United States Department of the Interior

FISH AND WILDLIFE SERVICE
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2800 Cottage Way, Suite W-2605
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Memorandum

To: Assistant Regional Director, Pacific Southwest Region, Sacramento, California

From: Field Supervisor, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Intra-Service Consultation on the Issuance of a Section 10(a)(1)(B) Incidental Take Permit to Wright Solar Park, LLC for the Wright Solar Park Habitat Conservation Plan, Merced County, California

In accordance with section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*) (Act) and its implementing regulations (50 CFR §402), this document transmits the intra-service biological opinion of the U.S. Fish and Wildlife Service (Service), Sacramento Fish and Wildlife Office (SFWO), regarding the Pacific Southwest Region's (Region) proposed issuance of a section 10(a)(1)(B) incidental take permit (permit) to Wright Solar Park, LLC (Applicant) for the implementation of the Wright Solar Park Habitat Conservation Plan (HCP) (Wright 2015). The HCP describes Applicant activities that would be covered by the proposed ITP (Covered Activities) and identifies certain obligations that must be fulfilled by the Applicant. The Service proposes to issue the ITP to the Applicants for a period of 40 years (Permit Term).

The Service has determined that the action may affect, but is not likely to adversely affect the following species:

- Conservancy fairy shrimp (*Branchinecta conservatio*)
- Longhorn fairy shrimp (*Branchinecta longiantenna*)
- Vernal pool tadpole shrimp (*Lepidurus packardi*)
- Valley elderberry longhorn beetle (*Desmocerus californicus dimorphus*)
- California red-legged frog (*Rana draytonii*)
- Giant kangaroo rat (*Dipodomys ingens*)

Habitat for the Conservancy fairy shrimp, longhorn fairy shrimp, and vernal pool tadpole shrimp, may exist in an alkali vernal pool within the action area. Disturbance related to the project will not directly affect habitat for these species, and indirect effects are unlikely with implementation of mitigation measures described in Wright (2014). Habitat for the valley elderberry longhorn beetle exists within the action area in the form of a single elderberry (*Sambucus* sp.) shrub. The elderberry

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habitat for the California red-legged frog exists within the action area. California red-legged frogs are known to occur on Los Banos Creek, to the south of the project site. California red-legged frogs may occasionally disperse through the project site, but Conservation Measures described in Wright (2015) to avoid Central California tiger salamanders are expected result in complete avoidance of this species. A historical occurrence of the giant kangaroo rat is near the action area: approximately 11 miles to the southeast of the project site, and 5 miles to the east of the mitigation site; however, the action area is outside of the currently known range of the species. There have been no observations that indicate that the giant kangaroo rat occupies any habitat within the action area.

The Applicant requests a permit to incidentally take the following federally-listed as endangered (E) or threatened (T) species, collectively referred to as Covered Species:

- San Joaquin kit fox (*Vulpes macrotis mutica*) (E)
- Blunt-nosed leopard lizard (*Gambelia sila*) (E)
- Central California Distinct Population Segment of the California Tiger Salamander (*Ambystoma californiense*) (Central California Tiger Salamander) (T)

This document represents the Service's biological on the effects of implementing the proposed HCP and ITP on the Covered Species. The HCP permit area is not within designated or proposed critical habitat for any federally-listed species.

Consultation History

April 26, 2012	The Service responded to a Merced County request for comments on the project, then known as Frontier Renewables, LLC.
January 25, 2013	The Service met with the applicant, representatives from Merced County, and the California Department of Fish and Wildlife to discuss Endangered Species Act issues.
January 13, 2015	The Service issued a Notice of Availability of a draft Environmental Assessment (EA) and draft HCP.
March 12, 2015	The Service received a comment letter from the California Department of Fish and Wildlife on the EA and HCP.
March 16-18, 2012	The Service received a joint comment letter from Defenders of Wildlife and The Center for Biological Diversity on the draft EA and HCP, and a comment letter from Friends of Animals.

BIOLOGICAL OPINION

Description of the Action

The proposed action is the issuance of a permit by the Region and the implementation of the Wright Solar Park HCP by Wright Solar Park, LLC. Components of the HCP that are relevant to the effects analysis are summarized below. The Wright Solar Park Project includes the construction and operation of 1,200 contiguous acres of solar photovoltaic (PV) power generating facilities and temporary disturbance of up to 50 acres within a larger 2,731–acre site (project site), and a mitigation

preserve of 2,450 acres, in western Merced County. The applicant will conserve an additional 285 acres to the west of the project footprint in order to establish a north-south movement corridor of a minimum of 500 feet wide. The total area covered by the permit is 5,181 acres. Complete buildout of the project will produce up to 200 megawatts of electricity. For a comprehensive overview of the proposed action, please refer to the final HCP (Wright 2015). The permit term will include the construction of the solar facilities, operations and maintenance of the solar facilities, and the decommissioning of the solar facilities for a total permit term of 40 years.

Covered Activities

Chapter 2 of the final HCP fully describes the activities proposed for coverage under the HCP. Solar electricity generation is the primary activity that will be conducted within the permit area. Covered Activities will occur during the following phases: (1) pre-construction; (2) construction; (3) operations and maintenance; (4) decommissioning. Throughout the permit term, avoidance, and minimization activities will occur throughout the permit area, and management activities will occur on the Conservation Site.

Covered activities involve the construction, operation, maintenance, and eventual decommissioning of the solar energy electrical generation facility to provide electricity for public consumption. The facility would consist of an array of solar PV panels, DC to AC power inverters, racking materials, low-voltage transformer and power conditioning equipment, battery energy storage system, access roads, and an electrical interconnection. The PV panels would be installed on a single-axis tracking mounting system and would be dark blue or black in color with minimal light reflection. Construction is planned to begin in 2015, after receiving all necessary construction and environmental permits, and meeting pre-construction California Environmental Quality Act conditions. Construction and testing of the project would take a total of 26 months to complete and is expected to be completed in October 2016, at which point the project would become operational. Depending on the construction timeline, the project may not be operational until early 2017. The project has a planned life of 40 years, so decommissioning is projected to occur in late 2056 or early 2057. Decommissioning would involve removal of all structures, facilities, and access roads, and restoration of the site to the existing pre-project conditions. Covered activities are described in more detail in Chapter 2 of the HCP.

Pre-construction and Construction

Civil Infrastructure and Activities

- Survey and project layout, including road, panel, switching station, and support buildings.
- Road construction, including placement of aggregate on all-weather roads.
- Establishment of temporary facilities, parking, and staging areas (these are all inclusive of the project site unless otherwise shown on Figure 2-1).
- Installation of a chain-link fence and gates.
- Watering for dust control and soil compaction.
- Construction of switching station, skid/inverter, and control room pads.

Mechanical and Electrical Infrastructure and Activities

- Installation of I-beam foundations and placement of a racking system on top of I-beam/tubular steel foundations.

- Placement of PV solar modules and DC collection system.
- Installation of a wire harness, fuses, and wire grounding.
- Trenching for buried wires.
- Installation of buried wiring.
- Installation of inverter/transformer structures.
- Installation of wiring and interconnection.
- Installation of AC collection system.
- Trenching and overhead installation of Medium Voltage Collection System (MVCS) from inverters/transformers to the project switching station.
- Construction of the project substation.
- Construction of the project switching station.
- Construction of the interconnection to the Pacific Gas and Electric Company (PG&E) transmission/distribution system.
- Installation of telecommunications equipment.
- Installation of meteorological equipment.
- Construction of operations and maintenance facility.
- Installation of battery energy storage system.
- Development of well for operations water.

The maximum project footprint would be approximately 1,250 acres, including staging areas and access roads. Access and interior roads would be surfaced with aggregate, be dust free, and would be maintained to facilitate onsite circulation for emergency vehicles during all weather conditions. Construction staging involves development of specific areas for parking and other temporary construction-related facilities. Approximately 10.5 acres of all-weather parking spaces are anticipated to be constructed to provide temporary onsite parking for construction staff. This area could be expanded to a maximum of 50 acres to accommodate increased worker needs. This area and the gravel placed on it would be reclaimed at the end of the construction period. This area would also include temporary work facilities and office space for use during construction. Temporary construction and support facilities include: construction trailers and storage sheds, sanitary facilities, including drinking water, and waste disposal services. Two offsite rural road intersections would need to be improved to allow temporary access by large equipment and tractor-trailer delivery vehicle. All temporary facilities will be removed once construction is complete.

Site Disturbance, Grading, and Compaction

The intent of the grading for the solar development is to adhere to the pre-existing contours of the terrain as much as possible. Grading is needed in some areas to achieve the solar panel design standard of 15% maximum slope for north and south aspects. Earthwork would focus on cut and engineered fill as necessary to create finished grade slopes suitable for panel installation. Site grading for inverter pads, the switching station, roads, arrays, battery storage, and other improvements would generate approximately 3,111,000 cubic yards of grading soil or other materials for inverter

pads, the switching station, roads, arrays, battery storage, and other improvements. Approximately 82,000 cubic yards of material (mostly gravel for all weather roads) would be imported to the site. Soil compaction may be used to allow safe access within the internal and circulation roads. Compaction may also be required for the construction of inverter pads, the switching station, and control rooms. Road construction would require soil conditioning to achieve proper compaction. Roads and other work areas would be periodically sprayed with water to reduce dust. Fire protection improvements would consist of perimeter and evenly dispersed interior access roads with a 20-foot minimum width to be constructed of all-weather aggregate base.

Equipment Installation

To support the PV panels, the project would utilize a fixed-tilt mounting system or a single-axis tracking system designed to optimize power production of the panels by ensuring proper orientation to the sun throughout the day and seasons. Should new technology that allows for more efficient collection of solar energy become available during the permit term, installation of those components to existing infrastructure would occur within the current footprint of the facility, and will not increase the overall footprint of the solar facility. The fixed-tilt mounting and single-axis tracking systems are supported by metal piers driven or screwed into the ground. The machines required for pile driving are similar to those found on highway construction jobs used for driving guard rail piers. Pier placement begins with a precise surveyed layout, ensuring proper positioning of remaining tracker assembly parts. Affixed to the top of each pier is a pier cap and bearing assembly that supports and allows proper movement of the torque tube assembly. The torque tube assembly serves two purposes: to provide an attachment point for the panels, and to move through the range of positions needed to optimize panel production. Single-axis tracking systems require a drive system that provides directional force to the torque tube. This can be accomplished with either a mechanical or hydraulic drive arm and tube assembly that "pushes and pulls" the torque arm through its range of motion or by a geared assembly that redirects rotational force to the tubes. Both approaches require a small geared motor or hydraulic system mounted on a pile support or pad strong enough to move the system through its daily range of motions. When final, installations will be approximately eight feet tall.

Shielded cables would be used throughout the solar field. All shielded electrical cables would be directly buried to a depth of between 42 inches and 48 inches. Any cables or wiring that runs between the ground and the panels will be sheathed in hard PVC or metal conduit, or will run directly through the metal racking components of the solar arrays, to avoid gnawing by fossorial mammals.

Tracking System

The preliminary design specifies that the distance between rows of the trackers would be between 6.5 feet and 8.5 feet, and row length would be no longer that 150 feet on each side of the drive arm assembly.

Project Substation

The substation is the portion of the system where project power is transformed to match the specification of the interconnection into the electrical grid. The project substation is characterized as having a low side and a high side, as defined by the point of power transformation from 34.5 kilovolts (kV) (low side) stepped up in voltage to match the grid specifications in the transmission

system (high side). In the case of the project, the power would be stepped up to 230 kV at the project substation. The footprint of the substation would be approximately 2.1 acres.

Project Transmission Line

The project includes an electrical transmission line ("gen-tie line") to connect the project to generation facilities owned and operated by PG&E. The gen-tie line would be composed of a span of three conductors between the project substation dead end structures and the adjacent switching station dead end structures. The line would be less than 500 feet in length, and sizing of the conductor would be relative to the exact length of the span necessary for the project and the avoidance of calculated line losses. The dead end structures on both sides of the facilities would also carry a fiber communications system between the control rooms of the facilities.

Switching Station and Point of Interconnection

A project switching station would be located within approximately 200–500 feet of tower #92 of the Los Banos-Panoche 230-kV line. The switching station would include breakers, switches, meters, and related equipment, as required by the interconnection provider. The switching station would provide a point of isolation for the solar generation facility and for the two circuits of the transmission line. After the switching station is built and tested, PG&E would have the ability to isolate circuits of the Los Banos-Panoche 230-kV line.

The switching station facility would have its own perimeter fencing that would be independent from the project fence line and would be directly accessible by the facility operator. At the conclusion of construction, the switching station would be owned and operated by PG&E, per the Large Generator Interconnection Agreement. PG&E would control all access to inside the perimeter of the switching station.

Battery Storage Facility

As part of the project, a battery energy storage system would be constructed within the solar facility to provide dispatchable energy under various operating conditions. The ability to store energy would improve the project's operability and enhance the integration of as-available solar-generated energy resources into the transmission network by offering additional ramp rate control and more consistent energy flows. The battery energy storage system would be constructed as a single building facility, the footprint of which would be up to 4 acres.

Perimeter Fencing Design and Lighting

To maintain the security of the facility, a perimeter fence would be constructed around eight of the ten solar arrays to be constructed. Array 6a is discontinuous and would be fenced separately. Exclusionary fencing, installed around the solar arrays, would preclude the use of the solar array areas by large ungulates, such as elk; however, this fencing is designed to allow virtually unimpeded movement within the project site by small animals, including all three of the covered species.

There would be no lights on the perimeter of the solar arrays. Lights would be installed at the switch yard and at the substation for ongoing maintenance and security purposes. Low-level lighting would be installed at entry and egress gates at strategic locations around the facility. Security lighting would be set up to use infrared or forward-looking infrared radar technology. All project lighting

would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent land. Lights will use amber colored lenses when possible and be shaded from producing upward escaping light. Lighting would be used from dusk to dawn and switched lights, only activated when workers are present, can be installed and left in the off position until needed or as code requires. Project lighting would conform to National Electric Safety Code requirements and all applicable Merced County outdoor lighting codes.

Operations and Maintenance

Facility Maintenance

Facility O&M would include the periodic maintenance of buildings, solar panels, and solar components, as well as the internal road network. The level of vehicle activity entering and leaving the site during operation would be limited to scheduled and emergency maintenance visits and monthly delivery vehicles. Scheduled solar park maintenance would occur no later than 10:00 p.m. and no earlier than 4:00 a.m. to avoid interference with the project's peak hours of generation. However, if possible, all operations and maintenance activities will occur during daylight hours. Maintenance activities that require taking the facility out of service are typically conducted at night, when the facility is not generating power. If operations and maintenance activities are required when it is dark, they would be conducted under the supervision of a qualified biologist. Unscheduled emergency maintenance would occur at any time; however daylight maintenance and emergency service would be strongly encouraged to maximize worker safety.

Operation and Maintenance Facility

The proposed project includes an Operations and Maintenance (O&M) facility that would consist of a pre-engineered 35-foot by 100-foot metal building that would rest on a 10-inch concrete slab. The O&M facility would need a potable water supply to provide minor anticipated needs of the staff. The O&M facility will contain restroom facilities. Standard break room plumbing would also be needed. An engineered and approved septic system would be installed, and would be gravity fed from the facilities' plumbing. Septic system permits would be obtained and strictly adhered to in the installation.

Water

For operations, an onsite groundwater well would be drilled during construction, and would be primarily utilized for the O&M building's water system and for maintenance. Water would be supplied from the well to up to a 50,000-gallon water tank, or several smaller tanks totaling 50,000 gallons, would be installed near the O&M facilities.

Panel Washing

Project maintenance would require water for washing dust from the solar panels; this task would take place up to four times per year. Approximately 500,000 gallons of water would be used to clean the panels per year. Panel washing would take place during daylight hours. Irrigation water will be the source of water for panel washing and would be obtained through water allocation from existing landowners' approved rights to irrigation water from the San Luis Water District.

Vegetation Maintenance

Vegetation maintenance would be required on the project site to reduce the risk of fire. Mowing would be utilized to keep vegetation down along the base of the solar panels and manage the open areas of grassland. Mowing would occur two to four times per year. In lieu of mowing, a grazing program to control vegetation and manage the grasslands within the project site may be utilized. Sheep grazing provides a cost effective and efficient alternative to mowing. Grazing, which may occur from April through June, would keep residual dry matter down and reduce the risk of fire. Shepherds would be present the entire time the sheep are present at the project site and grazing will typically be finished within two weeks.

Site Decommissioning

Site decommissioning may or may not occur at the end of the permit term; decommissioning is a covered activity in anticipation of it being necessary. Should decommissioning not occur, the applicant will secure a new incidental take permit prior to the continuation of the existing facility or construction of any new facility that would replace this facility. If the operator decides that the facility is no longer a viable option, decommissioning would occur at the end of the life of the project, expected in 2056 or early 2057.

While most structures would be removed during decommissioning, some improvements may be left in place to enhance agricultural operations following removal of the solar generating facility. A detailed Decommissioning and Site Reclamation Plan consistent with the HCP and the terms of the incidental take permit would be reviewed and approved by the County. The final permitted decommissioning plan would explain how some roads and other features may be left in place to accommodate more efficient farming practices. The decommissioning and restoration process would involve the removal of aboveground structures, restoration of topsoil, revegetation, and seeding. Temporary erosion and sedimentation control best management practices (described in the conservation measures) would be used during the decommissioning phase of the project. Equipment that would be removed includes electrical wiring, equipment on the inverter pads, the battery energy storage system, and the interconnection transformer pad and associated equipment.

Removal of the solar modules would involve removing the tracks to which the solar panels are attached and placing them in secure transport crates, and then into a trailer for storage and ultimate transport to another facility. The bolts and reusable fasteners that attached each solar module to the tracks would be removed and saved for reuse. Once the solar modules were removed, the tracks would be disassembled and the structures supporting the tracks would be removed.

The substation will be lowered and removed from the site. All oils used for cooling of the step up transformer and any breakers will be pumped out and removed from site and recycled. Any gas used in breaker assembly will be "de-gassed" through appropriate protocols and removed from the site safely. All concrete foundations for the steel structures will be broken up, reinforcement bar removed, and the clean concrete removed from site to be used as clean fill. All structures greater than 4 feet in buried depth will be left in place. The switching station, which will be deeded to PG&E at the end of construction per the LGIA, will exist on the site in perpetuity

All other aboveground site infrastructure, including fences, awnings, and the concrete pads that supported the inverters, transformers, and related equipment, would be removed. The fences and gates would be removed, and all materials would be recycled to the greatest extent possible. All

debris would be removed from the area. The battery storage and operations and maintenance buildings will be retained to facilitate agricultural practices on the restored site. All native grade roads will be reclaimed as part of the overall site grading and soil restoration. Graveled all weather roads will not be reclaimed as they can now be incorporated into best management practices of future agricultural activities.

Land Management, Monitoring, and Avoidance and Minimization

Habitat Management on Mitigation Lands

Habitat management on the mitigation property will be governed by a Habitat Management Plan (HMP) that is approved by the Service. Livestock grazing would be conducted under a grazing management plan with specific guidance on grass height and residual dry matter on the site to protect the grasslands and allow them to continue to function as kit fox habitat. During years of extreme weather such as drought or above average rainfall, the grazing intensity will be adjusted to properly meet the grass height and RDM criteria. Ponds would be managed as part of grazing operations but also to enhance breeding opportunities for California tiger salamander. All mitigation lands would adhere to County ordinances regarding fire protection, fire breaks, and fire management. Roadways would be maintained to allow access by the grazing tenant and those monitoring the conservation easement. Fencing would be maintained around the perimeter of all mitigation sites to reduce vandalism and theft. New fencing would be installed where necessary to appropriately manage livestock in a way that maximizes the habitat value for San Joaquin kit fox and other native species. Targeted invasive plant management activities may be necessary to prevent invasion by pest plant species.

Habitat Management on On-site Avoided Lands

Grassland areas onsite, but outside the project area, would be set aside as onsite mitigation. These grassland areas would be managed for the covered species (continued to be grazed or mowed, no rodenticide usage, remain permeable for kit fox movement). As with the Mitigation Lands, livestock grazing would be conducted under a grazing management plan with specific guidance on grass height and residual dry matter on the site to protect the grasslands and allow them to continue to function as kit fox habitat. During years of extreme weather such as drought or above average rainfall, the grazing intensity will be adjusted to properly meet the grass height and RDM criteria.

Monitoring

The type and level of monitoring was designed to ensure that the biological objectives of the HCP are achieved and are commensurate with the level of impact on the covered species described in Chapter 4 of the HCP. The mitigation lands would be monitored following the completion of construction of the project. The primary goal of effectiveness monitoring is to ensure habitat on mitigation areas remains suitable for the covered species. Effectiveness monitoring is habitat-based because monitoring the number of individuals or population on a particular mitigation area could prove inconclusive due to the rarity of the species and the fact that kit foxes frequently move.

Conservation Measures

The HCP includes the following biological goals and objectives for the conservation of the Covered Species:

1) **Goal 1.** Minimize adverse effects on covered species during all project activities: construction, operation and maintenance (O&M), and decommissioning.

   Objective 1.1. Avoid injury or death of covered species during project construction and decommissioning by implementing project-level avoidance and minimization measures for all covered activities that occur in suitable habitat. Implement species-specific avoidance measures to protect covered species during O&M activities.

   Objective 1.2. Retain movement through the project site by protecting grassland habitat around the edges of the project site and by allowing movement within the project site. Ensure that fences that surround the project site are permeable to San Joaquin kit fox.

   Objective 1.3. Minimize impacts on San Joaquin kit fox during project occupancy by incorporating project design elements into the project design that reduce disturbance from noise, light, human activity, pets, or other competing species.

   Objective 1.4. Avoid impacts to alkali vernal pool.

2) **Goal 2.** Increase the quantity and quality of covered species habitat that is under permanent protection in western Merced County.

   Objective 2.1. Preserve and manage 285 acres of San Joaquin kit fox habitat onsite and 2,450 acres offsite in western Merced County, and place those lands under permanent conservation easements.

   Objective 2.2. Preserve and manage blunt-nosed leopard lizard habitat off-site in western Merced County, and place those lands under permanent conservation easements.

   Objective 2.3. Preserve and manage California tiger salamander upland habitat within at least 1.24 miles of known or potential aquatic habitat offsite in western Merced County, and place those lands under permanent conservation easements.

These general goals and objectives are supplemented by species-specific goals and objectives that include the preservation and enhancement of species habitat.

The following measures have been incorporated into the design of the project to avoid and minimize impacts on Covered Species:

1. To lessen the potential direct effects on Covered Species, the project has been designed so that the areas that will be directly affected by the proposed project (on which the solar arrays and roads will be constructed) will occur almost entirely in areas that are currently cultivated and therefore least suitable as habitat for the Covered Species.

2. Security fences installed on the perimeter of the project site will be designed to enable passage of San Joaquin kit foxes and their prey, while impeding the passage of larger predators of kit foxes, such as coyotes and larger domestic dogs. All fencing will leave a 4- to 8-inch opening between the fence mesh and the ground. The bottom of the fence fabric shall be knuckled (wrapped back to form a smooth edge) to protect wildlife that pass under the fence. Fences will be monitored regularly to ensure that any damage or vandalism is quickly repaired.

3. Areas of the project site between the solar arrays will be left fallow and managed (e.g., grazed or mowed) to allow annual grassland species and prey species to recolonize the project site and to maintain two wildlife corridors through the entire project site in a generally north-south direction.

4. Exterior lighting shall have the following restrictions:

    a. No lighting will be placed near or oriented toward the 230-kV transmission corridor to avoid affecting wildlife that may use this area for nighttime movement.

    b. Narrow spectrum bulbs will be used to limit the range of species affected by lighting.

    c. All lighting shall be designed so that exterior light fixtures are hooded, with lights directed downward or toward the area to be illuminated, and so that backscatter to the nighttime sky is minimized. The design of the lighting shall be such that the luminescence or light sources are shielded to prevent light trespass outside the project boundary and neither the lamp nor the reflector interior surface would be visible from outside the footprint of the facilities.

    d. Light fixtures shall be installed on poles of minimal height or be installed on the buildings.

    e. All lighting shall be of minimum necessary brightness consistent with worker safety.

    f. The number of lighting fixtures shall be limited to the minimum required.

    g. All illuminated areas not occupied on a continuous basis shall have switches or motion detectors to light the area only when it is occupied. Any perimeter lighting shall also only be motion activated.

    h. All lighting poles, fixtures, and hoods shall be of dark-colored material.

    i. Operational exterior lighting shall be limited to the O&M building and the substation, unless other exterior lighting is required by law or code.

    j. Unless determined necessary by Merced County for safety or security reasons, any signs at the entry of the project site shall not be lit (reflective coating is acceptable). Lighting would be used from dusk to dawn for the project substation to conform to National Electrical Safety Code (NESC) requirements and all applicable Merced County outdoor lighting codes.

5. The grassland areas within the project site that will not be affected by construction activities will be left in their existing condition. These areas will continue to be grazed to keep grass height and density low.

6. Wetland areas within the project site will not be affected by construction activities and will be left in their existing condition.

The following general minimization and avoidance measures (GM) will be implemented during all project activities to minimize potential incidental take of Covered Species:

1. All employees, consultants, and contractors shall receive environmental training prior to the commencement of construction activities. The avoidance and minimization measures will be outlined in the training. All personnel on the construction site will follow these measures to avoid or reduce effects on covered species. The training will include a printed handout (printed in both English and Spanish) that will be handed to all personnel. All employees and contractors will be required to sign a sign-in sheet indicating that they attended the training and understand the material presented. The handout will contain the following information:

    a. Descriptions of the covered species (including photographs) and their habitat needs.

    b. A current report of the occurrences of the covered species in the Permit Area.

    c. An explanation of the protected status of each covered species under the Federal and State endangered species acts and legal obligations.

    d. Avoidance and minimization measures that will be followed to reduce impacts on the covered species during all project activities: construction, O&M, and decommissioning, and the penalties for not following the avoidance and mitigation measures.

    e. Instructions on the procedures that will be implemented if a covered species is found onsite, including contact information of a biological monitor, USFWS, and CDFW personnel.

2. At least 30 days prior to the onset of ground-disturbing activities, the name(s) and credentials of a supervisory project biologist responsible for approving and overseeing all project biological monitors and other biologists performing biological work, would be submitted to the Service for approval.

3. Approved biological monitor(s) will be required onsite as long as construction crews and vehicles are accessing the site. Monitoring will cease once construction traffic and activity has ceased and the site is operable.

4. Biological monitors will have the authority to order a halt to construction activities, and will order halts to construction activities in the following instances: 1) the monitor observes activities that may result in mortality or harm to covered or listed species; 2) the monitor observes any of the avoidance and minimization measures described in this HCP are not being implemented; or 3) if at any time a covered or federally-listed species is in danger of

experiencing mortality or harm. Work shall not resume until the situation has been rectified to the satisfaction of the supervisory project biologist. If a biological monitor orders a halt to construction activities, he or she shall immediately contact the supervisory project biologist for further instructions.

5. All construction-related activities will occur within designated work areas.

6. All construction activities will terminate 30 minutes before sunset and will not resume until 30 minutes after sunrise, except as described below. Sunrise and sunset times are established by the U.S. Naval Observatory Astronomical Applications Department for the geographic area where the project is located. Some discrete maintenance activities must occur when the facility is not generating power, at night. Those activities will be conducted under the supervision of a qualified biologist. Some O&M activities must occur when the solar site is powered down, which occurs at night. Those activities which must occur at night are authorized.

7. To prevent inadvertent entrapment of San Joaquin kit foxes or other animals during the construction phase of the project, all excavated, steep-walled holes or trenches more than 2 feet deep shall be covered at the close of each working day by plywood or similar materials. Any covers that are installed will be able to be removed quickly by construction staff should the need arise. If covers require heavy equipment to lift them, some means of inspecting the inside of the hole shall be installed (e.g., Plexiglas windows) so that biological monitors can ensure no animals are trapped inside. Holes and trenches less than 2 feet deep may either be covered or be provided with escape ramps at a rate of one ramp every 100 feet. Escape ramps may be constructed of earth fill or wooden planks with a slope no steeper than 45 degrees. If wooden planks are used, perpendicular groves or rungs shall be provided to aid in traction. All holes and trenches, whether covered or uncovered, more than 2 feet deep shall be inspected prior to the start of the construction day, around midday, and at the end of each construction day as they are being covered for the night. These inspections shall occur whether or not work is occurring in that area. Before holes or trenches are filled, they shall be thoroughly inspected for trapped animals. Work shall not continue until trapped animals have moved out of or are removed from the open trench and relocated to a location approved by the Service.

8. Speed limits within the project site will be limited to 15 miles per hour (mph) during the day and 10 mph at night. All project-related vehicles and equipment will be restricted to established roads, construction areas, and designated staging areas.

9. Food-related trash will be disposed of in closed containers and removed from the project site at least once daily.

10. No pets or firearms will be permitted on the project site.

11. Within 1 working day of finding a dead, sick, or injured covered species on the project site, the biologist will notify the Service and the California Department of Fish and Wildlife (Wildlife Agencies) orally and within 3 working days in writing. Notification in writing will include the date, time, and location where the specimen was found and information about the conditions under which it was found.

12. A map of the location of all observations of covered species observed during preconstruction surveys and during monitoring will be prepared and submitted to the Wildlife Agencies prior to the commencement of any ground-disturbing activities. This information will be submitted to the California Natural Diversity Database (CNDDB).

13. A Revegetation Plan will be prepared for the project. Upon completion of the project, all areas temporarily subject to ground disturbance, including staging areas, will be revegated according to the project Revegetation Plan. The plan will be submitted to the Service and CDFW for their approval prior to its implementation. Revegetation will begin immediately following construction.

14. When rodent traps are used inside of facilities, only humane traps shall be used.

15. The solar panels shall be constructed in a layout that is consolidated to the extent feasible, while still meeting the goal of using the existing contours of the land and not resulting in a large amount of earth work.

16. The battery storage facility shall be placed on the exterior of the panel layout (not in one of the corridors) and will be constructed as close to the panels as possible to reduce the overall footprint of the project.

17. A buffer that is at least 500 feet wide shall be incorporated into the site layout on the west side of the project area, starting at the toe of the slope, or on lands under the control of the applicant, if those lands are further into the project area than the toe of the slope (See Figure 2-1 of the HCP). The buffer shall extend into the project area. No solar panels or permanent structures shall be placed in the buffer and the portion of the buffer under control of the project applicant shall be placed under a conservation easement in perpetuity and managed as low grassland suitable for San Joaquin kit fox and associated grassland species.

The following avoidance and minimization measures will be implemented during Covered Activities to minimize potential incidental take of individual Covered Species:

San Joaquin Kit Fox

1. The following measures will be incorporated during construction, O&M, and decommissioning of the solar park to avoid and minimize effects on San Joaquin kit fox.

2. The guidelines described in Service 2011, or the most recent version of these guidelines, will be implemented. The applicant will inquire with the Service yearly to obtain the most recent guidelines.

3. As described in Service (2011), the preconstruction survey will be conducted no less than 14 days and no more than 30 days before the beginning of ground disturbance, or any activity likely to affect San Joaquin kit fox. The biologists will conduct den searches by systematically walking transects through the project site and a buffer area to be determined in coordination with the Wildlife Agencies. Transect distance will be based on the height of vegetation such that 100% visual coverage of the project site is achieved. If a potential or known den is found during the survey, the biologist will measure the size of the den,

evaluate the shape of the den entrances, and note tracks, scat, prey remains, and recent excavations at the den site. Dens will be classified into the den status categories defined by the Service (Service 2011).

4. A report of the preconstruction survey will be submitted to the Wildlife Agencies for review and approval.

5. If potential den sites are located they will be monitored by a biologist approved by the Wildlife Agencies. The biologist will use an infrared beam camera and track plates or powder, to determine if the den is currently being used. The camera and track plates will be placed at the burrow for a minimum of 5 consecutive days. Other signs of occupancy (e.g., scat, fur) will be searched for in and around the burrow and, if found, documented with photographs.

6. San Joaquin kit fox are attracted to den-like structures such as stored pipes. All construction pipes, culverts, or similar structures with a 4-inch or greater diameter that are stored at the construction site for one or more overnight periods shall be closed off at both ends and thoroughly inspected before they are buried, capped, or otherwise used or moved in any way. If a kit fox is discovered in a pipe, that section of pipe shall not be moved until the kit fox is allowed to leave unimpeded or the Wildlife Agencies have provided alternative guidance.

7. All materials staged on the project site, and especially in staging areas, shall be stored so as to not provide areas suitable for Covered Species to seek shelter. At no time shall materials be haphazardly piled on the project sites. All materials shall be inspected thoroughly by the biological monitor prior to being moved.

8. Construction activities will be prohibited within exclusion zones around suitable burrows, based on their type. If any San Joaquin kit fox dens or potential dens are found during preconstruction surveys, the status of the dens shall be evaluated prior to project ground disturbance. The configuration of exclusion zones around San Joaquin kit fox dens should have the radius measured outward from the entrance or cluster of entrances, as follows.

    a. *Potential den*: a 50-foot avoidance buffer will be used when kit fox occupation is expected but not confirmed.

    b. *Known den*: a 100-foot avoidance buffer will be used if kit fox activity is observed.

    c. *Natal/pupping den*: the Wildlife Agencies must be contacted.

9. The Applicant will install artificial escape dens along the outside edge of the solar arrays (outside of the fencing) and facing the 300-foot wide 230-kilovolt (kV) transmission corridor. The escape dens will be placed at a minimum every 1/8-mile along the transmission corridors length adjacent to the solar arrays. The escape dens should be of similar design as those presented in Harrison et al. (2011).

10. Rodenticide and pesticide use is prohibited. Herbicide application will be limited to areas where mowing is not possible (e.g., around buildings and against poles and other infrastructure).

Blunt-Nosed Leopard Lizards

The following measures will be incorporated during O&M and decommissioning of the solar park to avoid effects on blunt-nosed leopard lizards.

1. During the active season for blunt-nosed leopard lizards, (generally starting April 15, but any time of year with temperatures of 77 degrees Fahrenheit as measured 2 centimeters above the ground), prior to any planned ground-disturbing construction, O&M, or decommissioning activities, such as the regrading of project site roads, a biologist with experience in surveying for blunt-nosed leopard lizard shall assess site conditions for supporting the species.

a. If site conditions are determined to be suitable for blunt-nosed leopard lizard at that time, then presence/absence surveys for the species shall be conducted within and adjacent to the proposed area of ground disturbance. Surveys shall be conducted according to the most recent agency-approved survey protocol (i.e., CDFW protocol unless the Service develops survey protocols for this species during the permit term). A biologist shall search the work area for ground squirrel or gopher burrows and mark any burrows within the work area with visible pin flags. A buffer distance of at least 50 feet shall be maintained around burrows to avoid collapsing them. If burrows cannot be avoided and it is determined that the activities will destroy the burrows, the burrows shall be excavated by hand. If it is determined that the burrow is occupied by a blunt-nosed leopard lizard, the lizard shall be allowed to leave the burrow and move to an area that will not be disturbed.

2. To minimize the potential for take of blunt-nosed leopard lizards during O&M activities, a qualified biologist will survey areas of suitable habitat for blunt-nosed leopard lizards 24 hours prior to ground disturbance to determine suitability for blunt-nosed leopard lizards. These areas include remnant patches of annual grassland that occur along roadsides and in other areas that have not been cultivated. Roads will also be surveyed since blunt-nosed leopard lizards utilize roadways for basking on warm days. A biologist will search the work area for ground squirrel or gopher burrows and mark any burrows within the work area with visible pin flags. A buffer distance of at least 50 feet will be maintained around burrows to avoid collapsing them. If burrows cannot be avoided and it is determined that the activities will destroy the burrows, the burrows will be excavated by hand under the direct supervision of the supervisory project biologist. If it is determined that the burrow is occupied by a blunt-nosed leopard lizard the lizard will be allowed to leave the burrow and move to an area that will not be disturbed.

3. If a blunt-nosed leopard lizard is encountered during these surveys, the location of the observation will be marked and the Wildlife Agencies will be contacted. No ground-disturbing activities will occur until the lizard has been allowed to passively disperse or is relocated with the approval of the Wildlife Agencies to a location that has been pre-approved by the Wildlife Agencies. A report of the preconstruction survey will be submitted to the Wildlife Agencies for review and approval.

4. No ground-disturbing maintenance activities shall occur in or adjacent to areas where blunt-nosed leopard lizard has been detected until a Service- and CDFW-approved avoidance and monitoring plan is in place.

5. 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 specific erosion control agents shall be approved by CDFW prior to use.

6. Avoid using rodenticides and pesticides within the project site. Herbicide application will be limited to areas where mowing is not possible (e.g., around buildings and against poles and infrastructure).

7. Optimal activity temps for blunt-nosed leopard lizards are between 77F – 95F measured 1-2 cm above the ground over the surface of a project site (CDFW 2004). Between April 1-September 30 mowing will occur when the animals are underground and temperatures are below 75F, measured 1-cm above the ground in the sun.

The following measures will be incorporated during decommissioning of the solar park to avoid effects on blunt-nosed leopard lizards.

1. Prior to decommissioning activities, an agency-approved biologist experienced in surveying for blunt-nosed leopard lizard will assess site conditions for supporting the species.

    a. Presence/absence surveys for the species will be conducted in those areas where ground disturbing activities will occur. Surveys will be conducted according to the most recent agency-approved survey protocol. The surveying biologist will notify the Wildlife Agencies if blunt-nosed leopard lizard is detected within the project site.

    b. If a blunt-nosed leopard lizard is encountered during these surveys, the Wildlife Agencies will be contacted. No ground-disturbing activities will occur until the lizard has been allowed to passively disperse or is relocated with the approval of the Wildlife Agencies to a location that has been pre-approved by the Wildlife Agencies. A report of the preconstruction survey will be submitted to the Wildlife Agencies for review and approval.

    c. If burrows within 50 feet of where a blunt-nosed leopard lizard was observed cannot be avoided and it is determined that the decommissioning activities will destroy the burrows, those burrows will be hand dug. If it is determined that the burrow is occupied by a blunt-nosed leopard lizard the lizard will be allowed to leave the burrow and move to an area that will not be disturbed or the lizards will be captured and relocated to a location that has been pre-approved by the Wildlife Agencies.

California Tiger Salamander

The following measures will be incorporated during construction, O&M, and decommissioning of the solar park to avoid effects on California tiger salamanders.

1. To minimize the potential for take of California tiger salamanders, a biologist approved by the Wildlife Agencies will survey grassland areas for California tiger salamanders 24 hours prior to ground disturbance. These surveys will involve looking for California tiger salamanders beneath boards and within discarded pipe that were observed within in these areas during reconnaissance level surveys. A biologist will search the work area for ground squirrel or gopher burrows and mark any burrows within the work area with visible pin flags.

2. Burrows will be avoided to greatest extent practicable to avoid collapsing them. If burrows cannot be avoided and it is determined that the activities will destroy the burrows, the burrows will be hand dug. If it is determined that the burrow is occupied by a CTS, it will be allowed to leave the burrow and move to an area that will not be disturbed or the salamander will be captured and relocated to a location that has been pre-approved by the Wildlife Agencies. If a CTS is encountered during these surveys, and is in danger of experiencing harm, as defined in the Act, or mortality, the Wildlife Agencies will be contacted. No ground-disturbing activities will occur until the salamander has been allowed to passively disperse or is relocated with the approval of the Wildlife Agencies to a location that has been pre-approved by the Wildlife Agencies. A report of the preconstruction survey will be submitted to the Wildlife Agencies for review and approval.

3. During O&M and decommissioning of the site, ground-disturbing activities will be limited to dry weather between April 15 and October 31 to the greatest extent practicable. Wet weather is defined as when there has been 0.25 inch of rain in a 24-hour period. Ground-disturbing activities halted due to wet weather may resume when precipitation ceases and the National Weather Service 72-hour weather forecast indicates a 30% or less chance of precipitation. No ground-disturbing work will occur during wet weather or during a dry-out period of 48 hours after the above referenced wet weather.

4. If a California tiger salamander is found in the work area during construction and cannot or does not move offsite on its own, the approved biologist will trap and move the California tiger salamander to a location outside of the work area consistent with a Service-approved relocation plan.

5. No monofilament plastic will be used for erosion control to minimize the risk to tiger salamanders of entrapment.

6. Tightly woven exclusion fencing should be installed between the work area and the alkali vernal pool to prevent California tiger salamander from entering the work area. The fencing should be at least 24 inches above ground with the bottom 6 inches buried. The fencing stakes should be installed facing the work area to prevent amphibians from using stakes to climb over the fence. The specifics of the location of the fencing will be determined in consultation with the Wildlife Agencies.

7. Avoid using rodenticides and pesticides within the project site. Herbicide application will be limited to areas where mowing is not possible (e.g., around buildings and against poles or other infrastructure).

On-site Habitat Management

The area that will be disturbed during construction, which will ultimately be under the panels once the project is built, will be seeded with a native grass mix. Due to the perennial disturbance of the site from dry-land farming for many years establishing a weed-free grassland will be difficult, but is possible with careful management. The goals of grassland management onsite will be focused on fire suppression and providing habitat for grassland species. Once established this newly seeded grassland is expected to provide ecological benefits to native species in the region because it will support a prey base (e.g., small mammals, insects) that has been absent for several decades while the land has been under cultivation. As described above, the perimeter fencing will be designed to allow kit fox movement through the site. The operational portion of the project site will not be placed under a conservation easement and is therefore not included in the compensatory mitigation package, but it is expected to provide additional habitat value for the covered species during project operations.

Habitat Preservation

The Applicant has identified 2,450 acres of land approximately 5 miles south of the project site that will be placed under a perpetual conservation easement prior to or concurrent with construction activities, but before the Wright Solar park may begin generating electricity. The conservation easement would require continuation of current land management practices, including livestock grazing, which favors upland habitat for San Joaquin kit fox, blunt-nosed leopard lizard, and California tiger salamander. San Joaquin kit fox scat as well as many suitable burrows has been observed on site as well as numerous ground squirrel colonies.

The general area of the proposed mitigation site has been identified as moderate to high quality kit fox habitat by ESRP (Constable et al. 2009) and ICF biologists observed kit foxes on the parcels during spotlight surveys conducted October 29 and 30, 2013. Surveys for California tiger salamanders or blunt-nosed leopard lizards were not conducted on the proposed offsite mitigation lands. However, the site is located within 1.24 miles of suitable aquatic habitat for California tiger salamander (based on aerial photograph interpretation) and the site provides suitable upland habitat for California tiger salamander. The site includes a historic occurrence of blunt-nosed leopard lizard (CNDDB 2013) along the western boundary and provides grassland habitat for species across the entire site. Setting aside this site under a conservation easement would ensure that these lands remain suitable for the covered species and serve as denning and movement habitat for kit foxes in perpetuity.

The applicant will also establish a 285-foot area to the west of the solar fields to facilitate north-south movement of San Joaquin kit foxes around the project site. This area will be encumbered by a conservation easement and will also be managed in a manner that will provide suitable habitat for the covered species.

Action Area

The action area is defined in 50 CFR § 402.02, as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." For the purposes of the effects analysis, the action area encompasses the lands within the HCP Permit Area boundaries.

The HCP Permit Area is approximately 5,181 acres and includes the solar sites (2,731 acres), and the mitigation sites (2,735 acres).

Analytical Framework for the Jeopardy Analysis

In accordance with policy and regulation, the jeopardy analysis relies on four components: (1) the Status of the Species, which evaluates the range-wide condition of the species, the factors responsible for that condition, and the survival and recovery needs of the species; (2) the Environmental Baseline, which evaluates the condition of the species in the action area, the factors responsible for that condition, and the role of the action area in the species' survival and recovery; (3) the Effects of the Action, which determines the direct and indirect effects of the proposed project and the effects of any interrelated or interdependent activities on the species; and (4) the Cumulative Effects, which evaluates the effects of future, non-Federal activities in the action area on the species.

In accordance with policy and regulation, the jeopardy determination is made by evaluating the effects of the proposed Federal action in the context of the current status of the species, taking into account any cumulative effects, to determine if implementation of the proposed action is likely to cause an appreciable reduction in the likelihood of both the survival and recovery of the species in the wild.

The following analysis places an emphasis on consideration of the range-wide survival and recovery needs of the species, and the role of the action area in meeting those needs as the context for evaluating the significance of the effects of the proposed project, combined with cumulative effects, for purposes of making the jeopardy determination.

Status of the Species

San Joaquin kit fox

Please refer to the *San Joaquin Kit Fox (Vulpes macrotis mutica) 5-year Review: Summary and Evaluation* (Service 2010a) for the current status of the species. No change in the species' listing status was recommended in the 5-year review. Threats evaluated during that review have continued to act on the species since the review was published. To date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for the species.

Blunt-nosed leopard lizard

Please refer to the *Blunt-nosed Leopard Lizard (Gambelia sila) 5-year Review: Summary and Evaluation* (Service 2010c) for the current status of the species. No change in the species' listing status was recommended in the 5-year review. Threats evaluated during that review have continued to act on the species since the review was published. To date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for the species.

Central California Tiger Salamander

For the most recent comprehensive assessment of the species' range-wide status, please refer to the *California Tiger Salamander Central California Distinct Population Segment (Ambystoma californiense) 5-Year Review: Summary and Evaluation* (Service 2014b). No change in the species' listing status was recommended in this 5-year review. Threats evaluated during that review have continued to act on the species since the 2014 5-year review was finalized. To date no project has proposed a level of effect for which the Service has issued a biological opinion of jeopardy for the species.

Environmental Baseline

General Habitat Characteristics

The action area is located in Merced County on the west side of the San Joaquin Valley, at a transition zone from the flat lowlands of the Central Valley to the rugged terrain of the Inner Coast Ranges. The project site is characterized by a mostly flat topography with gently rolling hills in the southern and western portions, where the project site meets the edge of the eastern foothills of the Southern Coast Ranges. Elevation within the project site ranges from 281 feet above sea level at the lowest point to 715 feet at the highest point, while elevations within the mitigation site range from 433 at the lowest point to 1,116 feet at the highest point.

Cropland (Dry-farmed Agriculture)

Dry-farming is the production of crops, without irrigation, on lands that receive annual rainfall of 20 inches or less. In districts of torrential rains, high winds, unfavorable distribution of the rainfall, or other water-dissipating factors, the term *dry-farming* is also properly applied to farming without irrigation under an annual precipitation of 25 or even 30 inches. In a typical year, this means that from late fall through early spring these crops densely cover the cultivated parcels at heights of 2-4 feet, depending on various factors. The crops are usually harvested in spring, after which the fields are tilled and disced for fire and weed control, and again readied for replanting in early fall. Opportunistic patches of weeds can colonize after the hay fields are mowed and include common ruderal species such as black mustard (*Brassica nigra*), pepperweed species (*Lepidium* sp.), barley (*Hordeum marinum*), hare barley, filarees, ripgut brome, and soft chess (Wright 2013). Dry-farmed agriculture occupies an estimated 2,065 acres of the permit area, all of which is on the project site. The routine discing and farming activity reduces the habitat value of those 2,065 acres, but it may still be usable as foraging habitat during some parts of the year. Land within the action area surrounding the farmed parcels, such as farming-road shoulders, grasslands within the action area to the south of the solar site, and the off-site seasonal wetland, remain in an un-disced state and may be occupied or used by the Covered Species.

Tree Stands

No forest or woodland habitats occur in the action area. However, small stands of trees (totaling 2.1 acres) are present at the south end of the project site. A small number of individual trees are also present at scattered locations within the project site. These individual trees are included in and discussed as a component of the tree stand habitat. An approximately 1.1-acre stand of blue gum (*Eucalyptus globulus*) trees is located at the south end of the project site. Another stand of blue gum trees is located in a line along a dirt road, presumably for a windbreak. Other individual trees within the project site include blue gum, Peruvian pepper (*Schinus molle*), mimosa (*Acacia dealbata*), white

mulberry (*Morus alba*), several olive trees (*Olea europaea*), corkscrew willow (*Salix matsudana*), black willow (*Salix gooddingii*), and blue elderberry (*Sambucus mexicana*).

Cottonwood Riparian

Cottonwood is a deciduous tree that thrives on wet sites, especially on floodplains. They are found in and along the margins of the active channel on intermittent and perennial streams. Generally, no single species dominates the canopy, and composition varies with elevation, aspect, hydrology, and channel type. In these areas, cottonwoods can form extensive stands and can grow to up to 120 feet in height. Cottonwood grows rapidly when young and forms dense stands on newly disturbed areas (Wright 2013). Cottonwood riparian occupies an estimated 2 acres of the action area, all of which is on the mitigation site.

Seasonal Wetland

The seasonal wetland is located to the east of the project site between two gently sloping hillsides, does not have defined banks, and is a seasonal feature with nonpersistent emergent vegetation patches. The wetland likely receives significant water only during high precipitation events. As indicated by the small amount (less than 100 square feet) of emergent vegetation (i.e., bulrush [*Scirpus sp.*]) near the northern berm, this is the only area where persistent ponding has occurred. Wetland vegetation observed onsite included bulrush, toad rush, ripgut brome, barnyard grass *(Echinochloa crus-galli),* and barley. The bulrush and rush plants were the previous year's emergence, indicating no recent ponding in the 2012/2013 wet season (Wright 2013). Seasonal wetland occupies an estimated 2.1 acres in the action area, of which 1.1 acres are on the project site and the remaining one is on the mitigation site.

Ponds

Thirteen ponds, totaling 2.3 acres, are present at the project site. All of the ponds are anthropogenic features constructed within ephemeral swales/drainages. None of the ponds held water during the February 2013 wetland delineation and no other evidence of hydrology was reported (Wright 2013). These ponds may hold water seasonally; however based on a review of aerial photographs taken between 1998 and 2013, the features do not show any signs of ponding (Service 2014a). Pooling water was observed within one pond that occurs within the project site on December 10, 2013. This pond appears to have been filled as a result of the purging of an agricultural irrigation filtration system, and is likely ponded only as a response to, and immediately after, such activity. These ponds may have been constructed to either capture and hold water for livestock or capture and detain water during large storm events to minimize downstream flooding.

Ephemeral Swales

Three ephemeral swale/drainages, totaling 2.3 acres, are present at the project site. The swale/drainages are inundated seasonally during years with normal or above-normal rainfall, primarily during or immediately following rainfall events (Wright 2013).

Ditches

Four ditches, totaling 0.2 acre, are present at the project site. All of the ditches are anthropogenic features that are inundated seasonally during years with normal or above-normal rainfall (Wright 2013).

Alkali Vernal Pool

Vernal pools are seasonal wetlands that pond water on the surface for extended durations during winter and spring and dry completely during late spring and summer. They support a typical flora largely composed of native wetland plant species. Vernal pools occur in distinctive topography with low depressions mixed with hummocks or mounds.

The vernal pool located in the permit area is a highly disturbed alkaline vernal pool with little diversity of vegetation species on its edges and completely devoid of vegetation in the center. Plants ringing the border of the wetland were facultative ruderal grasses and forbs, and dominant species were Italian ryegrass, broadleaf filaree, and London rocket. Grazing occurs within and around this wetland, and the shallowness and low density of the hoof prints indicated that the system did not hold significant water for long periods during the winter prior. The alkali vernal pool represents potential breeding habitat for California tiger salamander during a normal wet year. The vernal pool occupies an estimated 1.7 acres on the project site.

San Joaquin kit fox

San Joaquin kit foxes have been observed within the action area on the mitigation site during spotlighting surveys performed in 2013. There are several San Joaquin kit fox CNDDB occurrences within 10 miles of the study area (CNDDB 2013). In recent years, several studies and projects have occurred in western Merced County which documented the presence of San Joaquin kit foxes in western Merced County. In 2004, ICF, formerly Jones & Stokes, biologists recorded two San Joaquin kit fox occurrences in western Merced County while monitoring for Western Area Power Administration's Path 15 Transmission Line project. One was an adult kit fox observed approximately 12 miles south of the project site and the other was a natal den located approximately 2 miles west of the project site near the intersection of Billy Wright Road and Jasper Sears Road, with one adult and two pups observed. On October 7, 2013, ICF biologists conducted a site visit of the project site as well as the proposed mitigation site. In 2013, at the project site, ICF biologists recorded small mammal communities and mammal dens in the patches of grassland that have not been cultivated during agricultural operations. It has not been established whether these dens are active or if San Joaquin kit fox use them. On October 29 and 30, 2013, two ICF biologists conducted nighttime spotlight surveys of the proposed mitigation site. The biologists spent approximately 4 hours each night driving existing access roads throughout the proposed mitigation site. The biologists observed one San Joaquin kit fox on each of the evenings surveyed. Biologists also observed San Joaquin kit fox scat at the entrance of a suitable burrow on the proposed mitigation site.

From 2005 to 2007, biologists from California State University–Stanislaus' Endangered Species Recovery Program (ESRP) conducted extensive San Joaquin kit fox surveys in western Merced County to determine abundance and distribution. Survey methods included remote camera stations, track stations, spotlight surveys, and opportunistic observations. The ESRP also assessed the habitat suitability of accessible areas in western Merced County and conducted a least-cost path modeling

exercise to identify potential movement corridors in western Merced County (Constable et al. 2009). The ESRP observed kit foxes on two occasions along Billy Wright Road north of the project site. Based on the results of their surveys, the ESRP concluded that kit fox populations are not homogeneously distributed throughout western Merced County. Consistent detections in southern western Merced County (south of SR 152) suggest a resident population may be present whereas the infrequent detections in the north (north of SR 152) suggest that kit foxes may be transient in this area (Constable et al. 2009).

In 2013, the ESRP assessed the distribution of suitable habitat for San Joaquin kit fox in the areas that were identified as the species' range in the 1998 Upland Recovery Plan (Cypher et al. 2013). The areas in western Merced County with natural vegetation near the project site have been ranked as medium to high suitability for San Joaquin kit fox. The areas on the project site itself, which have been, and still are dryland farmed, were ranked as low suitability for San Joaquin kit fox. However, the Service feels that this ranking may have been made solely due to the area being in active agriculture. While the study is useful for understanding regional habitat quality, it was not designed to evaluate project-level habitat suitability. The historic and current use of the project site for cultivated agriculture has provided suitable movement and foraging habitat for San Joaquin kit fox, but the level and long-term nature of the disturbance prevented the project site from providing suitable denning habitat. Surrounding grasslands and patches of grass along road edges that have ground squirrel activity could provide denning opportunities for San Joaquin kit fox. Numerous burrows, occupied either by ground squirrels or unknown species, are located within the project site between farming roads and tilled fields. Ground squirrels are a prey species for the San Joaquin kit fox, and their burrows are sometimes commandeered and enlarged by San Joaquin kit foxes. On a site visit in 2013, the Service observed several burrows of sufficient size to be occupied by this species.

Based on direct observation, the mitigation site is known to be occupied by the San Joaquin kit fox. The project site is likely foraging, denning, and movement habitat, based on the abundant presence of prey, numerous denning opportunities, and lack of impediments to movement throughout much of the year.

Blunt-nosed leopard lizard

No surveys for the blunt-nosed leopard lizard have been performed, and they have not previously been detected within the action area. There are five CNDDB records for blunt-nosed leopard lizards in western Merced County (CNDDB 2013). One of these records extends from 0.5 to 3 miles west of the project site (CNDDB 2013). This record is from a 1979 report describing the distribution of blunt-nosed leopard lizard (CNDDB 2013). Ground squirrels have been observed throughout the action area except directly within the farmed lands. The more heavily grazed annual grasslands in the vicinity of the project area represent potential habitat for blunt-nosed leopard lizard. The steeper areas, the croplands, and patches of annual grasslands within the croplands represent low quality habitat for blunt-nosed leopard lizard. This is because the species typically occurs in areas of low relief, farming activities would likely preclude the species from occupying these areas, and the patches of grassland within the cropland have dense vegetation, which is generally not occupied by this species. Habitat surrounding agricultural fields is in the form of narrow strips of grassland between farming roads and the fields that are inhabited by ground squirrels and have numerous ground squirrel burrows within them. While this is poor quality habitat for the species, it is possible that individual blunt-nosed leopard lizards may inhabit these burrows and use the grassland for foraging activity. Habitat at the mitigation site is considered to be of

moderate to good quality habitat for the blunt-nosed leopard lizard due to the presence of numerous ground squirrel burrows and grazing that has resulted in continuous low grass height and structure.

Blunt-nosed leopard lizards may be present at the project site, outside of the areas currently in agricultural production. Past construction of the solar development, ground squirrels are expected to increase their use of the site, and blunt-nosed leopard lizards may inhabit ground-squirrel burrows. After construction has ceased and the project enters its operations and maintenance phase, blunt-nosed leopard lizards may enter the project site, either from outside the action area, or from potentially occupied habitat within the action area.

Central California Tiger Salamander

There are nine records of California tiger salamander within approximately 10 miles of the action area, two of which are approximately 3 miles west of the project site (CNDDB 2013).

The ponds and the seasonal wetland within the action area do not represent suitable aquatic habitatat for California tiger salamander because these features do not appear to pool long enough to support breeding habitat. The seasonal wetland also does not pond to a sufficient depth to support California tiger salamander breeding.

The alkali vernal pool represents potential breeding habitat for California tiger salamander during a normal wet year. This wetland appears to pool to a maximum depth of 12-18 inches and was observed to be saturated to the surface on December 10, 2013, which suggests that it could pool for an extended period of time, especially considering that very little rain had fallen up to that point in the year (just under an inch). While not specifically measured, the pool is suspected to have an elevated salt content when full due to the presence of extensive salt crusts left behind after water has evaporated from the pool. CDFW only considered freshwater habitats as suitable for the species in their 2010 status review for the species (CDFW 2010) and the Service only considers fresh water habitat as part of the primary constituent elements in the listing of critical habitat for the central population (70 FR 49280–49458). However, a subspecies of tiger salamander, the blotched tiger salamander (*Ambystoma tigrinum melanostictum*), has been reported occurring in habitats with a high salinity and alkalinity (Gasser and Miller 1986), and there are records within the CNDDB that report of California tiger salamander occurring in alkali habitats (CNDDB 2013). It is therefore possible that California tiger salamander may use the alkali vernal pool at the project site as aquatic habitat.

The Service considers upland habitat within 1.24 miles of California tiger salamander breeding habitat to represent potential upland habitat for the species (Service 2003). In addition to the alkali vernal pool there are other aquatic features outside of the action area that are within 1.24 miles of the project site. These features include: the Los Banos Reservoir; an unnamed stream flowing into Los Banos Reservoir from the north, which is just southwest of the project site; a pond 0.8 mile north of the project site and just south of Billy Wright Road; and several pools within and adjacent to Los Banos Creek south of the reservoir. Los Banos Reservoir does not represent suitable habitat for California tiger salamander because it is a large, perennial water body that is stocked with sport fish. Portions of the unnamed stream that pool above its connection with the Los Banos Reservoir may support California tiger salamander breeding. A review of historic aerial photographs (Google 2013) shows the pond off of Billy Wright Road inundates from winter into mid to late summer. There are several pools observable from aerial photographs that occur downstream of the reservoir that could support salamander breeding. A review of historic aerial photographs (Google 2013) show several of these pools dried down during the summer months with a few appearing to remain inundated into fall.

Grassland areas within the project site that contain mammal burrows could potentially be occupied by Central California tiger salamanders if they breed within the aquatic habitats identified above. Ground squirrels have been observed throughout the action area except directly within the farmed lands. The more heavily grazed annual grasslands in the vicinity of the project area represent potential upland habitat for the Central California tiger salamander. The patches of annual grasslands within the croplands represent low quality habitat for Central California tiger salamanders. This is because farming activities would likely preclude the species from occupying these areas. Habitat surrounding agricultural fields is in the form of narrow strips of grassland between farming roads and the fields that are inhabited by ground squirrels and have numerous ground squirrel burrows within them. While this is poor quality habitat for the species, it is possible that Central California tiger salamanders may inhabit these burrows during their upland phase. Habitat at the mitigation site is considered to be of moderate to good quality habitat for the Central California tiger salamander due to the presence of numerous ground squirrel burrows and grazing that has resulted in continuous low grass height and structure.

Central California tiger salamanders may be present at the project site, outside of the areas currently in agricultural production. Past construction of the solar development, ground squirrels are expected to increase their use of the site, and Central California tiger salamanders may inhabit ground-squirrel burrows. After construction has ceased and the project enters its operations and maintenance phase, Central California tiger salamanders may enter the project site, either from outside the action area, or from potentially occupied habitat within the action area.

Effects of the Proposed Action

The proposed habitat preservation, creation, and enhancement will minimize the effects of habitat loss on Covered Species habitat. This land will be protected and managed for the conservation of the species in perpetuity. The protected lands will provide habitat for breeding feeding or sheltering commensurate with or better than habitat lost as a result of the project.

San Joaquin Kit Fox

Habitat Loss

It is estimated that approximately 1,200 acres of agricultural land will be permanently lost and will therefore provide limited or no habitat value for the San Joaquin kit fox even after revegetation following construction. Another 50 acres will experience temporary disturbance during construction, will be reseeded with a native grassland mix following construction, and will be managed thereafter by grazing or mowing. Solar panels, associated buildings, and access roads will be located in areas that are currently cultivated. The Service lacks sufficient information to know how, or if, San Joaquin kit foxes will use the solar development. The Service is therefore evaluating the installation of solar fields as being unusable by the species, and thus they represent a complete and impermeable loss of habitat for the San Joaquin kit fox. Should San Joaquin kit foxes use habitat within the solar facility, proposed Conservation Measures will be implemented within these areas, and effects within those areas will be similar to those described in the remainder of the project site. Although the project has been planned to be constructed in areas that are expected to have the most minimal impact on the species, it is likely that the farmed areas currently provide foraging and movement habitat and will cease to provide these habitat values as a result of the action. The project has been designed to allow for the local population of kit foxes to move through and around the project site. Permanent habitat loss is assumed to result from new buildings, the tracks that the

solar arrays are attached to, new/widened roadways, and the areas beneath the solar panels. Temporary habitat loss will occur during the 26-month construction period associated with ground disturbance and other activity throughout the site, as the panels are installed.

San Joaquin kit foxes will be harmed by being unable to carry out breeding, feeding, sheltering, and movement on 1,250 acres of land: 1,200 acres permanently lost due to the construction of solar panels and related infrastructure, and 50 acres temporarily lost due to the construction of staging areas that will be reclaimed after project construction is complete.

Construction and Decommissioning

San Joaquin kit foxes are largely nocturnal, and because construction activities generally occur during the day, San Joaquin kit foxes are unlikely to move through the area while construction activities are actively occurring. However, human-made structures such as culverts or pipes that are stored or built on-site may be opportunistically used as dens (Service 1998), and thus San Joaquin kit foxes may be present at the start-up of daily construction activities. San Joaquin kit foxes that opportunistically inhabit structures or pipes may be harassed during the implementation of the proposed Conservation Measures. Additionally, sound from construction and/or demolition may harass San Joaquin kit foxes by causing them to avoid the area, temporarily reducing the area available to them for foraging, denning, and movement. Implementation of certain proposed Conservation Measures, such as excavating dens, may result in harassment or harm of San Joaquin kit foxes. Implementation of the proposed Conservation Measures is not expected to cause mortality of San Joaquin kit foxes during construction.

Operations and Maintenance

Implementation of certain proposed Conservation Measures, such as excavating dens, may result in harassment or harm of San Joaquin kit foxes. Implementation of the proposed Conservation Measures will avoid of mortality of San Joaquin kit foxes during construction. San Joaquin kit foxes migrating or foraging near work areas during operations or maintenance activities may also be harassed by noise, lighting, and vibration resulting from these activities; such disturbance could affect the overall quality of linkages through the project site and prevent San Joaquin kit fox movement.

Land Management, Monitoring, and Avoidance and Minimization

Conservation actions implemented on mitigation lands, such as cattle grazing or seeding of native grasses that may result in the collapse or removal of burrows may result in take of San Joaquin kit foxes. Although Conservation Measures will be employed to minimize the possibility of mortality, any time mowing equipment is used on the avoided lands surrounding the project site or on the mitigation site, it is possible that individuals may be struck and injured or killed. Noise associated with vehicle traffic or other management activities may alter their behavior such that they are forced into less-than-suitable habitat. Surveys in the conservation easement areas may result in harassment of San Joaquin kit foxes.

Blunt-nosed Leopard Lizard

Habitat Loss

The project will result in the permanent loss of 1.2 acres of annual grassland and temporary loss of another 1.9 acres of annual grassland habitat for the blunt-nosed leopard lizard. These areas are composed of small, isolated patches of grassland surrounding the farmed areas of the project site. Blunt-nosed leopard lizards inhabiting these areas will no longer be able to use this habitat for breeding, feeding, or sheltering; however, due to the small amount of habitat destroyed relative to the large amount of surrounding habitat opportunities, the effects of the habitat loss on the species will be insignificant and will not result in harm to the blunt-nosed leopard lizard.

Construction and Decommissioning

The levels of disturbance and the equipment required during construction and decommissioning are expected to be the same. Effects on blunt-nosed leopard lizards during decommissioning may be greater because habitat within the project site is expected to be more suitable during decommissioning because it will not be in an actively farmed state. As a result, there may be more blunt-nosed leopard lizards inhabiting the project site during decommissioning than during construction, and more opportunities for them to experience adverse effects.

Excavating burrows in order to implement the proposed Conservation Measures may result in harassment or harm of blunt-nosed leopard lizards. The applicant has proposed to conduct surveys for blunt-nosed leopard lizards along roadways as one of the Conservation Measures. These surveys are expected to reduce the risk of take of blunt-nosed leopard lizards; however, the species' cryptic coloration may result in them being missed during surveys. Despite the surveys, injury or mortality to blunt-nosed leopard lizards may occur due to vehicle strikes on animals that enter an area after surveys have been performed, or were missed during surveys.

Operations and Maintenance

During the operations and maintenance phase, proposed Conservation Measures are likely to result in an increase in ground squirrel populations at the project site, and thus an increase in ground squirrel burrows. Blunt-nosed leopard lizards may colonize the areas around and beneath solar arrays following completion of the project and after reseeding of the areas under the solar arrays. Maintenance vehicles may strike and injure or kill blunt-nosed leopard lizards if they are driving through the site during periods when the lizards are active on the surface. The applicant has proposed to conduct surveys for, and avoid blunt-nosed leopard lizards along roadways by allowing them to exit the area as one of the Conservation Measures. Vehicle speed limits described in the general Conservation Measures will minimize the chances for vehicle strikes to cause injury or mortality to blunt-nosed leopard lizards. These surveys are expected to reduce the risk of take of blunt-nosed leopard lizards; however, the species' cryptic coloration may result in them being missed during surveys. If the species is absent during surveys, it may move into an area after surveys have been completed. Injury or mortality to blunt-nosed leopard lizards may occur due to vehicle strikes on animals that enter an area after surveys have been performed, or were missed during surveys. If any excavation is required to repair or replace underground infrastructure, blunt-nosed leopard lizards may experience harassment or harm during excavation of burrows undertaken during the implementation of the proposed Conservation Measures.

Land Management, Monitoring, and Avoidance and Minimization

Mowing to manage vegetation on at the project site panels may kill blunt-nosed leopard lizards. Vehicle traffic may occur at both the project site and the conservation site in order to perform management and monitoring activities. The applicant has proposed to conduct surveys for blunt-nosed leopard lizards along roadways as one of the Conservation Measures. These surveys are expected to reduce the risk of take of blunt-nosed leopard lizards; however, the species' cryptic coloration may result in them being missed during surveys. If the species is absent during surveys, it may move into an area after surveys have been completed. Injury or mortality to blunt-nosed leopard lizards may occur due to vehicle strikes on animals that enter an area after surveys have been performed, or were missed during surveys.

Central California Tiger Salamander

Habitat Loss

The project will result in the permanent loss of 1.2 acres of annual grassland and temporary loss of another 1.9 acres of annual grassland habitat for the Central California tiger salamander. These areas are composed of small, isolated patches of grassland surrounding the farmed areas of the project site. Central California tiger salamanders inhabiting these areas will no longer be able to use this habitat for feeding or sheltering; however, due to the small amount of habitat destroyed relative to the large amount of surrounding habitat opportunities, the effects of the habitat loss on the species will be insignificant and does not amount to take of the Central California tiger salamander.

Construction and Decommissioning

The levels of disturbance and the equipment required during construction and decommissioning are expected to be the same. Effects on Central California tiger salamanders during decommissioning may be greater than during construction because habitat within the project site is expected to be more suitable during decommissioning because it will not be in an actively farmed state. As a result, there may be more Central California tiger salamanders inhabiting the project site during decommissioning than during construction, and more opportunities for them to experience adverse effects.

Excavating burrows in order to implement the proposed Conservation Measures may result in harassment or harm of Central California tiger salamanders. Proposed Conservation Measures are expected to eliminate the possibility of vehicles striking Central California tiger salamanders during maintenance activities.

Operations and Maintenance

During the operations and maintenance phase, proposed Conservation Measures are likely to result in an increase in ground squirrel populations at the project site, and thus an increase in ground squirrel burrows. Central California tiger salamanders dispersing from known and potential breeding habitat outside of the action area may utilize these burrows as upland habitat. If excavation is required to repair or replace underground infrastructure, Central California tiger salamanders may experience harassment or harm during excavation of burrows undertaken during the implementation

of the proposed Conservation Measures. Proposed Conservation Measures are expected to eliminate the possibility of vehicles striking Central California tiger salamanders during maintenance activities.

Land Management, Monitoring, and Avoidance and Minimization

Proposed Conservation Measures are expected to eliminate the possibility of vehicles striking Central California tiger salamanders during maintenance activities.

Cumulative Effects

Cumulative effects include the effects of future State, Tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Act.

The Service is not aware of any non-Federal actions currently planned within the project action area.

Conclusion

After reviewing the current status of the species included in the biological opinion, the environmental baseline for these species within the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the issuance of a section 10(a)(1)(B) incidental take permit to Wright Solar Park, LLC for the Wright Solar Park Habitat Conservation Plan is not likely to jeopardize the continued existence of the San Joaquin kit fox, blunt-nosed leopard lizard, and Central California tiger salamander. The Service reached this conclusion because the HCP's effects will not rise to the level of precluding recovery of the species or reducing the likelihood of their survival. Although the loss of habitat during the 40-year term of the HCP would contribute to the overall reduction of habitat for the species during this time, the conservation measures, including the placement of a conservation easement on habitat for all three covered species will contribute to the long-term preservation and management of Covered Species habitat in the area.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or to attempt to engage in any such conduct. Harass is defined by the Service regulations at 50 CFR 17.3 as an intentional or negligent act or omission which creates the likelihood of injury wildlife by annoying it to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is defined by the same regulations as an act which actually kills or injures wildlife. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavior patterns, including breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(0)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Service so that they become binding conditions of any grant or permit issued to the applicant, as appropriate, for the exemption in section 7(o)(2) to apply. The Service has a continuing duty to regulate the activity covered by this incidental take statement. If the Service (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, Wright Solar Park, LLC must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement [50 CFR §402.14(i)(3)].

Amount or Extent of Take

The Service is unable to quantify an exact number of San Joaquin kit foxes, blunt-nosed leopard lizards, and Central California tiger salamanders that will be taken as a result of the proposed action because it is impossible to know how many individuals may be present in the action area. In instances in which the number of individuals that may be taken cannot be determined, the Service may quantify take in the amount of lost, modified, or degraded habitat resulting from implementation of the proposed project; since take is expected to result from these effects to habitat, the quantification of habitat affected becomes a direct surrogate for the species that will be taken. Therefore, the Service anticipates take incidental to the project as the 1,200 acres that will be permanently destroyed by the construction of solar photovoltaic panels, operations and maintenance buildings, and roads, as well as an additional 50 acres of habitat will be temporarily destroyed by the creation of a construction staging area.

San Joaquin kit fox

The Service anticipates that incidental take of the San Joaquin kit fox will be difficult to detect for the following reasons: their shy nature may cause harmed or harassed individuals to avoid human activity, and the species is nocturnal, which may result in some harassment being unobservable. There is a risk of harm, harassment, injury and mortality as a result of the proposed construction activities, the permanent and temporary loss/degradation of suitable habitat, operating and maintaining the solar facility, implementation of proposed Conservation Measures, and relocation/den exclusion efforts; therefore, the Service is authorizing take incidental to the proposed action as; (1) the documented injury and mortality of 1 adult or juvenile San Joaquin kit fox; and (2) the harm, and harassment of all San Joaquin kit foxes within the 5,181 acres of the action area.

Blunt-nosed leopard lizard

The Service anticipates that incidental take of the blunt-nosed leopard lizard will be difficult to detect for the following reasons: their small size and cryptic coloring may cause them to be overlooked, and their habit of occupying animal burrows may make entombed lizards impossible to see. There is a risk of harm, harassment, injury and mortality as a result of the proposed construction activities, the permanent and temporary loss/degradation of suitable habitat, operating and maintaining the solar facility, and capture and relocation efforts; therefore, the Service is authorizing take incidental to the proposed action as; (1) the documented injury and mortality of one adult or juvenile blunt-nosed leopard lizard; and (2) the capture, harm, and harassment of all blunt-nosed leopard lizards within the 5,181 acres of the action area.

Central California tiger salamander

The Service anticipates that incidental take of the Central California tiger salamander will be difficult to detect for the following reasons: their small size and cryptic coloring may cause them to be overlooked, and their habit of occupying animal burrows may make entombed individuals impossible to see. There is a risk of harm, harassment, injury and mortality as a result of the proposed construction activities, the permanent and temporary loss/degradation of suitable habitat, operating and maintaining the solar facility, and capture and relocation efforts; therefore, the Service is authorizing take incidental to the proposed action as; (1) the documented injury and mortality of one adult or juvenile Central California tiger salamander; and (2) the capture, harm, and harassment of all Central California tiger salamanders within the 5,181 acres of the action area.

Effect of the Take

In the accompanying biological opinion, the Service determined that this level of anticipated take is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Reasonable and Prudent Measures

The Service has determined that the avoidance and minimization measures included in the following chapters of the HCP are necessary and appropriate to minimize impacts of incidental take of Covered Species:

- Project Description and Covered Activities (Chapter 2)
- Conservation Program (Chapter 5)
- Monitoring, Adaptive Management and Reporting (Chapter 6)

Terms and Conditions

In order to be exempt from the prohibitions of section 9 of the Act, the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements must be followed. These Terms and Conditions are nondiscretionary.

1. Wright Solar Park LLC shall be responsible for implementing all of the *Proposed Avoidance and Minimization Measures* described in this biological opinion. Avoidance and minimization measures that apply to contractor activities shall be conditioned in contracts for the work. The Service must be notified within one (1) working day of finding any injured or dead listed species or within one (1) working day of any unanticipated damage to habitat. Injured animals shall be cared for by a licensed veterinarian or other qualified person. Notification must include the date, time, and precise location of the individual/incident clearly indicated on a USGS 7.5 minute quadrangle and other maps at a finer scale, as requested by the Service, and any other pertinent information. Dead individuals must be sealed in a Zip-lock® plastic bag containing a paper with the date and time when the animal was found, the location where it was found, and the name of the person who found it. The bag containing the specimen must be frozen in a freezer located in a secure site. The Service contact persons are the Conservation Planning Division Chief of the Endangered Species Program at the Sacramento Fish and Wildlife Office at (916) 414-6600; and the Resident Agent-in-Charge of the Service's Division of Law Enforcement, 5622 Price Avenue, Building #1040, McClellan, California 95652, at (916) 569-8444.

REINITIATION—CLOSING STATEMENT

This concludes formal consultation and conference on the proposed issuance of a section 10(a)(1)(B) permit to implement the Wright Solar Park Habitat Conservation Plan. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If you have any questions regarding this opinion, please contact Joshua Emery, Fish and Wildlife Biologist (joshua_emery@fws.gov), or Thomas Leeman, San Joaquin Valley Division Chief (thomas_leeman@fws.gov), at the letterhead address, 916-414-6600, or by email.

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