and 2.2.4.3 of the Draft EA.

Please provide DWR with a copy of any subsequent environmental documentation when it becomes available for public review. Any future correspondence relating to this Project shall be sent to:

DWR-12

Leroy Ellinghouse, Chief
SWP Encroachments Section
Division of Operations and Maintenance
Department of Water Resources
1416 Ninth Street, Room 641-2
Sacramento, California 95814

If you have any questions, please contact Leroy Ellinghouse, Chief of the SWP Right of Way Management Section, at (916) 653-7168 or Angelo Garcia, Jr. at (916) 653-7911.

Sincerely,

David M. Samson, Chief
State Water Project Operations Support Office
Division of Operations and Maintenance

Ms. Jennifer L. Lewis
January 15, 2016
Page 7

cc: Lynn McIntyre
Environmental Project Manager
United States Bureau of Reclamation
1243 N Street
Fresno, California 93721-1813

Response to California Department of Water Resources Letter, January 15, 2016

DWR-1 The California Department of Water Resources (DWR) comment is a summary of the Proposed Action described in Environmental Assessment (EA)-14-059. The comment does not raise specific issues or concerns related to the environmental analysis presented in EA-14-059. As such, no changes have been made to the EA and no further response is required.

DWR-2 The comment states that the “San Luis Solar Project is in keeping with State and federal policy to encourage the development of renewable energy sources.” The comment does not raise specific issues or concerns related to the environmental analysis presented in EA-14-059. As such, no changes have been made to the EA and no further response is required.

DWR-3 DWR suggests that other state agencies may have discretion over the proposed San Luis Solar Project and that the project is subject to California Environmental Quality Act (CEQA). DWR recommends that “the USBR [Reclamation] consider preparing a joint FONSI [Finding of No Significant Impacts]/Mitigated Negative Declaration (MND) that would comply with the requirements of both NEPA [National Environmental Policy Act] and CEQA [California Environmental Quality Act].”

The Proposed Action is a completely Federal project as it occurs on Federal lands requiring federal authorization from Reclamation. As such, Reclamation has prepared EA-14-059 to fulfill NEPA requirements. See also Response to DFW-3.

DWR-4 DWR recommends that mitigation measures be added to the FONSI “to make this document consistent with the relevant CEQA requirements.”

See Response to DWR-3 and DFW-3.

DWR-5 DWR suggests adding additional language to the Draft EA to address its role as it relates to the State Water Project (SWP).

Reclamation has revised Section 1.1.2 of EA-14-059 to address DWR’s role. In addition, Section 3.2.1.1 notes that SWP water flows into O’Neill Forebay through the California Aqueduct. The acronym SWP is defined in Section 3.2.1.1 and has been added to the Acronyms and Abbreviations listed in the Final EA.

DWR-6 DWR requests to “stay informed of all significant project developments and of the USBR’s coordination with other state agencies, some or all of which may have discretionary approval authority over the project.” They also request copies of hazard management plans referenced in the EA.

See response DWR-3. Reclamation will make the hazard management plans referenced in the EA available for DWR’s review.

- DWR-7** DWR requests coordination on the day-to-day maintenance of the proposed project and hazardous materials containment and disaster response.
- Reclamation has included Protection Measure HAZ-5 in EA-14-059 requiring coordination with DWR regarding the hazardous materials containment and disaster response. Section 4 of EA-14-059 has been revised to include coordination with DWR.
- DWR-8** DWR notes that page 4 of the Draft EA states that “a portion of the solar power from the Project may be consumed by pump load at Gianelli”.
- The statement on page 4 regarding potential use of project power being consumed by the pump load at the William R. Gianelli Pumping-Generating Plant was incorrect and has been removed.
- DWR-9** DWR states that the “FONSI and EA should acknowledge that the power generated by the San Luis Solar Project would necessarily have to be transmitted through the CAISO [California Independent System Operator] system, at least for the first several years of project operation.”
- Section 1.2 of EA-14-059 has been revised to clarify that power from the project could be transmitted over the California Independent System Operator system, or over the Western Area Power Administration transmission system using a proposed future transmission line that would serve the San Luis Unit.
- DWR-10** DWR notes that Table 2 contains incorrect data for the panels planned for Site 2 and 3.
- Table 2 of EA-14-059 has been modified to correct the number of panels and acreages for Sites 2 and 3.
- DWR-11** DWR states that water use associated with tree planting and hydroseeding should be acknowledged and quantified in Sections 2.2.2.7 and 2.2.4.3 of the EA.
- Section 2.2.2.7 of EA-14-059 has been modified to provide additional information about anticipated water use for landscape establishment and hydroseeding.
- DWR-12** DWR requests that any subsequent environmental documentation be sent them when it becomes available for public review.
- Subsequent environmental documentation will be made available to the contact information provided.

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January 15, 2016

VIA E-MAIL

Jennifer L. Lewis, Bureau of Reclamation
1243 N Street
Fresno, CA 93721
E-mail: jllewis@usbr.gov

Re: Comments on Draft Environmental Assessment and Finding of No
Significant Impact for the San Luis Solar Project (EA-14-059)

Dear Ms. Lewis,

Please accept these comments from Grassland Water District and Grassland Resource Conservation District ("GWD"), both California public agencies, on the Draft Environmental Assessment and Finding of No Significant Impact ("EA/FONSI") for the San Luis Solar Project ("Project"). The Project is a proposed 26-megawatt photovoltaic solar energy facility located on three sites within the San Luis Reservoir State Recreation Area ("SLRSRA"). The Project would cover 246.5 acres with solar panels and associated equipment for collecting, storing, and transmitting electricity.

GWD delivers water to state, federal, and private lands within the Grasslands Ecological Area ("GEA") of Merced County, for the purpose of managing wildlife habitat. The GEA covers 230,000 acres and is the largest remaining wetland complex west of the Rocky Mountains. Wetland habitat areas located within the GWD and the GEA, including the Volta Wildlife Area, are shown prominently to the right of the Project site on the map labeled "Figure 1" in the EA/FONSI. (See also Attachment.)

GWD-1

GWD-1
cont.

GWD is concerned about increasing solar facility development in areas that are proximate to the GEA and within migratory bird flight paths. GWD's first goal is to ensure that proposed solar facilities are appropriately sited and designed to minimize impacts to avian species. GWD's second goal is to require comprehensive monitoring and reporting of avian injuries and deaths at newly constructed solar facilities, with adaptive mitigation as necessary to address any significant or unforeseen avian hazards.

It is important to note that GWD has successfully negotiated satisfactory Avian Protection Plans and Lighting Plans with other lead agencies and with developers of solar photovoltaic projects and other development projects near the GEA, including the Wright Solar Project, Vega Solar Project, and Liberty Packing Plant Expansion Project.

The proposed Project is located within the Pacific Flyway, a prominent flight corridor for avian species. The GEA lies east of the Project site, and is managed to provide habitat for millions of migrating and overwintering waterfowl, shorebirds, and other species. Birds also commonly migrate through and overwinter in the SLRSRA, and travel between the SLRSRA and the GEA. The Project site is located within the SLRSRA.

GWD-2

Because of its close proximity to these avian habitat areas and its location on the Pacific Flyway, the Project would introduce a substantial risk of avian collisions with power lines, solar panels, and fences, and avian entrapment within the enclosed 8-foot fences that can lead to injuries, stranding, and death. Ultraviolet ("UV") light reflecting off solar panels, and night-time lighting associated with the Project, could also cause bird disorientation and changes in migration patterns. Although the development of large-scale photovoltaic solar facilities is still somewhat new in California, initial monitoring and agency guidance suggests that these facilities pose greater-than-expected impacts to birds.

Accordingly, GWD requests that a Draft Environmental Impact Study ("EIS") be prepared for the proposed Project that addresses the following:

- (1) The location of the Project in relation to surrounding bird habitat areas and migratory corridors;
- (2) Project design elements to avoid or reduce impacts to birds, including but not limited to the exact specifications for Project lighting, the type of UV-reflective reduction coatings that will be used on the solar panels, and avian-safe transmission lines;

GWD-2
cont.

(3) Potential impacts to migratory birds, shorebirds, and resident birds from bird strikes, electrocution, and disorientation; and

(4) Project alternatives and mitigation measures to avoid, reduce, monitor, report, and adaptively manage the Project's impacts to birds.

GWD-3

A draft Lighting Plan and an Avian Protection Plan, including a monitoring and reporting element, should be attached to the Draft EIS for public comment. Helpful resources in preparing an Avian Protection Plan include the following guidance documents prepared by the U.S. Fish and Wildlife Service, the U.S. Department of Energy, and the documents cited therein:

- Avian Protection Plan (APP) Guidelines, prepared with the Avian Power Line Interaction Committee (2005)
- Monitoring Migratory Bird Take at Solar Power Facilities: An Experimental Approach, prepared by C. Nicolai, et al. (2011)
- A Review of Avian Monitoring and Mitigation Information at Existing Utility-Scale Solar Facilities, prepared by the U.S. Department of Energy and its affiliates (2015)

GWD-4

As described below, the EA/FONSI fails to acknowledge the ecological significance of the GEA or the SLRSRA for migratory waterbirds, fails to acknowledge the potential for significant impacts to migrating birds, and does not adequately describe or mitigate for Project lighting impacts or the potential impacts associated with avian injuries, entrapment, and death.

1. The EA/FONSI Fails to Acknowledge the Ecological Significance of the GEA

The existing environmental setting is the starting point from which a NEPA lead agency must measure whether a proposed Project may cause a significant environmental impact. Describing the environmental setting accurately and completely is critical to a meaningful evaluation of environmental impacts.

GWD-5

The EA/FONSI does not describe the existing environmental setting in sufficient detail to enable a proper analysis of the Project's impacts. The EA/FONSI fails to accurately and adequately describe the environmental setting for migratory waterfowl and wildlife habitat areas, and omits highly relevant information regarding biological resources. A revised NEPA document for this Project must address the location of the Project in relation to surrounding bird habitat areas and migratory corridors.

↑ The EA/FONSI only briefly—and inaccurately—mentions that the Project site is in proximity to “the Upper Cottonwood Wildlife Area and San Luis Wildlife Area (both more than 6 miles west of all three sites); and the Volta Wilderness Area, North Grasslands Wilderness Area, and Los Banos Wilderness Area (all located within approximately 10 miles east of the Project area).”¹ In fact, the wetland habitat areas within the GEA are located just east of the Central California Irrigation District’s Main Canal, which runs parallel to Ramos Road, west of the community of Volta and much closer to the Project site than is reported in the EA/FONSI. (See Attachment.)

The EA/FONSI says nothing about migratory bird corridors or the GEA. The GEA is an Audubon-designated Important Bird Area.² It is listed as a major shorebird site by the Western Hemisphere Shorebird Reserve Network.³ The GEA is designated by the United States as a Wetland of International Importance under the International Ramsar Convention on Wetlands.⁴ In addition to containing four state wildlife areas and three national wildlife refuges, the GEA contains large tracts of privately managed wetlands within the Grassland Resource Conservation District and the Grasslands Wildlife Management Area, which was established by the U.S. Fish and Wildlife Service to “protect highly valuable and declining wetlands of California’s San Joaquin Valley” and “assist in achieving goals for recovery of migratory waterfowl in North America’s Pacific Flyway and federally listed threatened or endangered species.”⁵

↓ The GEA contains the majority of the wildlife refuge areas that are designated under the federal Central Valley Project Improvement Act as “mitigation for fish and wildlife losses incurred as a result of construction, operation, or maintenance of the Central Valley Project.”⁶ The GEA and its ecological importance to the Pacific Flyway and to the Central Valley are also described and mapped in Merced County’s 2030 General Plan.⁷

¹ EA/FONSI, p. 49.

² <http://netapp.audubon.org/iba/Site/173>

³ <http://www.whsrn.org/site-profile/grasslands>

⁴ http://www.ramsar.org/cda/en/ramsar-activities-wwds-two-new-us-ramsar-sites/main/ramsar/1-63-78%5E22428_4000_0

⁵ http://zero.eng.ucmerced.edu/snow/Tom/Web/website_102610/www/files/pdfs/4.1.1_GrasslandsPassport_Public_Document_Version.pdf; <http://www.fws.gov/cno/refuges/grasslands/3%20Grasslands%20Expansion%20Final%20EA.pdf> (p. 5 of 53).

⁶ Central Valley Project Improvement Act, Pub. Law 102-575, Title 34, §§ 3406(a), (d).

⁷ Merced County General Plan Background Report (2013), revised pages 4-22 to 4-26:

http://zero.eng.ucmerced.edu/snow/Tom/Web/website_102610/www/files/pdfs/4.1.1_GrasslandsPassport_Public_Document_Version.pdf (pp. 22-26 of 134).

Without an accurate description of this environmental setting, the Project's potential impacts to biological resources are not fully disclosed. To comply with NEPA, a Draft EIS must be prepared that includes a description of the GEA, accurately portrays its ecological significance, and discusses the Pacific flyway and the migratory links between the GEA and the SLRSRA, drawing from the sources provided in this letter, among other available sources. The Draft EIS should also provide a more accurate indication of the Project site's closest point to the GEA boundaries.

2. The EA/FONSI Fails to Acknowledge the Potential for Significant Impacts to Migrating Birds

NEPA requires an EA/FONSI to disclose the direct and indirect potentially significant environmental impacts of a project. The discussion of impacts in an EA/FONSI must reflect good faith effort at disclosure. The April 2015 Biological Assessment for the Project does not address the Project's location in a key Pacific Flyway avian stopover area, but concludes that the Project is unlikely to cause an illegal "take" of federally protected bird species because: (1) solar panel glass is designed to be less reflective than regular window glass; (2) the Project's solar panels will be on a tracker system and therefore the "lake effect" caused by solar panels will rotate throughout the day; (3) there is an abundance of other water features in the area; and (4) "FAA data" contradicts the findings of studies in California that link avian entrapment, injury, and mortality to large-scale solar energy facilities.⁸

Even those studies that reach similar conclusions to those in the Biological Assessment are careful to note that their subject solar projects were "sited in an area that is not subject to high bird use or concentrated avian migration."⁹ Siting a solar project in a high bird use area is one of the primary risk factors that "typically associated with concern regarding avian collision fatalities."¹⁰ Concerns over the potential risk of collision is elevated in "high migration areas," "significant migration stopover areas," and "near wetlands."¹¹ The proposed Project is located in an area of concentrated avian migration, in close proximity to migration stopover areas and wetlands. The EA/FONSI's conclusion that the proposed Project poses less of a risk to birds *because* it is located near an "abundance" of water features is not supportable. To the contrary, a project's proximity to wildlife habitat areas makes it *more* likely that birds will be present in the vicinity of the Project site and could be injured or killed by Project facilities.

⁸ ESR, Inc. Biological Assessment for the Project (2015), p. 73 (nowhere does the Biological Assessment actually describe or provide citations to the "FAA data.")

⁹ http://www.co.kern.ca.us/planning/pdfs/eirs/kingbird_solar/kingbird_solar_vol3_rtc.pdf, Appendix B, p. 4 and conclusion.

¹⁰ *Ibid.*, p. 3.

¹¹ *Ibid.*, p. 4.

↑ The EA/FONSI does acknowledge that there is growing concern regarding the “lake effect” that large solar projects have on migrating and water-associated birds. A letter from the U.S. Fish and Wildlife Service issued in 2014 confirms that the lake effect is a known and growing concern for all types of solar projects. Contrary to the EA/FONSI’s conclusions, the letter warns that the lake effect may be correlated with proximity to migratory stopover areas:

Incidental fatalities are increasingly being documented and reported at a range of solar projects, including photovoltaic and parabolic trough technologies in Riverside and Imperial counties. What is commonly referred to as the “lake effect” or as “polarized light pollution” by Horvath et al. (2009), presents a hazard particularly in the desert to water-associated birds, and other species seeking available resident, seasonal, and/or migratory stopover habitat typically found along rivers and lakeshores (Service 2014). All [solar] technology types appear to present a hazard to water-associated bird species from the lake effect, based on the species composition of avian mortalities documented at ISEGS, Genesis (solar trough), and Desert Sunlight (photovoltaic) projects. *The magnitude of this lake effect remains unclear, but may be location specific and may be correlated with migratory flyways or the availability of other habitat for migratory stopovers. Desert Sunlight and Genesis in the vicinity of the proposed project are among those reporting the most incidental observations of water-associated mortalities, likely related to the proximity of wintering grounds for large numbers of migratory birds in the Lower Colorado River Valley and Salton Sea Basin.*¹²

The theory presented in the EA/FONSI—that proximity to water features and habitat areas may decrease the risks associated with the lake effect—is not supported by evidence, and should be stricken from the NEPA review document and supporting documents for this Project. It is acceptable for the NEPA document to acknowledge that there is uncertainty and risk regarding potential avian impacts, but it is not acceptable for it to conclude that impacts will likely be minimal, based on unsupported theories and studies from dissimilar projects, such as airport avian hazard studies.

↓ Correcting these flaws and presenting accurate data regarding bird abundance at and around the Project site will provide the reader with a more accurate understanding of the potential risks and uncertainties involved with

¹² Letter from Kennon Corey, U.S. Fish and Wildlife Service, to Christine Stora, California Energy Commission dated August 7, 2014 (emphasis added), p. 2, *available at*: http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN202896_20140808T151634_USFWS_Comments_with_Enclosure.pdf

GWD-6
cont.

constructing a photovoltaic power plant in a migratory bird corridor and in proximity to important wildlife habitat areas.

The NEPA document should be revised to more clearly acknowledge and accurately portray the potential for significant impacts associated with locating the Project along the Pacific Flyway and in the vicinity of the GEA, the SLRSRA, and water storage reservoirs.

3. Project Lighting Is Not Adequately Described

The EA/FONSI indicates that nighttime lighting would be limited at the Project site, but provides very little detail about the lighting that would be installed:

Shielded area-specific lighting for security purposes will be limited to the control buildings, Site 1 and 2 substations, and Site 3 combining switchgear. The level and intensity of lighting will be the minimum needed for security and safety reasons. These lights will be down-shielded and turned on either by a local switch as needed, or by motion sensors that will be triggered by movement at a human's height during maintenance or emergency activities. There will be no lights around the site perimeters in order to minimize the Project's visual impact. Sensors on the security fencing will alert security personnel of possible intruders.¹³

The EA/FONSI does not describe the abundance of lights that would be installed, how often they would be illuminated, the maximum luminous emittance (intensity) of bulbs, the location and height of the light fixtures, or what restrictions will be imposed on construction lighting. This information is essential to assessing the impacts of the Project's lighting on sensitive biological resources. As described above, the Project is located in an important migratory bird stopover area, and increased nighttime could have potentially significant adverse effects on birds. Bird disorientation from nighttime lighting is a well-known phenomenon:

- "Light fixation is a constant bird hazard Hundreds of terrestrial bird species fly and migrate under cover of night. While the mechanisms for birds' attraction to artificial night lighting are not well understood, its hazards to birds have been well documented."¹⁴
- "Our data show that chronic low intensities of light at night can dramatically affect the reproductive system [of birds]. ... [W]e call

¹³ EA/FONSI, p. 27.

¹⁴ International Dark-Sky Association, "Effects of Artificial Light at Night on Wildlife," *available at* <http://www.darksky.org/assets/documents/PG2-wildlife-bw.pdf>

for collaboration between scientists and policy makers to limit the impact of light pollution on animals and ecosystems.”¹⁵

- “Researchers have used radar imagery to determine how birds respond to lit environments. The observations found that once they fly through a lit environment they’ll return to that lit source and then hesitate to leave it.”¹⁶
- “Artificial night lighting affects the natural behavior of many animal species. It can disturb development, activity patterns, and hormone-regulated processes, such as the internal clock mechanism; *see references* in Rich and Longcore (2006). Probably the best-known effect, however, is that many species are attracted to, and disoriented by, sources of artificial light, a phenomenon called positive phototaxis. Apart from insects, birds that migrate during the night are especially affected (Verheijen 1958). This may cause direct mortality, or may have indirect negative effects through the depletion of their energy reserves. Reviewing the literature, Gauthreaux and Belser (2006) conclude that “all evidence indicates that the increasing use of artificial light at night is having an adverse effect on populations of birds, particularly those that typically migrate at night.”¹⁷

Light pollution is considered a serious threat to ecological communities because it has the potential to alter physiology, behavior, and population ecology of wildlife.¹⁸ As noted above, GWD has worked with the proponents of other projects to develop Lighting Plans that were adopted and approved by lead agencies.

4. The Project Requires an Avian Protection Plan with Adaptive Monitoring

Due to uncertainty and potential risks regarding how this Project will affect migrating and resident bird species, a robust monitoring and reporting program for avian injuries and deaths must be implemented. In 2014 the U.S. Fish and Wildlife Service (“USFWS”) issued its recommendations for “project-level monitoring

¹⁵ Abstract from Dominoni, Quetting, and Partecke, *Long-Term Effects of Chronic Light Pollution on Seasonal Functions of European Blackbirds (Turdus merula)* (2013), available at: <http://www.plosone.org/article/info%3Adoi%2F10.1371%2Fjournal.pone.0085069;jsessionid=67A0B84F31C6AC10244327B64679FF68>

¹⁶ Flap.org, *Lights and Nighttime Collisions*, available at: <http://www.flap.org/lights.php>.

¹⁷ Poot et al., *Green light for nocturnally migrating birds*, *Ecology and Society* 13(2): 47 (2008), available at: <http://www.ecologyandsociety.org/vol13/iss2/art47/>

¹⁸ T. Longcore and C. Rich, *Ecological light pollution*. *Frontiers in Ecology and the Environment* 2: 191-198 (2004), available at: <http://www.urbanwildlands.org/Resources/LongcoreRich2004.pdf>

objectives” on solar project sites.¹⁹ The USFWS monitoring objectives indicate that monitoring “should be structured in order to provide information on seasonal differences in mortality rates and which species or taxonomic groups are most vulnerable,” by implementing consistent monitoring throughout the annual cycle. The USFWS objectives also require “carcass persistence and searcher efficiency surveys” to determine if carcass search intervals should be adjusted. Finally, the USFWS objectives state that “systematic monitoring should be conducted for a minimum of 3 years unless information or adaptive management strategies warrant an alternative number of years of monitoring.” Monitoring should also be used to evaluate the effectiveness of any adaptive management.²⁰

The Project should be required to prepare and implement an Avian Protection Plan (“APP”) that meets the USFWS monitoring objectives. First, it should provide for regular biologist surveys throughout the annual cycle for three years, as well as surveys to estimate detection probabilities. The APP should also include an acknowledgement that monitoring protocols may need to be adjusted, to ensure that the Project monitoring complies with the USFWS’s monitoring objectives.

In addition to requiring conformity with the USFWS objectives, the APP should ensure that the Project’s monitoring and reporting program is robust, transparent, and accurate: (1) The APP must ensure that staff are properly trained and *required* to report all bird observations on the Project site; (2) Staff observations must be included in Avian Mortality Monitoring reports; (3) The APP should include an avian incident report form, which the Project developer or operator will use to document and report avian injuries, mortality, and stranding; (4) Biologist surveys must include a requirement to report any injured or stranded wildlife, not just mortalities; and (5) examples of adaptive management measures provided in the APP should include the possibility of modifications to monitoring protocols based on the updated USFWS guidance.

Thank you for your consideration of these comments. Should you have questions regarding these comments, please feel free to contact GWD.



Ricardo Ortega
General Manager

¹⁹ See attachment to letter from Kennon Corey, U.S. Fish and Wildlife Service, to Christine Stora, California Energy Commission dated August 7, 2014 (emphasis added), *see footnote 12, supra*.

²⁰ *Ibid.*, attachment to letter.

Response to Grassland Water District Letter, January 15, 2016

GWD-1 Grassland Water District and Grassland Resource Conservation District (collectively “GWD”) express concerns about “increasing solar facility development in areas that are approximate to the GEA [Grasslands Ecological Area] and within migratory bird flight paths.”

This is a general introductory comment with specific comments provided in the rest of the letter. Responses to the specific comments are addressed below.

GWD-2 GWD requests that a Draft Environmental Impact Study (EIS) be prepared for the project to address the Project location and its potential impacts to birds.

Environmental Assessment (EA)-14-059 and its scope of analysis were developed consistent with National Environmental Policy Act (NEPA) regulations, guidance from the Council on Environmental Quality (CEQ), and the Department of the Interior’s NEPA regulations. In accordance with NEPA, an EA is initially prepared to determine if there are significant impacts on the human environment from carrying out the Proposed Action.

Reclamation has followed applicable procedures in the preparation of EA-14-059 which includes the required components of an EA as described in the CEQ’s NEPA regulations (40 CFR 1508.9): discussion of the need for the proposal, alternatives as required, environmental impacts of the proposed action and alternatives, and listing of agencies and persons consulted.

In response to this and other comments, Measure BIO-5 in Table 6 of EA-14-059 has been revised to include preparation and implementation of an Avian Protection Plan that meets to further reduce the potential for bird strikes. Additional information has been added to the EA regarding measures to avoid or minimize project-related avian effects.

GWD-3 GWD suggests that a “draft Lighting Plan and Avian Protection Plan, including a monitoring and reporting element, should be attached to the Draft EIS for public comment” and provides resources for their preparation.

See Response to GWD-2. The Avian Protection Plan is required to meet the U.S. Fish and Wildlife Service’s monitoring objectives.

GWD-4 This is an introductory comment regarding specific comments further in the letter. Responses to the specific comments are included below.

GWD-5 GWD states that the EA/FONSI “fails to acknowledge the ecological significance of the GEA.”

Section 3.4.1 of EA-14-059 has been modified to include additional background information about the GEA and distances between the proposed solar PV sites and nearby wildlife areas.

GWD-6 GWD states that the “NEPA document should be revised to more clearly acknowledge and accurately portray the potential for significant impacts associated with locating the Project along the Pacific Flyway and in the vicinity of the GEA, the SLRSRA [San Luis Reservoir State Recreational Area], and water storage reservoirs.”

Comment noted. Section 3.4.2.2 of EA-14-059 has been modified to include additional information regarding bird strikes, the potential “lake effect,” and the lack of empirical research regarding the attraction of solar PV facilities to migrating birds.

GWD-7 GWD states that lighting for the Project is not adequately described in the EA.

See Response to DFW-20 regarding lighting.

GWD-8 GWD states that the Project requires an “Avian Protection Plan with Adaptive Monitoring.”

See Response to GWD-3.