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November 5, 2025

Alyce Alvarez
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Subject: **Heartland Solar Project (Project)**
Draft Environmental Impact Report (DEIR)
State Clearinghouse No. 2022100609

Dear Alyce Alvarez:

The California Department of Fish and Wildlife (CDFW) received a DEIR from Fresno County, as Lead Agency, for the Project pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.¹

Thank you for the opportunity to provide comments and recommendations regarding those activities involved in the Project that may affect California fish and wildlife. Likewise, CDFW appreciates the opportunity to provide comments regarding those aspects of the Project that CDFW, by law, may be required to carry out or approve through the exercise of its own regulatory authority under the Fish and Game Code.

CDFW ROLE

CDFW is California's **Trustee Agency** for fish and wildlife resources and holds those resources in trust by statute for all the people of the State (Fish & G. Code, §§ 711.7, subd. (a) & 1802; Pub. Resources Code, § 21070; CEQA Guidelines § 15386, subd. (a)). CDFW, in its trustee capacity, has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and habitat necessary for biologically sustainable populations of those species (*Id.*, § 1802). Similarly, for purposes of CEQA, CDFW is charged by law to provide, as available, biological expertise during public agency environmental review efforts, focusing specifically on projects and related activities that have the potential to adversely affect fish and wildlife resources.

¹ CEQA is codified in the California Public Resources Code in section 21000 et seq. The "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

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CDFW is also submitting comments as a **Responsible Agency** under CEQA (Pub. Resources Code, § 21069; CEQA Guidelines, § 15381). CDFW expects that it may need to exercise regulatory authority as provided by the Fish and Game Code. As proposed, for example, the Project may be subject to CDFW's lake and streambed alteration regulatory authority (Fish & G. Code, § 1600 et seq.). Likewise, to the extent implementation of the Project as proposed may result in "take" as defined by State law of any species protected under the California Endangered Species Act (CESA) (Fish & G. Code, § 2050 et seq.), related authorization as provided by the Fish and Game Code will be required.

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

Unlisted Species: Species of plants and animals need not be officially listed as Endangered, Rare, or Threatened (E, R, or T) on any State or Federal list to be considered E, R, or T under CEQA. If a species can be shown to meet the criteria for E, R, or T, as specified in the CEQA Guidelines section 15380, CDFW recommends it be fully considered in the environmental analysis for the Project.

As a responsible agency, CDFW is responsible for providing, as available, biological expertise during public agency environmental review efforts (e.g., CEQA), focusing specifically on project activities that have the potential to adversely affect fish and wildlife resources. CDFW provides recommendations to identify potential impacts and possible measures to avoid or reduce those impacts.

PROJECT DESCRIPTION SUMMARY

Proponent: Heartland Solar 1, LLC

Objective: The proposed Project involves construction, operation, maintenance, and decommissioning of a 300-megawatt (MW) solar and energy storage complex and 300 MW alternating current (ac) battery energy storage facility. The Project would include O&M buildings, parking, and an onsite substation, totaling approximately 2,362 acres. An approximately 5-mile-long transmission (generation-tie) line would deliver power to the existing Pacific Gas and Electric Company (PG&E) owned 70 kilovolt (kV) Tranquility Switching Station, which would be the Project's point of interconnection with the grid. Roughly 3 miles of the generation-tie line would be constructed within the footprint of the Project Site.

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Location: The Project site is located approximately 6 miles southwest of the City of Mendota, 10 miles east of Interstate 5 (I-5), to the east of S. San Bernardino and Los Angeles avenues, south of W. American Avenue, west of State Route (SR) 33 (also called S. Derrick Avenue), 0.5 mile north of W. Manning Avenue, and 1.25 miles north of PG&E's Tranquillity Switching Station.

COMMENTS AND RECOMMENDATIONS

CDFW offers the comments and recommendations below to assist Fresno County in adequately identifying and/or mitigating the Project's significant, or potentially significant, direct, and indirect impacts on fish and wildlife (biological) resources. Editorial comments or other suggestions may also be included to improve the Final Environmental Impact Report (FEIR).

As stated in the DEIR, the Project site primarily consists of previously irrigated agricultural land that is intermittently dry farmed and disked for weed control. Some nonnative grassland habitat occurs around the margins of the Project site that have not been heavily disturbed. Based on a review of the Project description and habitat assessments within the DEIR, California Natural Diversity Database (CNDDB) records, aerial imagery, and the Biological Resources Evaluation (BRE), a number of special-status species could potentially be impacted by the Project.

Currently, the DEIR acknowledges that the Project site is within the geographic range of several special-status animal species and proposes specific mitigation measures to reduce impacts for these species to a less than significant level. CDFW has concerns about the ability of some of the proposed mitigation measures to reduce impacts to less than significant and avoid unauthorized take of the State threatened and federally endangered San Joaquin kit fox (*Vulpes macrotis mutica*), the State threatened Swainson's hawk (*Buteo swainsonii*); and the State candidate western burrowing owl (*Athene cunicularia hypugaea*).

San Joaquin Kit Fox

The Project site is within the range of the San Joaquin kit fox (SJKF) and, as documented in the DEIR, potentially suitable habitat exists around the margins of the Project site. There is a CNDDB occurrence 4.5 miles south of the Project (CDFW 2025).

Currently, the DEIR provides Mitigation Measure (MM) 3.5-1 to mitigate for potentially significant impacts to SJKF. MM 3.5-1 requires a qualified biologist to conduct preconstruction surveys, implement avoidance buffers, and potentially passively relocate SJKF from active SJKF dens. CDFW does not concur that MM 3.5-1 is sufficient to mitigate potentially significant impacts to SJKF and avoid unauthorized take of the species. Passive relocation in particular, without obtaining prior take authorization

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from CDFW through acquisition of an Incidental Take Permit (ITP), would likely result in unauthorized take of the species. MM 3.5-1 also references the 1999 version of the USFWS document “Standardized Recommendations for Protection of the San Joaquin Kit Fox” (USFWS Protocol). CDFW recommends this portion of the measure be updated to reference the 2011 updated version of the USFWS Protocol. In addition to the recommendations identified above, CDFW recommends the following measures to protect against potentially significant impacts to SJKF:

Recommended Mitigation Measure 1: SJKF Preconstruction Surveys

CDFW recommends assessing presence/absence of SJKF by conducting focused den surveys for the species prior to the initiation of Project ground disturbance activities within the different phases of Project construction (as outlined in MM 3.5-1). CDFW recommends conducting these surveys no less than 14-days and no more than 30-days prior to beginning of ground and/or vegetation disturbing activities, and recommends the surveys be conducted in all portions of the Project site (not just areas that have not been disked in the past 12 months as identified in MM 3.5-1). CDFW recommends all survey timing and methodologies follow those in the 2011 version of the USFWS Protocol (USFWS 2011).

Recommended Mitigation Measure 2: SJKF Avoidance Buffer

CDFW recommends implementing no-disturbance buffers, as described in the 2011 version of the USFWS Protocol (USFWS 2011), around potentially suitable or known SJKF den sites.

Recommended Mitigation Measure 3: SJKF Take Authorization

If the no-disturbance buffers outlined in the USFWS Protocol for SJKF is not feasible, CDFW recommends that consultation with CDFW occur to discuss how to implement the Project and avoid take. If take cannot be avoided, acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is required to comply with CESA.

Swainson’s Hawk

The DEIR notes that there is potential foraging and nesting habitat for Swainson’s hawk (SWHA) within the Project site; multiple SWHA were detected during reconnaissance surveys within the Project site and vicinity. Additionally, one SWHA nest was detected within the Project site and two additional nests were detected outside the Project site but within ½-mile of the Project site during 2025 focused surveys. Currently, MM 3.5-2 is included to mitigate for potentially significant impacts to SWHA within and adjacent to the Project site and requires a qualified biologist to conduct SWHA preconstruction

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surveys and implement of a ½-mile no-disturbance buffer for active SWHA nests. CDFW does not concur that implementation of MM 3.5-2 would be sufficient to mitigate for potential significant impacts to SWHA and avoid unauthorized take of the species. As three separate active SWHA nests were identified within the Project footprint and vicinity during 2025 surveys, consultation with CDFW is strongly recommended to discuss how to implement the Project and avoid take or to obtain take authorization through acquisition of an ITP.

In addition to the consultation recommendation above, CDFW also recommends MM 3.5-2 be modified to include the following:

Recommended Mitigation Measure 4: SWHA Surveys Prior to Construction

Depending on the time between the initial survey efforts conducted in support of the DEIR and Project construction (i.e., if Project construction is anticipated to begin during the 2026 nesting season or after), if Project-specific activities will take place during the SWHA nesting season (i.e., March 1 through September 15), CDFW recommends that the preconstruction surveys detailed in MM 3.5-2 be conducted within the Project site and a ½-mile buffer of the Project site following the entirety of survey methodology developed by the SWHA Technical Advisory Committee (SWHA TAC 2000) immediately prior to construction.

Recommended Mitigation Measure 5: SWHA Avoidance Buffer

If Project-specific activities will take place during the SWHA nesting season (i.e., March 1 through September 15), and active SWHA nests are present, CDFW recommends a minimum ½-mile no-disturbance buffer be delineated and maintained around each nest, regardless of whether it was detected by surveys or observed incidentally. These buffers would remain in place until the breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no longer reliant upon the nest or parental care for survival, to prevent nest abandonment and other take of SWHA as a result of Project activities.

Recommended Mitigation Measure 6: SWHA Take Authorization

CDFW also recommends that in the event an active SWHA nest is detected, and implementation of a ½-mile no-disturbance buffer is not feasible, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA.

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Recommended Mitigation Measure 7: SWHA Foraging Habitat Mitigation

Finally, CDFW recommends compensation for the loss of SWHA foraging habitat as described in CDFW's "Staff Report Regarding Mitigation for Impacts to Swainson's Hawks" (CDFG 1994) to reduce impacts to foraging habitat to less than significant. The Staff Report recommends that mitigation for habitat loss occur within a minimum distance of 10 miles from known nest sites. CDFW has the following recommendations based on the Staff Report:

- For projects within 1 mile of an active nest tree, a minimum of 1 acre of habitat management (HM) land for each acre of development is advised.
- For projects within 5 miles of an active nest but greater than 1 mile, a minimum of $\frac{3}{4}$ acre of HM land for each acre of development is advised.
- For projects within 10 miles of an active nest tree but greater than 5 miles from an active nest tree, a minimum of $\frac{1}{2}$ acre of HM land for each acre of development is advised.

Western Burrowing Owl

The California Fish and Game Commission (FGC) approved western burrowing owl (BUOW) as a candidate for potential listing as a protected species under CESA on October 10, 2024, and published these findings in the California Regulatory Notice Register (Notice Register) on October 25, 2024. As such, BUOW is now a candidate under CESA and receives the same legal protection afforded to an endangered or threatened species (Fish & G. Code, §§ 2074.2 & 2085).

The DEIR and included BUOW Survey Report provided in Appendix E indicate that the margins of the Project site and surrounding area contain suitable BUOW habitat and a number of BUOW were observed utilizing burrows within ditches along the boundary of the Project site. In addition to these observations, the Project site, while currently disturbed by agricultural activity, may have the potential for BUOW to occupy the site once agricultural activities have ceased. Currently the DEIR provides MM 3.5-1 to mitigate for potential impacts to BUOW. MM 3.5-1 includes BUOW surveys and avoidance and minimization measures, and states that inactive burrows would be excavated by hand, and active burrows would have a 75 meter and 50 meter no-disturbance buffer implemented during the breeding and non-breeding season, respectively.

CDFW does not concur that MM 3.5-1 is sufficient to mitigate for potential significant impacts to BUOW and prevent the unauthorized take of the species. In particular, implementation of the no-disturbance buffers and excavation measures outlined in MM 3.5-1 would have a strong likelihood to result in the unauthorized take of the species

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without take authorization through acquisition of an ITP. As BUOW were identified in several locations within the Project vicinity during 2024 and 2025 surveys, consultation with CDFW is strongly recommended to discuss how to implement the Project and avoid take or to obtain take authorization through acquisition of an ITP.

In addition to the consultation recommendation above, CDFW also recommends MM 3.5-1 be modified to include the following:

Recommended Mitigation Measure 8: BUOW Preconstruction Surveys

Depending on the time between the initial survey efforts conducted in support of the DEIR and Project construction, CDFW recommends that additional surveys, following the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012) be repeated the survey season immediately prior to construction.

Recommended Mitigation Measure 9: BUOW Avoidance Buffer

Should a BUOW or known BUOW burrow (active or inactive) be detected, either during preconstruction surveys or construction activities, CDFW recommends that no-disturbance buffers, as outlined in the 2012 Staff Report on Burrowing Owl Mitigation (CDFG 2012), be implemented prior to and during any ground-disturbing activities. CDFW also recommends that these buffers be implemented for both wintering and breeding BUOW.

Recommended Mitigation Measure 10: BUOW Take Authorization

If a BUOW or known BUOW burrow (active or inactive) is detected, and the no-disturbance buffers outlined in the 2012 Staff Report on Burrowing Mitigation are not feasible, consultation with CDFW is warranted to discuss how to implement the Project and avoid take. If take cannot be avoided, take authorization through the acquisition of an ITP, pursuant to Fish and Game Code section 2081 subdivision (b) is necessary to comply with CESA.

Editorial Comments and/or Suggestions

Battery Energy Storage System Evaluation: CDFW is familiar with the Moss Landing battery plant fire, which was a battery energy storage system (BESS) which had densely stacked batteries within a single warehouse building and which used lithium-ion batteries with Nickel Manganese Cobalt (NMC) chemistry, which are more prone to overheating and thermal runaway. Fires at NMC BESSs cannot be extinguished with water and thus an alternative onsite fire suppression system is critical.

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As such, the BESS systems proposed as part of the Project warrant a careful evaluation for potential fire-related impacts to biological resources within and surrounding the Project site. While newer BESS technologies have been made more readily available since construction of the Moss Landing BESS, current battery technologies can still have the potential for impacts to biological resources if overheating and thermal runaway were to occur. For example, Lithium-ion BESS fires can release an array of toxic chemicals into the air (Mylenbusch et al. 2023). In addition to potential human health concerns, these emissions may also impact air quality for nearby wildlife, and harmful particulate matter may settle into soils or waterways, possibly affecting soil-dwelling organisms, burrowing mammals, and aquatic life.

The proposed Project includes installation of an approximately 300 MW BESS on the Project site. Based on information in the DEIR, it appears the BESS configuration for the Project is likely to be constructed of self-contained energy storage modules (i.e., individual battery containers), which lessen the risk of widespread fire. In addition, there is new battery technology alternative to the NMC chemistry, such as Lithium Iron Phosphate (LFP) which uses more benign constituents and has better thermal stability and is less prone to overheating. Based on info on the DEIR, three battery technologies could be utilized for Project BESS construction including lithium ion, sodium sulphur, and vanadium-redox technology.

Given the above, CDFW recommends a thorough analysis of the BESS component of the Project to evaluate the potential impacts of a large and small BESS fires on biological resources within and surrounding the Project site. CDFW recommends the evaluation not only assess the risk to biological resources, but also detail the Project-specific measures that would be implemented to reduce the risk of fire, and to carefully consider BESS siting, battery/container spacing, battery chemistry, battery life and degradation, and the most appropriate fire protection/suppression system.

Nesting Birds: CDFW encourages that Project ground-disturbing activities occur during the bird non-nesting season; however, if ground-disturbing or vegetation-disturbing activities must occur during the nesting season (February 1st through September 15th), the Project applicant is responsible for ensuring that implementation of the Project does not result in violation of the Migratory Bird Treaty Act or relevant Fish and Game Code sections as referenced above.

CDFW further recommends that a qualified biologist conduct a pre-construction survey for active nests no more than 10 days prior to the start of ground or vegetation disturbance to maximize the probability that nests that could potentially be impacted are detected. CDFW also recommends that surveys cover a sufficient area around the Project site to identify nests and determine their status. A sufficient area means any area potentially affected, either directly or indirectly, by the Project. In addition to direct impacts (i.e., nest destruction), noise, vibration, and movement of workers or equipment

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could also affect nests. CDFW recommends that a qualified biologist establish a behavioral baseline of all identified nests. Once Project activities begin, CDFW recommends having a qualified biologist continuously monitor nests to detect behavioral changes resulting from the Project. If behavioral changes occur, CDFW recommends halting the work causing that change and consulting with CDFW for additional avoidance and minimization measures.

If continuous monitoring of identified nests by a qualified biologist is not feasible, CDFW recommends a minimum no-disturbance buffer of 250 feet around active nests of non-listed bird species and a 500-foot no-disturbance buffer around active nests of non-listed raptors. These buffers are advised to remain in place until the breeding season has ended or until a qualified biologist has determined the birds have fledged and are no longer reliant upon the nest or on-site parental care for survival. Variance from these no-disturbance buffers is possible when there is a compelling biological or ecological reason to do so, such as when the Project site would be concealed from a nest site by topography. CDFW recommends that a qualified biologist advise and support any variance from these buffers and notify CDFW in advance of implementing a variance.

CNDDDB: Please note that the CNDDDB is populated by records through voluntary submissions of species detections. As a result, species may be present in locations not depicted in the CNDDDB but where there is suitable habitat features capable of supporting species. A lack of an occurrence record in the CNDDDB does not mean a species is not present. To adequately assess any potential Project-related impacts to biological resources, surveys conducted by a qualified biologist during the appropriate survey period(s) using the appropriate protocol survey methodology are warranted to determine whether any special-status species are present at or near the Project site.

ENVIRONMENTAL DATA

CEQA requires that information developed in environmental impact reports and negative declarations be incorporated into a database, which may be used to make subsequent or supplemental environmental determinations (Pub. Resources Code, § 21003, subd. (e)). Accordingly, please report any special-status species and natural communities detected during Project surveys to the CNDDDB. The CNDDDB field survey form can be found at the following link:

<https://www.wildlife.ca.gov/Data/CNDDDB/Submitting-Data>. The completed form can be mailed electronically to CNDDDB at the following email address:

CNDDDB@wildlife.ca.gov. The types of information reported to CNDDDB can be found at the following link: <https://www.wildlife.ca.gov/Data/CNDDDB/Plants-and-Animals>.

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FILING FEES

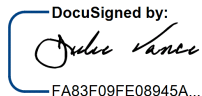
The Project, as proposed, would have an impact on fish and/or wildlife, and assessment of filing fees is necessary. Fees are payable upon filing of the Notice of Determination by the Lead Agency and serve to help defray the cost of environmental review by CDFW. Payment of the fee is required in order for the underlying project approval to be operative, vested, and final (Cal. Code Regs, tit. 14, § 753.5; Fish & G. Code, § 711.4; Pub. Resources Code, § 21089).

CONCLUSION

CDFW appreciates the opportunity to comment on the DEIR to assist Fresno County in identifying and mitigating Project impacts on biological resources. Please see the enclosed Mitigation Monitoring and Reporting Program (MMRP) table (Attachment 1) which corresponds with the recommended mitigation measures in this comment letter.

If you have any questions, please contact Ren Cotter, Environmental Scientist, at the address provided on this letterhead, by telephone at (559) 767-0956 or by electronic mail at Ren.Cotter@wildlife.ca.gov.

Sincerely,

DocuSigned by:

FA83F09FE08945A...
Julie A. Vance
Regional Manager

ATTACHMENT (MMRP)

ec: **State Clearinghouse**
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REFERENCES

- California Department of Fish and Game. 1994. Staff report regarding mitigation for impacts to Swainson's hawks (*Buteo Swainsoni*) in the Central Valley of California. Sacramento, California, USA.
- California Department of Fish and Game. 2012. Staff report on burrowing owl mitigation. Sacramento, California, USA.
- Mylenbusch, I., K. Claffey, and B. Chu. Hazards of lithium-ion battery energy storage systems (BESS), mitigation strategies, minimum requirements, and best practices. Process Safety Progress, 2023:1–10.
- Swainson's Hawk Technical Advisory Committee. 2000. Recommended timing and methodology for Swainson's hawk nesting surveys in California's Central Valley. Swainson's Hawk Technical Advisory Committee.
- U. S. Fish and Wildlife Service. 2011. Standard Recommendations for the Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance. U.S. Fish and Wildlife Service, Sacramento Fish and Wildlife Office, Sacramento, California.

Attachment 1

Attachment 1

**CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE
RECOMMENDED MITIGATION MONITORING AND REPORTING PROGRAM
(MMRP)**

PROJECT: Heartland Solar Project by Heartland Solar 1, LLC

SCH No.: 2022100609

RECOMMENDED MITIGATION MEASURE	STATUS/DATE/INITIALS
<i>Before Disturbing Soil or Vegetation</i>	
SJKF	
Recommended Mitigation Measure 1: SJKF Preconstruction Surveys	
Recommended Mitigation Measure 3: SJKF Take Authorization	
SWHA	
Recommended Mitigation Measure 4: SWHA Preconstruction Surveys	
Recommended Mitigation Measure 6: SWHA Take Authorization	
Recommended Mitigation Measure 7: SWHA Foraging Habitat Mitigation	
BUOW	
Recommended Mitigation Measure 8: BUOW Preconstruction Surveys	
Recommended Mitigation Measure 10: BUOW Take Authorization	
<i>During Construction</i>	
SJKF	
Recommended Mitigation Measure 2: SJKF Avoidance Buffer	
SWHA	
Recommended Mitigation Measure 5: SWHA Avoidance Buffer	
BUOW	
Recommended Mitigation Measure 9: BUOW Avoidance Buffers	