

Final Environmental Impact Report

Wister Solar Energy Facility Project

SCH No. 2019110140

Imperial County, California

December 2020

Prepared for

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Appendix H	Cultural Resources Survey
Appendix I	CEQA Level Geotechnical Study
Appendix J	Water Quality Management Plan
Appendix K	Hydrological Evaluation
Appendix L	Water Supply Assessment

Acronyms

°F	degrees Fahrenheit
AB	Assembly Bill
ABPP	avian and bat protection plan
AC	alternating current
AF	acre-feet
AFY	acre-feet per year
ALUCP	Airport Land Use Compatibility Plan
amsl	above mean sea level
AP	Alquist-Priolo
APLIC	Avian Powerline Interaction Committee
APN	assessor parcel number
AQAP	air quality attainment plan
AQMP	air quality management plan
AQUA	aquaculture
AST	aboveground storage tank
BAU	business as usual
BBCS	Bird and Bat Conservation Strategy
BLM	Bureau of Land Management
BMP	best management practice
BP	Before present
BSA	biological survey area
BRTR	Biological Resources Technical Report
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFÉ	Corporate Average Fuel Economy
Cal EPA	California Environmental Protection Agency
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCH	Consortium of California Herbaria
CCR	California Code of Regulations
CDFA	California Department of Food Agriculture
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFC	chlorofluorocarbons
CFR	Code of Federal Regulations
CGS	California Geological Survey
CH ₄	methane
CHRIS	California Historical Resources Information System
CMP	congestion management program
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
CO ₂	carbon dioxide
CO _{2e}	carbon dioxide equivalent
County	Imperial County
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CUP	conditional use permit
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
dB	decibel
dBA	A-weighted decibel

DC	direct current
DDT	Dichlorodiphenyltrichloroethane
DOC	Department of Conservation
DRECP	Desert Renewable Energy Conservation Plan
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FGC	Fish and Game Code
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FMMP	farmland mapping and monitoring program
FRSH	freshwater replenishment
FTA	Federal Transit Administration
GHG	greenhouse gas
GIS	Geographic Information System
GPS	Global Positioning System
GWP	global warming potential
H	High
HCP	habitat conservation plan
HFC	hydrofluorocarbon
HSC	Health and Safety Code
HU	hydrological unit
Hz	hertz
ICAPCD	Imperial County Air Pollution Control District
ICFD	Imperial County Fire Department
ICPDS	Imperial County Planning and Development Services Department
IEEE	Institute of Electrical and Electronics Engineers
IGR	Intergovernmental Review
IID	Imperial Irrigation District
IND	industrial service supply
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Resource Plan
IRWMP	Integrated Regional Water Management Plan
IS	Initial Study
IVAG	Imperial Valley Association of Governments
IVC	Imperial Valley College
IVT	Imperial Valley Transit
IWSP	Interim Water Supply Policy
KOP	key observation point
kV	kilovolt
kW	kilowatt
L	low
LCFS	low carbon fuel standard
L_{dn}	day-night average sound level
LE	land evaluation
L_{eq}	equivalent sound level
LESA	land evaluation site assessment
L_{max}	maximum noise level
LOS	level of service
M	moderate
MBTA	Migratory Bird Treaty Act
MEER	Mechanical and Electrical Equipment Room
MH	moderately high



MHMP	Multi-Hazard Mitigation Plan
ML	moderately low
MLD	most likely descendant
MMT	million metric tons
MMT _{CO_{2e}}	million metric tons of CO ₂ equivalent
MPO	metropolitan planning organization
MS4	Municipal Separate Storm Sewer System
MSL	mean sea level
MT	metric tons
MW	megawatt
MWh	megawatt hours
N/A	not applicable
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCCP	natural community conservation plan
NEHRP	National Earthquake Hazards Reduction Program
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NGO	nongovernmental organizations
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NMFS	National Marine Fisheries Service
No.	Number
NO ₂	nitrogen dioxide
NO _x	nitrogen oxide
NOI	Notice of Intent
NOP	notice of preparation
NPDES	National Pollution Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
O&M	operations and maintenance
O ₃	ozone
OES	Office of Emergency Services
OHP	Office of Historic Preservation
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
Pb	lead
PCB	polychlorinated biphenyls
PCS	Power Conversion Station
PFC	perfluorocarbon
pH	potential of hydrogen
Phase I ESA	Phase I Environmental Site Assessment
PM ₁₀	particulate matter less than 10 microns in diameter
PM _{2.5}	particulate matter less than 2.5 microns in diameter
POI	Point of Interconnection
POW	hydropower generation
PPA	power purchase agreement
ppb	parts per billion
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PSD	Prevention of Significant Deterioration
PV	photovoltaic
RARE	Preservation of Rare, Threatened, or Endangered Species
RCP	Regional Comprehensive Plan

RE	renewable energy
REC	Renewable-Energy Credits
REC I	water contact recreation
REC II	non-contact water recreation
RECUP	Renewable Energy Conditional Use Permit
ROG	reactive organic gas
ROW	right-of-way
RPS	Renewables Portfolio Standard
RTP	Regional Transportation Plan
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RV	recreational vehicle
RWQCB	Regional Water Quality Control Board
SA	site assessment
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCADA	Supervisory Control and Data Acquisition
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategy
SF ₆	sulfur hexafluoride
SIP	State Implementation Plan
SLF	sacred lands file
SO ₂	sulfur dioxide
SO _x	sulfur oxide
SPCC	Spill Prevention, Control, and Countermeasure
SR	State Route
SSAB	Salton Sea Air Basin
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
tCO _{2e}	tonnes of carbon dioxide equivalents
TMDL	total maximum daily load
TSS	total suspended solids
U.S.	United States
UNFCCC	United Nations Framework Convention on Climate Change
USACE	United States Army Corps of Engineers
USC	United States Code
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
USMC	United States Marine Corps
UST	underground storage tank
V/C	volume to capacity
VOC	volatile organic compound
WARM	warm freshwater habitat
WILD	wildlife habitat
WSA	Water Supply Assessment
µg/m ³	microgram per cubic meter

0.1 Introduction and Summary

This Final Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act (CEQA) as amended (Public Resources Code Section 21000 et seq.), and CEQA Guidelines (California Administrative Code Section 15000 et seq.).

According to CEQA Guidelines §15132, the Final EIR shall consist of the following:

- a. The Draft EIR or a revision of the Draft;
- b. Comments and recommendations received on the Draft EIR, either verbatim or in summary;
- c. A list of persons, organizations, and public agencies commenting on the Draft EIR;
- d. The responses of the Lead Agency to significant environmental points raised in the review and consultation process; and
- e. Any other information added by the Lead Agency.

In accordance with these requirements, the Wister Solar Project Final EIR is comprised of the following:

- Draft EIR, June 2020 (SCH No. 2019110140); and
- This Final EIR document, dated December 2020, that incorporates the information required by §15132.

Format of the Final EIR

Section 0.1 Introduction

This section describes CEQA requirements and content of this Final EIR.

Section 0.2 Responses to Comment Letters Received on the Draft EIR

This section provides copies of the comment letters received and individual responses to written comments. In accordance with Public Resources Code 21092.5, copies of the written proposed responses to public agencies will be forwarded to the agencies at least 10 days prior to certifying the EIR. The responses conform to CEQA Guideline 15088, providing "... good faith, reasoned analysis in response."

Section 0.3 Errata to the Draft EIR

This section of the Final Environmental Impact Report (EIR) identifies the location of, or contains revisions to, information included in the Draft EIR dated June 2020, based upon additional or revised information required to prepare a response to a specific comment. The information added to the EIR does not meet the requirements for recirculation pursuant to Section 15088.5 of the State *California Environmental Quality Act (CEQA) Guidelines*.

Section 0.4 Mitigation Monitoring and Reporting Program

This section includes the Mitigation Monitoring and Reporting Program (MMRP) which identifies the mitigation measures, timing, and responsibility for implementation of the measures.

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0.2 Response to Comments

This section contains responses to all comment letters received on the Draft EIR. Seven letters were received during the comment period, which began on June 30, 2020, and closed on August 18, 2020. A copy of each letter with bracketed comment numbers on the right margin is followed by the response for each comment as indexed in the letter. The comment letters are listed in Table 0.2-1.

Table 0.2-1. Wister Solar Energy Facility Project Draft EIR Comment Letters

Letter	Commenter	Date
A	United States Marine Corps	August 13, 2020
B	Department of Transportation	August 18, 2020
C	Imperial County Air Pollution Control District	July 29, 2020
D	Imperial County Sheriff's Office	July 24, 2020
E	Stantec	August 4, 2020
F	Adams Broadwell Joseph & Cardozo	August 14, 2020
G	Imperial Irrigation District	October 8, 2020 August 18, 2020
H	Imperial County Fire Prevention Bureau	May 27, 2020 ¹

Notes:

¹ Received prior to commencement of the Draft EIR public review period.



UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION YUMA
BOX 99100
YUMA AZ 85369-9100

5726
CP&L
SCH 2019110140
August 13, 2020

Ms. Patricia Valenzuela
Imperial County Planning and
Development Services
801 Main Street
El Centro, CA 92243

Dear Ms. Valenzuela:

We have received the Notice of Availability of a Draft Environmental Impact Report for the Wister Solar Energy Facility Project. The project site is identified as Assessor's Parcel No 003-240-001 located approximately three miles north of Niland, the Chocolate Mountain Aerial Gunnery Range (CMAGR), and Camp Billy Machen desert warfare training facility. The proposed project involves the construction and operation of a 20 Megawatt (MW) photovoltaic (PV) solar energy facility on approximately 100 acres of the 640 acres within the identified APN.

A.1

Marine Corps Air Station (MCAS) Yuma has reviewed this request, and does not oppose to this project. It is requested that if a glint/glare analysis has been completed, please provide a copy to MCAS Yuma. In addition, due to continuous military flight operations, we request lights are placed on towers above 20 feet Above Ground Level (AGL).

A.2

Thank you for the opportunity to review and provide MCAS Yuma's comments. MCAS Yuma point of contact is Mr. Antonio Martinez at (928) 269-2103 or MCASYUMA_CPLO@usmc.mil. Thank you for the opportunity to comment.

A.3

Sincerely,

A handwritten signature in black ink, appearing to read "Mary E. Finch".

MARY E. FINCH
By direction

Letter A

United States Marine Corps

August 13, 2020

A.1 This is an introductory comment and provides a general summary of the project characteristics. No further response is necessary.

A.2 The County acknowledges that the Marine Corps does not express opposition to the project. Additionally, the County acknowledges the Marine Corps review and consideration of the project in relation to the Chocolate Mountain Aerial Gunnery Range (CMAGR) and Camp Billy Machen desert warfare training facility.

During the initial planning and entitlement processing for the project, the project applicant coordinated with Bill Sellars, Director, MCAS Yuma Range Management to address the project's potential visual impacts to the CMAGR. A Glare Hazard Analysis Report was prepared and provided as Appendix C of the Draft EIR. The analysis is based on the flight path as requested by the USMC during initial applicant consultation/coordination with USMC. Draft EIR Appendix C Figure 1 depicts the flight path assumed for the glare hazard analysis. This report is also provided as part of the Final EIR transmitted to the USMC, and is also available on the County's website at: www.icpds.com. Glare is not predicted for the USMC flight path from approximately one (1) to three (3) Nautical Miles east of the target with a heading of 270 deg at an altitude of 5,500' MSL as shown in Figure 1 (also see EIR Figure 3.2-4 Flight Path Analysis).

Transmissions towers exceeding 20 feet above ground level will be designed to include appropriate aviation warning lighting. As shown in EIR Section 2 Project Description (see Figure 2-3), the proposed gen-tie line would originate at the proposed Wister substation and would terminate at the point of interconnect (POI), at a distance of approximately 2,500 feet to the south-southwest. Steel poles, standing at a maximum height of 70 feet tall, will be spaced approximately every 300 feet along the route, and would support the 92-kV conductor to the POI.

A.3 Comment noted.

DEPARTMENT OF TRANSPORTATION

DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
PHONE (619) 688-6075
FAX (619) 688-4299
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8/18/2020

Governor's Office of Planning & Research

Aug 18 2020

STATE CLEARINGHOUSE



*Making Conservation
a California Way of Life.*

August 18, 2020

11-IMP-111
PM 41.3

Wister Solar Energy Facility
DEIR/SCH# 2019110140

Ms. Patricia Valenzuela
Imperial County
Planning and Development Services
801 Main Street
El Centro, CA 92243

Dear Ms. Valenzuela:

Thank you for including the California Department of Transportation (Caltrans) in the review of the Wister Solar Energy Facility Draft Environmental Impact Report (DEIR) (SCH# 2019110140) located near State Route 111 (SR-111). The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with Caltrans' mission and state planning priorities.

B.1

Caltrans has the following comments:

Traffic Control Plan/Hauling

Terra-Gen shall prepare and submit to Caltrans closure plans as part of the encroachment permit application. The plans shall require that closure or partial closure of SR-111 be limited to times as to create the least possible inconvenience to the traveling public and that signage be posted prior to the closure to alert drivers of the closure in accordance with Caltrans requirements. Traffic shall not be unreasonably delayed. The plan shall also outline suggested detours to use during the closures, traffic, including routes and signage.

B.2

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*



Ms. Patricia Valenzuela
August 18, 2020
Page 2

The Highway Closure Plan, as part of the encroachment permit, should be submitted to Caltrans at least 30 days prior to initiating installation of the crossings. No work shall begin in Caltrans Right of Way (R/W) until an encroachment permit is approved.

B.2,
cont.

Any work performed within Caltrans R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required for any work within the Caltrans R/W prior to construction. As part of the encroachment permit process, the applicant must provide an approved final environmental document including the California Environmental Quality Act (CEQA) determination addressing any environmental impacts with the Caltrans' R/W, and any corresponding technical studies.

B.3

Please see Section 600 of the Encroachment Permits Manual for requirements regarding utilities and state R/W:

<https://dot.ca.gov/programs/traffic-operations/ep/ep-manual>

Caltrans has discretionary authority with respect to highways under its jurisdiction and may, upon application and if good cause appears, issue a special permit to operate or move a vehicle or combination of vehicles or special mobile equipment of a size or weight of vehicle or load exceeding the maximum limitations specified in the California Vehicle Code. The Caltrans Transportation Permits Issuance Branch is responsible for the issuance of these special transportation permits for oversize/overweight vehicles on the State Highway System. Additional information is provided online at: <http://www.dot.ca.gov/trafficops/permits/index.html>

B.4

Potential impacts to the highway facilities (SR-111) and traveling public from the detour, demolition and other construction activities should be discussed and addressed before work begins.

*"Provide a safe, sustainable, integrated and efficient transportation system
to enhance California's economy and livability"*

Ms. Patricia Valenzuela
August 18, 2020
Page 3

If you have any questions, please contact Mark McCumsey, of the Caltrans Development Review Branch, at (619) 688-6802 or by e-mail sent to mark.mccumsey@dot.ca.gov.

} B.5

Sincerely,

electronically signed by

MAURICE EATON, Branch Chief
Local Development and Intergovernmental Review Branch

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"



Letter B

Department of Transportation

August 18, 2020

- B.1** This is an introductory comment and provides a general summary of the project characteristics. No further response is necessary.
- B.2** The County acknowledges Caltrans encroachment permit requirements summarized in this comment. However, this comment references a different project (i.e., the Terra-Gen project). With respect to the proposed Wister Solar Project, no development or construction activities (including closures to SR-111 as referenced in this comment) is proposed or would otherwise be required in order to construct the proposed project. All project work will be performed along County and IID roadways.
- B.3** No work within Caltrans right of way is proposed associated with the proposed project. However, the County does acknowledge that any work performed within Caltrans right of way requires approval of an encroachment permit.
- B.4** The County acknowledges that a special transportation permit would be required for any oversize/overweight vehicles exceeding the maximum limitations specified in the California Vehicle Code. Although not anticipated at this time, the Applicant will apply for a special transportation permit, should it be determined that special vehicle construction equipment will be required that would exceed maximum limitations specified in the California Vehicle Code.
- Please also refer to response to comment B.3. No encroachment into SR-111 right of way, or other Caltrans facilities will be required for project implementation.
- B.5** Comment noted.

150 SOUTH NINTH STREET
EL CENTRO, CA 92243-2850

TELEPHONE: (442) 265-1800
FAX: (442) 265-1799



July 29, 2020

Mr. Jim Minnick
Planning & Development Services Director
801 Main St.
El Centro, CA 92243

SUBJECT: Draft Environmental Impact Report (EIR) for the Wister Solar Energy Facility

Dear Mr. Minnick:

The Imperial County Air Pollution Control District (Air District) appreciates the opportunity to review and comment on the Draft EIR (DEIR) for the Wister Solar Energy Facility (Project). The Project involves 1) the construction and operation of a 20-Megawatt photovoltaic solar energy facility including a substation and access roads; 2) a gen-tie line to connect the proposed on-site substation to the existing Imperial Irrigation District's 92-kilovolt "K" line; and 3) nearly two miles of fiber optic telecommunications cable from the proposed on-site substation to the existing Niland substation.

C.1

The Air District reviewed the DEIR for adherence to prior comments¹ and for the most part found the DEIR consistent in addressing those remarks, with the following exceptions. Among these are the exclusion of Appendix A containing CalEEMod output files as referenced in Impact AQ-2 of Appendix D—Air Quality Technical Study.² These files should be provided in the Final EIR for disclosure purposes.

Mitigation measures as discussed in AQ-1 of the Executive Summary and Air Quality Section 3.3-17 discuss the periodic submission of an offroad equipment list for NOx evaluations, but do not discuss this in the context of Policy 5 should construction emissions exceed thresholds of significance. Policy 5 mitigation needs to be included in the proposed mitigation measures of the Executive Summary. Finally, the Air District requests that the Conditional Use Permit contain the NOx evaluation with the submittal of the periodic equipment list and the Operational Dust Control Plan (ODCP) as conditions for this Project.

C.2

¹ 2nd Administrative Draft Environmental Impact Report (EIR) for the Wister Solar Energy Facility. Imperial County Air Pollution Control District. 3 June 2020.

² Air Quality Technical Study for the Wister Solar Facility Project Imperial County, California. Stantec Consulting Services. Section 5—Impact Analysis. 24 June 2020. Pg. 31.

Should you have questions, please call the Air District offices at (442) 265-1800.

] C.3

Respectfully submitted,



Curtis Blondell
ARC Environmental Coordinator



Reviewed by Monica Soucier
APC Division Manager

Letter C

Imperial County Air Pollution Control District

July 29, 2020

C.1 The introductory comments including general summary of the project characteristics are acknowledged.

The County provided Appendix A (CalEEMod output files) to the Imperial County Air Pollution Control District (ICAPCD) within 24 hours of ICAPCD's request during the 50-day Draft EIR public review period.

Regarding the availability of Appendix A (CalEEMod output files) as part of Draft EIR Appendix D, as indicated in the Notice of Availability, the appendices to Appendix D were made available on file at the County Planning and Development Services Department during the 50-day Draft EIR public review period. The Draft EIR and appendices were available in both hard copies and CDs to the public on request to the County during the review period. Public Resources Code Section 21092 and CEQA Guidelines Section 15087 only require notice of where and how the public can access the documents, and the County is in substantial compliance with CEQA as required by Public Resources Code Section 21092(b)(2).

Appendix A to Appendix D of the EIR is included in the Final EIR document.

C.2 Consistent with ICAPCD Policy 5, Mitigation Measures AQ-1 Construction Equipment, requires that a list of the construction equipment, including all off-road equipment utilized at each of the projects by make, model, year, horsepower and expected/actual hours of use, and the associated EPA Tier shall be submitted to the County Planning and Development Services Department and ICAPCD prior to the issuance of a grading permit.

This measure also requires that the equipment list shall be submitted periodically to ICAPCD to perform a NOx analysis. ICAPCD shall utilize this list to calculate air emissions to verify that equipment use does not exceed significance thresholds. Based on the Draft EIR air quality analysis, NOx emission thresholds are not anticipated to be exceeded (please see EIR Table 3.3-8, page 3.3-16). However, if the ICAPCD's NOx analysis indicates exceedances of the thresholds, the Project exceedances would be mitigated pursuant to Policy 5.

Mitigation Measure AQ-1 as well as the requirement to prepare and submit the Operational Dust Control Plan (ODCP) (Mitigation Measure AQ-2) and other measures for dust control required by Mitigation Measures AQ-3 and AQ-4 will be incorporated into the conditions of approval required as part of the Conditional Use Permit (CUP) for the project.

C.3 Comment noted.



July 24, 2020

Imperial County Planning and Development Services
 Patricia Valenzuela, Planner IV
 801 Main Street
 El Centro, Ca. 92243
 RE: Draft Environmental Report for the Wister Solar Energy Facility Project

Ms. Valenzuela,

The Imperial County Sheriff's Office is the chief law enforcement agency in Imperial County. The Sheriff's Office provides general law enforcement, detention and court services for the residents, business owners and visitors of Imperial County. We have a service area of approximately 4,597 square miles bordering on Mexico to the South, Riverside County to the North, San Diego County on the West, and the State of Arizona on the East. The terrain varies from 235 feet below sea level at the Salton Sea to 4,548 feet at Blue Angel Peak. In addition, the Sheriff's Office maintains substations in the surrounding areas and communities of Brawley, Palo Verde, Niland, Salton City, and Winterhaven.

D.1

The proposed project site is located approximately 3 miles northeast of the Niland Substation (300 E 1st St). The Niland Substation is a satellite office which North County Patrol (Brawley Station) officers utilize in the course of their duties. 13 deputies and 4 Sergeants normally patrol the Niland area while only one deputy is generally assigned to the Niland "beat" on any given shift. This staffing allows the North County Patrol Station to provide a minimum of 2 deputy sheriff's on duty 24 hours per day, 7 days per week.

Due to the road system inside this parcel, and the public safety need to access this property in all types of weather, the sheriff's office would request funding for a marked and equipped four wheel drive patrol vehicle. The cost is approximately \$70,000. This equates to roughly \$700 per acre. This mitigation measure will be required for the sheriff's office to provide services.

D.2

The projects on-site security equipment such as 8 foot high fencing with barbed wire around the perimeter, with lighting and remotely monitored closed circuit camera system will assist greatly in mitigating our needs. However, if alarmed, the project applicant would be required to obtain an alarm permit from the sheriff's office to be in compliance with County Ordinance 8.04.040. Fees for the alarm permit are covered under **County Ordinance 8.04.070** and are as follows:

D.3

Alarm permit	\$22.00
Alarm permit renewal	\$22.00
First reissued permit in original two-year period:	\$50.00
Second reissued permit in original two-year period:	\$100.00

Third reissued permit in original two-year period:	\$200.00
Fourth and additional reissued permit in original two-year period:	\$500.00

D.3,
cont.

Multiple alarm permit fees are based on the single alarm fee of twenty-two dollars (\$22.00) for up to five alarm systems at one location. Regardless of the number of permits, the total fee shall not exceed five times the single permit fee for any one location.

In looking at other similar projects throughout the County, we have seen an increase in calls for service to those areas, especially during the construction phase. The sheriff's office feels that this project would create a significant impact and have a cumulatively considerable effect on our station should similar type of calls for service arise. If there is an increase for calls for service as a result of this project and the sheriff's office maintains its current personnel allocations, funding and equipment, service levels may drop below acceptable levels or industry standards.

D.4

Letter D
Imperial County Sheriff's Office
July 24, 2020

D.1 This is an introductory comment that summarizes the sheriff's services in Imperial County and provides a general summary of the project characteristics. No further response is necessary.

D.2 As discussed in the Initial Study prepared for the project (see EIR Appendix A), as well as EIR Section 6 Effects Found Not Significant, it is recognized that although the potential is low, the proposed project could attract trespassers or other unauthorized uses. The increase in construction related traffic could temporarily increase demand on law enforcement services. However, the project site would be fenced with 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance.

It should be noted that project conditions of approval (COA's) include participation in public financing that can contribute to the purchase of a new vehicle or equipment. Project COA's include the following:

- The Permittee shall install and implement security measures which may include, but not limited to, secured perimeter fencing and barbed wire, sensors, with controlled access points, security alarms, security camera systems, security guard vehicle patrols to deter trespass or unauthorized activities that would interfere with operation of the proposed project.
- Permittee shall participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved project. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit.
- The Permittee shall reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement.

The environmental impact associated with any increase in law enforcement patrols has been determined to be a less than significant impact. The conclusion is based on the CEQA Guidelines threshold which states: "Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services." With respect to the Wister Solar Project, the project would not result in a physical impact to the environment associated with the provision of new or physically altered law enforcement services. While the sheriff's comment indicates that an all-terrain vehicle would be needed in order to patrol the project site, the fenced and secure project does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios, which would, in turn, result in a physical impact to the environment.

EIR pages ES-5 and 6-4 have been revised as follows to clarify this conclusion:

Police Protection. Police protection services in the project area is provided by the Imperial County Sheriff's Department. Although the potential is low, the proposed project ~~may could~~ attract ~~vandals trespassers~~ or other ~~security risks unauthorized uses~~. The increase in construction related traffic could temporarily increase demand on law enforcement services. However, the project site would be fenced with a 6-foot high chain link security fence topped with barbed wire and points of ingress/egress would be accessed via locked gates. In addition, periodic on-site personnel visitations for security would occur during operations and maintenance of the proposed project, thereby minimizing the need for police surveillance. While the proposed project may result in an temporary increase in demand for law enforcement service, the project would not result in an increase in demand that would, in turn, result in a substantial adverse physical impact associated with the provision of new or physically altered sheriff facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services. The sheriff's department has indicated that an all-terrain vehicle would be needed in order to patrol the project site; however, the fenced and secure project site does not result in an increase in demand on law enforcement that would require existing or new facilities to be upgraded in order to maintain service ratios. Further, as conditions of approval of the project, the project applicant will be required to participate in the Imperial County Public Benefit Program for the life of this CUP and shall at all times be a party to a public benefit agreement in a form acceptable to County Counsel in order to pay for all costs, benefits, and fees associated with the approved project, and the applicant will be required to reimburse the Sheriff's Department for any investigations regarding theft on the Project site and related law enforcement. Approval of this public benefit agreement will be by the Board of Supervisors prior to the issuance of the first building permit. This ~~These potential impacts are less than significant. is considered a less than significant impact.~~

- D.3** The County acknowledges that if the applicant obtains an alarm permit through the sheriff's office, the applicant would be responsible for payment of applicable alarm permit fees per County Ordinance 8.04.070.
- D.4** Please refer to preceding responses to comments D.1 through D.3.



Stantec Consulting Services Inc.
290 Conejo Ridge Avenue, Thousand Oaks CA 91361-4972

August 4, 2020
Project: Wister Solar Energy Facility Project

Attention: Patricia Valenzuela
Planner IV
Imperial County Planning & Development Services
801 Main Street
El Centro, CA 92243
442-265-1749

Reference: Draft Environmental Impact Report SCH No. 2019110140

Dear Mrs. Valenzuela,

Stantec Consulting Services Inc. (Stantec), as the designated environmental consultant on behalf of ORNI 33, LLC, the applicant of the proposed Wister Solar Energy Facility Project (Project), has prepared the following comment letter in response to Draft Environmental Impact Report SCH No. 2019110140.

The proposed Project site occurs on the western margin of the known range of the federally and state threatened Mojave Desert tortoise (*Gopherus agassizii*). Federally designated critical habitat for the Mojave Desert tortoise occurs approximately 4-miles northeast of the Biological Survey Area (BSA), which includes the Project footprint and a 500-foot buffer. Marginally suitable habitat for this species exists within and adjacent to the BSA. However, according to California Natural Diversity Database (CNDDDB), the nearest recorded occurrence to the BSA is approximately 4.3 miles to the northeast.

Indirect and direct impacts are described within the Draft Environmental Impact Report (DEIR) prepared by HDR Consulting. Direct impacts initially identified in the DEIR describe that if tortoises are present or within the vicinity of the Project site, then grading and vehicular traffic could potentially crush and kill individual tortoises. In addition, they could potentially become trapped in open trenches and could be killed due to an increased exposure to predators or extreme weather.

The DEIR also initially describes the potential indirect impact, in which disturbed lands associated with construction and grading of the proposed Project may no longer provide viable long-term habitat for the Mojave Desert tortoise. The Project's solar field, substation, and new access roads are considered a direct impact that could cause the long-term loss of 115.4 acres of potential habitat. Indirect impacts of construction could include an increase in desert tortoise predators such as ravens and crows that may be drawn to the Project site by ground disturbing activities that expose wildlife and produce carcasses and waste for scavenging. Trash or carcass remains could also increase the presence of scavengers, which may prey on other species' eggs or juveniles. In addition, infrequent panel washing could change drainage patterns or transport pollutants or sediment off-site where it may adversely impact downstream aquatic resources.

Therefore, to fully mitigate for habitat loss and potential take of the Mojave Desert tortoise, the DEIR initially established a compensatory mitigation at a ratio of 3:1. However, based on Stantec's further review of the Project, we recommend a 1:1 compensatory mitigation ratio for Mojave Desert tortoise given the following reasons:

Design with community in mind

E.1

E.2

August 4, 2020
Patricia Valenzuela
Page 2 of 2

Reference: Draft Environmental Impact Report SCH No. 2019110140

- Although there is designated critical habitat and the nearest recorded occurrence approximately four miles northeast, the Coachella Canal, located approximately 0.8 mile to the northeast of the Project site, provides a substantial barrier to tortoise movement.) E.2a
- Stantec recommends the applicant establish a conservation easement within the southwest section of their privately owned parcel (APN 003-240-001), which has the highest quality habitat available to preserve.) E.2b
- Stantec recommends the conservation easements be increased to 115.4 acres to mitigate for potential impacts to Mojave Desert tortoise, Blue Palo Verde Ironwood – Woodland, and waters. Therefore, compensatory mitigation ratios for Blue Palo Verde Ironwood – Woodland and waters would significantly increase from the original 3:1 and 1:1 ratios, respectively.) E.2c

We appreciate the opportunity to provide comment on the Wister Solar Energy Facility DEIR. If you have any further questions, please feel free to give us a call.) E.3

Regards,

Stantec Consulting Services Inc.



Jared Varonin
Principal Biologist/Ecosystems Practice Leader
Phone: 805.358.7696
jared.varonin@stantec.com

c. Tim Gribus, HDR Consulting

Design with community in mind

Letter E

Stantec

August 4, 2020

- E.1** This comment summarizes information presented in Draft EIR Section 3.4 Biological Resources. The information summarized in this comment is consistent with the information contained in the Draft EIR.
- E.2** As stated on Draft EIR page 3.4-33, Mitigation Measure BIO-4, Desert Tortoise Avoidance and Minimization, a qualified biologist shall conduct focused presence/absence surveys for Desert Tortoise for 100-percent of the project footprint pursuant to the October 19, 2019 Version of the USFWS Desert Tortoise Survey Protocol. If no live desert tortoise or sign of active desert tortoise is detected, no further avoidance and minimization is required. Per Mitigation Measure BIO-4, the recommended 3:1 mitigation ratio for habitat loss would only apply should presence of the tortoise be determined through the presence/absence surveys. However, please refer to responses to comments E.2a through E.2c regarding the quality of habitat and proposed compensatory mitigation ratio if live or active desert tortoise is detected on-site.
- E.2a** This comment is acknowledged and consistent with the Draft EIR analysis provided on page 3.4-41, which states that the project site is not situated within a significant dispersal corridor. In fact several north-south trending features already disrupt east to west movement including SR 111, Coachella Canal and East Highline Canal. Local North-South movement can continue east of the project.
- E.2b** Comment noted. As noted in this comment, quality habitat is located in the southern portions of the entire 640-acre parcel. Disturbance to this habitat was largely avoided at the time the project was redesigned and reduced in size from the originally-submitted site plan, which proposed a 40 megawatt facility on approximately 300 acres. The southern area would be biologically suitable for establishment of a conservation easement.
- E.2c** Establishment of a conservation easement on the southern portion of the property in the amount of 115.4 acres, which would address Blue Palo Verde Ironwood-Woodland and waters; would be considered appropriate mitigation for desert tortoise as well with consideration of the marginal habitat located in the portion of the project site proposed for development, as well as the limited biological connectivity of the northern portion of the site as addressed in response to comment E.2a. As such, Mitigation Measure BIO-4 has been revised as follows:
- To fully mitigate for habitat loss and potential take of the Mojave desert tortoise, the Applicant will provide compensatory mitigation at a ratio of ~~3:1~~ 1:1. For the purposes of this measure, the project site (i.e., footprint) means all Project areas with new direct ground disturbance during construction and operation of the Project. This includes all lands directly disturbed that will no longer provide viable long-term habitat for the Mojave desert tortoise, such as the solar field, substation and new access roads. Areas within the gen-tie line corridor where no ground disturbance will occur are not included in the area to be mitigated through compensation. Compensatory mitigation could include agency-approved payment of an in-lieu fee; acquiring mitigation land or conservation easements; restoration or habitat enhancement activities on preservation lands; or a combination of the three.

E.3 Comment noted.



ADAMS BROADWELL JOSEPH & CARDOZO

A PROFESSIONAL CORPORATION

ATTORNEYS AT LAW

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KENDRA D. HARTMANN*
KYLE C. JONES
RACHAEL E. KOSS
NIRIT LOTAN
AARON M. MESSING
WILLIAM C. MUMBY

MARC D. JOSEPH
Of Counsel

*Admitted in Colorado

August 14, 2020

RECEIVED

AUG 19 2020

IMPERIAL COUNTY
PLANNING & DEVELOPMENT SERVICES

VIA EMAIL AND U.S. MAIL

Patricia Valenzuela, Planner IV
Planning & Planning and Development Services Department
Imperial County
801 Main Street
El Centro, CA 92243
Email: PatriciaValenzuela@co.imperial.ca.us

**Re: Comments on Ormat Wister Solar Energy Facility Project Draft
Environmental Impact Report (SCH No. 2019110140)**

Dear Ms. Valenzuela:

We are writing on behalf of Citizens for Responsible Solar to provide comments on the Draft Environmental Impact Report ("DEIR") prepared by Imperial County ("County") for the Wister Solar Energy Facility Project ("Project"), State Clearinghouse Number 2019110140. The Project, proposed by Orni 21, LLC ("Applicant"), would include the construction and operation of a solar photovoltaic ("PV") power generating facility and associated facilities, including a substation and access roads, that would generate a combined total of approximately 20 megawatts ("MW") of renewable electrical energy on approximately 100 acres of private land in Imperial County. The Project will also include the installation of a gen-tie line that would connect the proposed on-site substation to the Point of Interconnection (POI) at the existing Imperial Irrigation District's (IID) 92-kilovolt (kV) "K" line site and a fiberoptic cable. The Project is located approximately three miles north of Niland, a census-designated place, in the unincorporated area of Imperial County.

F.1

The Applicant is seeking (a) a Conditional Use Permit to allow for the construction and operation of the 20 MW solar PV facility; (b) a Conditional Use Permit to allow for the construction of a groundwater well; and (c) an Amendment to the Renewable Energy and Transmission Element of the Imperial County General Plan to allow for the Project, which is not located in the RE Overlay Zone,

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August 14, 2020

Page 2

to be reclassified as being in the RE Overlay Zone; (d) a Zone Change for the implementation of the General Plan Amendment; (e) a Variance allowing the Project's transmission towers of up to 70 feet high to comply with the existing S-2 zone's 40 feet maximum height limit; and (f) certification of the EIR.

F.1,
cont.

Based on our review of the DEIR, appendices, and other relevant records, we have determined that the DEIR fails to meet the requirements of the California Environmental Quality Act ("CEQA"). Specifically, the DEIR suffers from the following deficiencies:

- Failure to properly establish the environmental setting for and adequately disclose, analyze, and mitigate the Project's impacts on biological resources;
- Failure to adequately disclose, analyze, and mitigate the Project's impacts on air quality and public health, including a previously undisclosed significant air quality impact;
- Failure to adequately disclose, analyze, and mitigate potentially significant impacts on climate change from greenhouse gas emissions; and
- Failure to adequately disclose, analyze, and mitigate health risk impacts from hazardous materials and Valley Fever.

F.2

For each of these reasons, the County must revise and recirculate the DEIR in order to properly disclose, analyze, and mitigate the Project's significant impacts. The County cannot certify the EIR or approve the project until a revised draft EIR addresses these issues.

These comments were prepared with the assistance of conservation biologist Shawn Smallwood and air quality experts Matt Hagemann and Paul E. Rosenfeld of Soil/Water/Air Protection Enterprise ("SWAPE"). Mr. Smallwood's comments and curricula vitae are attached to this letter as **Exhibit A**.¹ SWAPE's technical comments and curriculum vitae are attached to this letter as **Exhibit B**.² Exhibits 1 and 2 are fully incorporated herein and submitted to the County herewith.

F.3

¹ **Exhibit A** – Letter from Shawn Smallwood, Re: Wister Solar Energy Facility EIR, dated August 11, 2020 ("**Smallwood Comments**").

² **Exhibit B** – Letter from SWAPE, Re: Comments on Wister Solar Energy Facility Project (SCH No. 2019110140), dated August 6, 2020 ("**SWAPE Comments**").
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August 14, 2020
Page 3

Therefore, the County must separately respond to the technical comments of SWAPE and Mr. Smallwood in addition to our comments.

F.3,
cont.

I. STATEMENT OF INTEREST

Citizens for Responsible Solar (“Citizens”) is an unincorporated association of individuals and labor organizations that may be adversely affected by the potential public and worker health and safety hazards and environmental and public service impacts of the Project. The association includes California Unions for Reliable Energy (“CURE”) and its member labor organizations, and their members and families, and other individuals that live and/or work in Imperial County.

The individual members of Citizens and the members of the affiliated labor organizations live, work, recreate and raise their families in Imperial County. They would be directly affected by the Project’s environmental and health and safety impacts. Individual members may also work constructing the Project itself. They will be first in line to be exposed to any health and safety hazards that may be present on the Project site. They each have a personal interest in protecting the Project area from unnecessary, adverse environmental and public health impacts.

The organizational members of the Citizens also have an interest in enforcing environmental laws that encourage sustainable development and ensure a safe working environment for the members that they represent. Environmentally detrimental projects can jeopardize future jobs by making it more difficult and more expensive for businesses to locate and people to live there. This, in turn, jeopardizes future development by causing construction moratoriums and otherwise reduces future employment opportunities for construction workers. The labor organization members of the Citizens therefore have a direct interest in enforcing environmental laws to minimize the adverse impacts of projects that would otherwise degrade the environment.

F.4

Finally, the organizational members of the Citizens are concerned about projects that risk serious environmental harm without providing countervailing economic benefits. CEQA provides a balancing process whereby economic benefits are weighed against significant impacts to the environment and it is in this spirit that we offer these comments.

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II. LEGAL BACKGROUND

CEQA requires that an agency analyze the potential environmental impacts of its proposed actions in an EIR, except in limited circumstances.³ The EIR is the very heart of CEQA.⁴ “The foremost principle in interpreting CEQA is that the Legislature intended the act to be read so as to afford the fullest possible protection to the environment within the reasonable scope of the statutory language.”⁵

CEQA has two primary purposes. First, CEQA is designed to inform decisionmakers and the public about the potential, significant environmental effects of a project.^{6, 7} CEQA’s purpose is to inform the public and its responsible officials of the environmental consequences of their decisions before they are made. In this respect, an EIR “protects not only the environment but also informed self-government.”⁸ The EIR has been described as “an environmental ‘alarm bell’ whose purpose it is to alert the public and its responsible officials to environmental changes before they have reached ecological points of no return.”

To fulfill this function, the discussion of impacts in an EIR must be detailed, complete, and “reflect a good faith effort at full disclosure.”⁹ CEQA requires an EIR to disclose all potential direct and indirect, significant environmental impacts of a project.¹⁰ In addition, an adequate EIR must contain the facts and analysis necessary to support its conclusions.¹¹

The second purpose of CEQA is to require public agencies to avoid or reduce environmental damage when possible by requiring appropriate mitigation measures and through the consideration of environmentally superior alternatives.¹² The EIR serves to provide agencies and the public with information about the environmental

F.5

³ See, e.g., Pub. Res. Code § 21100.

⁴ *Dunn-Edwards v. BAAQMD* (1992) 9 Cal.App.4th 644, 652.

⁵ *Communities for a Better Env't v. Cal. Res. Agency* (2002) 103 Cal. App.4th 98, 109.

⁶ 14 Cal. Code Regs. (“CEQA Guidelines”), § 15002, subd. (a)(1).

⁷ See, e.g., Pub. Resources Code § 21100.

⁸ *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564.

⁹ CEQA Guidelines § 15151; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 721-722.

¹⁰ Pub. Resources Code § 21100, subd. (b)(1); CEQA Guidelines § 15126.2, subd. (a).

¹¹ See *Citizens of Goleta Valley* 52 Cal.3d at 568.

¹² CEQA Guidelines § 15002, subds. (a)(2)-(3); see also, *Berkeley Keep Jets Over the Bay Committee v. Board of Port Commissioners* (2001) 91 Cal.App.4th 1344, 1354; *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 564; *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391, 400.

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impacts of a proposed project and to “identify ways that environmental damage can be avoided or significantly reduced.” To that end, if an EIR identifies significant impacts, it must then propose and evaluate mitigation measures to minimize these impacts.¹³ CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.¹⁴ Without an adequate analysis and description of feasible mitigation measures, it would be impossible for agencies relying upon the EIR to meet this obligation.

F.5,
cont.

While the courts review an EIR using an “abuse of discretion” standard, “the reviewing court is not to ‘uncritically rely on every study or analysis presented by a project proponent in support of its position. A clearly inadequate or unsupported study is entitled to no judicial deference.’”¹⁵ As the courts have explained, “a prejudicial abuse of discretion” occurs “if the failure to include relevant information precludes informed decision-making and informed public participation, thereby thwarting the statutory goals of the EIR process.”¹⁶

III. THE DEIR FAILS TO ADEQUATELY DISCLOSE, ANALYZE, AND MITIGATE SIGNIFICANT IMPACTS

An EIR must fully disclose all potentially significant impacts of a project. The lead agency’s significance determination with regard to each impact must be supported by accurate scientific and factual data.¹⁷ An agency cannot conclude that an impact is less than significant unless it produces rigorous analysis and substantial evidence justifying the finding.¹⁸ Finally, the agency cannot approve the project with significant impacts unless it has “eliminated or substantially lessened all significant effects on the environment where feasible.”¹⁹ As such, an EIR must identify and describe any feasible measures that can be implemented to reduce or avoid each potentially significant environmental effects of the project.

F.6

¹³ Pub. Res. Code §§ 21002.1, subd. (a), 21100, subd. (b)(3).

¹⁴ Pub. Res. Code §§ 21002-21002.1.

¹⁵ *Berkeley Jets*, 91 Cal. App. 4th 1344, 1355 (emphasis added), quoting, *Laurel Heights Improvement Assn. v. Regents of University of California* (1988) 47 Cal.3d 376, 391 409, fn. 12.

¹⁶ *Berkeley Jets*, 91 Cal.App.4th at 1355; *San Joaquin Raptor/Wildlife Rescue Center v. County of Stanislaus* (1994) 27 Cal.App.4th 713, 722; *Galante Vineyards v. Monterey Peninsula Water Management Dist.* (1997) 60 Cal.App.4th 1109, 1117; *County of Amador v. El Dorado County Water Agency* (1999) 76 Cal.App.4th 931, 946.

¹⁷ CEQA Guidelines § 15064(b).

¹⁸ *Kings Cty. Farm Bur. v. Hanford* (1990) 221 Cal.App.3d 692, 732.

¹⁹ CEQA Guidelines § 15092(b)(2)(A).

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The DEIR does not comply with CEQA because it fails to consider all of the Project's significant and foreseeable environmental impacts on biological resources, air quality, public health, and climate change. In some instances, the DEIR's conclusions on the Project's impacts are not supported by substantial evidence. The DEIR also fails to adequately mitigate significant impacts to less than significant. For these reasons, the County must revise the DEIR to remedy these deficiencies and recirculate the revised DEIR for public review and comment.

F.6,
cont.

A. The DEIR Fails to Adequately Disclose, Analyze, and Mitigate Impacts on Biological Resources

According to the DEIR, the Project area is located within the Sonoran Desert in an area bordered by undeveloped lands, sparse agriculture, and dirt roads.²⁰ The Project site consists mostly of native, undisturbed habitat.²¹ The Sonoran Desert supports a variety of reptile, bird, and mammal species and vegetation in the Project region is influenced by climate, topography, and soils, as well as land uses.²² Although the DEIR notes this diverse array of vegetation and wildlife, it fails to properly address impacts to these biological resources. As explained below, the DEIR violates CEQA because it: (1) fails to adequately survey the Project site for biological resources and, thus, fails to adequately describe the environmental setting for biological resources; (2) fails to properly disclose and analyze the Project's impacts to numerous biological resources; and (3) fails to adequately mitigate these impacts to a less than significant level.²³ The DEIR must be revised to correct these deficiencies.

F.7

1. The DEIR Fails to Adequately Describe the Environmental Setting for Biological Resources

The existing environmental setting is the starting point from which the lead agency must measure whether a proposed Project may cause a significant environmental impact.²⁴ Describing the environmental setting accurately and completely for each environmental condition in the vicinity of the Project is critical to an accurate and meaningful evaluation of environmental impacts. The courts are clear that "[b]efore the impacts of a Project can be assessed, and mitigation

F.8

²⁰ DEIR, p. 3.4-1.

²¹ DEIR, p. 2-3.

²² DEIR, p. 3.4-1.

²³ See Smallwood Comments.

²⁴ See, e.g., *Communities for a Better Env't v. S. Coast Air Quality Mgmt. Dist.* (2010) 48 Cal.4th 310, 316; *Fat v. City of Sacramento* (2002) 97 Cal.App.4th 1270, 1278, citing *Remy, et al.*; Guide to the Calif. Environmental Quality Act (1999) p. 165.
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measures considered, an [EIR] must describe the existing environment. It is only against this baseline that any significant environmental effects can be determined.”²⁵

F.8,
cont.

An EIR must describe the existing environmental setting in sufficient detail to enable a proper analysis of project impacts.²⁶ The CEQA Guidelines provide that “[k]nowledge of the regional setting is critical to the assessment of environmental impacts.”²⁷ This level of detail is necessary to “permit the significant effects of the project to be considered in the full environmental context.”²⁸ The environmental setting is especially critical to forming the baseline conditions that inform the potential for significant impacts on biological resources.

F.9

One of the primary sources for the DEIR’s biological baseline is a “focused non-protocol” survey conducted “by vehicle and on foot with the primary goal of identifying habitat that could be capable of supporting special-status species and to document the presence/absence of special-status biological resources” (“Stantec Survey”).²⁹ The terms “focused” and “non-protocol” are not defined in the DEIR or its appendices for this survey, and it is therefore unclear how the survey was conducted, including when it began, how long it lasted, or what the focus of the survey was.³⁰ Additionally, no protocol level surveys were performed for the desert tortoise or burrowing owl, in accordance with U.S. Fish and Wildlife Service (“FWS”) and California Department of Fish and Wildlife (“CDFW”) guidelines, despite known occurrences of these species near the project site.³¹ Moreover, of the surveys completed for the site, only preconstruction surveys were conducted, not the detection surveys outlined in FWS and CDFW guidelines.³²

F.10

In contrast, the DEIR cites to another survey that conducted a protocol-level survey for the flat-tailed horned lizard, a special status species.³³ That survey reported finding an additional special-status species, the loggerhead shrike, which the Stantec Survey and the DEIR fail to report or properly characterize in the

F.11

²⁵ *City of Amador v. El Dorado City Water Agency* (1999) 76 Cal.App.4th 931, 952.

²⁶ CEQA Guidelines § 15125; *Galante Vineyards v. Monterey Peninsula Water Mgmt. Dist.* (1997) 60 Cal.App.4th 1109, 1121-22.

²⁷ CEQA Guidelines § 15125(c).

²⁸ *Id.*

²⁹ DEIR Appendix E, p. 2.1.

³⁰ Smallwood Comments, p. 2.

³¹ Smallwood Comments, p. 2.

³² Smallwood Comments, p. 2.

³³ Smallwood Comments, p. 2.

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DEIR’s analysis of the species’ likelihood to occur on the site.³⁴ These deficiencies in the DEIR’s analysis call into question its environmental baseline as established for biological resources.

F.11,
 cont.

In his letter, Mr. Smallwood further concludes, following a review of focused surveys from nearby projects, databases, and scientific literature, that “an astonishing 91 special-status species [are found] nearby the project site or whose geographic ranges overlap or nearly overlap the project site” and “[o]f these 91 special-status species, 53% are represented as fatalities during construction or operation of California’s solar projects.”³⁵ The DEIR, he notes, addresses the occurrence likelihoods of only 28 of these species.³⁶

F.12

As outlined in Mr. Smallwood’s letter, the DEIR incorrectly analyzes the presence of numerous potentially occurring special-status species by omitting analysis completely, determining these species as absent, or as having a low potential for occurrence on the Project site, concluding therefore that impacts would be less than significant. Mr. Smallwood’s review of the Project, supported by substantial evidence in Table 1 below, reveals that these species are actually present in the Project vicinity. As such, the DEIR must adequately identify and analyze impacts to these species. At the very least, detection surveys must be properly conducted to determine the presence of the species highlighted by Mr. Smallwood, as discussed in Section III(A)(3).

F.13

Table 1. Potentially occurring species of wildlife on the project area according to EIR and eBird (<https://eBird.org>) or iNaturalist (<https://www.inaturalist.org/observations>), where ‘nearby’ means within a few miles of the project site.

F.14

Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Brant, <i>Branta bernicla</i>	SSC2	Yes		Nearby
American white pelican, <i>Pelecanus erythrorhynchos</i>	SSC1	Yes		Nearby
Brown pelican, <i>Pelacanus occidentalis californicus</i>	FE, CE, CFP	Yes	None	Nearby
Double-crested cormorant, <i>Phalacrocorax auritus</i>	TWL	Yes		Nearby
Least bittern, <i>Ixobrychus exilis</i>	BCC, SSC2	Yes		Nearby

³⁴ Smallwood Comments, p. 2.
³⁵ Smallwood Comments, p. 7.
³⁶ Smallwood Comments, p. 7.
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Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Yuma Ridgway rail, <i>Rallus longirostris yumanensis</i>	FE, CT	Yes	Low	Nearby
Greater sandhill crane, <i>Grus canadensis tabida</i>	CT	Not yet		Nearby
Redhead, <i>Aythya americana</i>	SSC ₃	Yes		Nearby
Western snowy plover, <i>Charadrius alexandrinus nivosus</i>	FT, BCC	Yes	Low	Nearby
Mountain plover, <i>Charadrius montanus</i>	SSC ₂	Not yet	Moderate	Nearby
Marbled godwit, <i>Limosa fedoa</i>	BCC	Not yet		Nearby
Short-billed dowitcher, <i>Limnodromus griseus</i>	BCC	Not yet		Nearby
Black skimmer, <i>Rynchops niger</i>	BCC, SSC ₃	Not yet	Low	Nearby
California gull, <i>Larus californicus</i>	TWL	Yes	Low	Nearby
Caspian tern, <i>Hydropogone caspia</i>	TWL	Not yet	Low	Nearby
Gull-billed tern, <i>Geochelidon nilotica</i>	SSC ₃	Not yet	Low	Nearby
California least tern, <i>Sterna antillarum browni</i>	FE, CE	Not yet		Nearby
Osprey, <i>Pandion haliaetus</i>	TWL, FGC 3503.5	Yes		Nearby
Golden eagle, <i>Aquila chrysaetos</i>	BGEPA, CFP, FGC 3503.5	Not yet		Nearby
Bald eagle, <i>Haliaeetus leucocephalus</i>	BGEPA, BCC, CE, FGC 3503.5	Not yet		Nearby
Cooper's hawk, <i>Accipiter cooperii</i>	TWL, FGC 3503.5	Yes		Nearby
Sharp-shinned hawk, <i>Accipiter striatus</i>	TWL, FGC 3503.5	Not yet		Nearby
Ferruginous hawk, <i>Buteo regalis</i>	BLM, TWL, FGC 3503.5	Not yet		Nearby
Red-tailed hawk, <i>Buteo jamaicensis</i>	FGC 3503.5	Yes		Nearby
Swainson's hawk, <i>Buteo swainsoni</i>	CT, FGC 3503.5	Not yet		Nearby
Red-shouldered hawk, <i>Buteo lineatus</i>	FGC 3503.5	Not yet		Nearby
Northern harrier, <i>Circus cyaneus</i>	SSC ₃ , FGC 3503.5	Yes		Nearby
White-tailed kite, <i>Elanus leucurus</i>	CFP, FGC 3503.5	Not yet		Nearby
American kestrel, <i>Falco sparverius</i>	FGC 3503.5	Yes	On site	Nearby
Merlin, <i>Falco columbarius</i>	TWL, FGC 3503.5	Not yet	Moderate	Nearby
Prairie falcon, <i>Falco mexicanus</i>	BCC, TWL, FGC 3503.5	Yes		Nearby
Peregrine falcon, <i>Falco peregrinus</i>	CE, CFP, BCC, FGC 3503.5	Yes		Nearby
Long-billed curlew, <i>Numenius americanus</i>	TWS	Yes		Nearby
Whimbrel, <i>Numenius phaeopus</i>	BCC	Yes		Nearby
Western yellow-billed cuckoo, <i>Coccyzus americanus occidnetalis</i>	FT, BCC, CE	Yes		Nearby
Barn owl, <i>Tyto alba</i>	FGC 3503.5	Yes		Nearby
Long-eared owl, <i>Asio otus</i>	BLM, SSC ₃	Yes		Nearby

F.14,
cont.

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Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Short-eared owl, <i>Asio flammeus</i>	SSC3, FGC 3503.5	Yes		Nearby
Great-horned owl, <i>Bubo virginianus</i>	FGC 3503.5	Yes		Nearby
Western screech-owl, <i>Megascops kennicotti</i>	FGC 3503.5	Not yet		Nearby
Western burrowing owl, <i>Athene cucularia</i>	BCC, SSC2	Yes	High	Nearby
Gila woodpecker, <i>Melanerpes uropygialis</i>	CE, BCC	Not yet	Low	Nearby
Ladder-backed woodpecker, <i>Dryobates scalaris</i>	BLM, BCC, CE	Yes		Nearby
Vaux's swift, <i>Chaetura vauxi</i>	SSC2	Yes		Nearby
Costa's hummingbird, <i>Calypte costae</i>	BCC	Yes		Nearby
Olive-sided flycatcher, <i>Contopus cooperi</i>	SSC2	Yes		Nearby
Vermilion flycatcher, <i>Pyrocephalus rubinus</i>	SSC2	Yes		Nearby
Southwestern willow flycatcher, <i>Empidonax traillii</i>	FE, CE	Not yet	Low	Nearby
Cactus wren, <i>Campylorhynchus brunneicapillus</i>	BCC	Yes		Nearby
Purple martin, <i>Progne subis</i>	SSC2	Not yet		Nearby
Bank swallow, <i>Riparia</i>	CT	Yes		Nearby
Crissal thrasher, <i>Toxostoma crissale</i>	BLM, BCC, SSC3	Yes	Moderate	Nearby
LeConte's thrasher, <i>Toxostoma lecontei</i>	BLM, BCC, SSC1	Not yet	Moderate	Nearby
Bendire's thrasher, <i>Toxostoma bendirei</i>	BCC, SSC3	Not yet		Nearby
Loggerhead shrike, <i>Lanius ludovicianus</i>	SSC2	Yes	On site ²	Nearby
California horned lark, <i>Eremophila alpestris</i>	TWL	Yes		Nearby
Black-tailed gnatcatcher, <i>Polioptera nigriceps</i>	TWL	Yes	Moderate	Nearby
Arizona Bell's vireo, <i>Vireo bellii arizonae</i>	CE, BCC	Not yet		Nearby
Yellow-breasted chat, <i>Icteria virens</i>	SSC3	Yes	Low	Nearby
Lucy's warbler, <i>Oreothlypis luciae</i>	BCC, SSC3	Yes		Nearby
Yellow warbler, <i>Dendroica petechia sonorana</i>	BCC, SSC2	Yes	Moderate	Nearby
Bell's sage sparrow, <i>Amphispiza belli</i>	TWL	Yes		Nearby
Vesper sparrow, <i>Poocetes gramineus affinis</i>	SSC2	Yes		Nearby
Grasshopper sparrow, <i>Ammodramus savannarum</i>	SSC2	Not yet		Nearby
Large-billed savannah sparrow, <i>Passerculus s. rostratus</i>	SSC2	Yes		Nearby
Summer tanager, <i>Piranga rubra</i>	SSC1	Yes		Nearby
Tricolored blackbird, <i>Agelaius tricolor</i>	CT, BCC	Not yet		Nearby
Yellow-headed blackbird, <i>X. xanthocephalus</i>	SSC3	Yes		Nearby
Lawrence's goldfinch, <i>Spinus lawrencei</i>	BCC	Not yet		Nearby
Sonoran Desert toad, <i>Incilius alvarius</i>	SSC	Not yet	Moderate	In range

F.14,
 cont.

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Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Lowland leopard frog, <i>Lithobates yavapaiensis</i>	SSC	Not yet	Moderate	Near range
Couch's spadefoot, <i>Scaphiopus couchii</i>	BLM, SSC	Not yet	Moderate	Nearby
Desert tortoise, <i>Gopherus agassizii</i>	FT, CT	Yes	Moderate	Nearby
Flat-tailed horned lizard, <i>Phrynosoma mcallii</i>	SSC	Not yet		Nearby
Hoary bat, <i>Lasiurus cinereus</i>	WBWG: M	Not yet		In range
Pallid bat, <i>Antrozous pallidus</i>	BLM, SSC, WBWG:H	Yes	Low	Nearby
Western mastiff bat, <i>Eumops perotis californicus</i>	BLM, SSC, WBWG:H	Not yet		Nearby
Townsend's big-eared bat, <i>Corynorhinus t. townsendii</i>	BLM, SSC, WBWG:H	Yes		In range
Big free-tailed bat, <i>Tadarida molossa</i>	SSC, WBWG:MH	Not yet		In range
Pocketed free-tailed bat, <i>Nyctinomops femorosaccus</i>	SSC, WBWG:M	Not yet	High	In range
Western yellow bat, <i>Lasiurus xanthinus</i>	SSC, WBWG:H	Not yet		In range
Western red bat, <i>Lasiurus blossevillii</i>	SSC, WBWG:H	Not yet		In range
Small-footed myotis, <i>Myotis ciliolabrum</i>	BLM, WBWG:M	Yes		In range
Fringed myotis, <i>Myotis thysanoides</i>	BLM, WBWG:H	Not yet		In range
Yuma myotis, <i>Myotis yumanensis</i>	BLM, WBWG:LM	Yes		In range
California leaf-nosed bat, <i>Mactotus californicus</i>	BLM, SSC, WBWG:H	Not yet	Low	Nearby
Round-tailed ground squirrel, <i>Xerospermophilus tereticaudus chlorus</i>	SSC	Not yet		Nearby to north
American badger, <i>Taxidea taxus</i>	SSC	Not yet	Moderate	Nearby
Desert kit fox, <i>Vulpes macrotis arsipus</i>	CFP	Not yet	On site	Nearby
Burro deer, <i>Odocoileus hemionus eremicus</i>	SS, PS	Not yet		Nearby
Peninsular bighorn sheep, <i>Ovis canadensis nelson</i>	FE, CT	Not yet	None	In range

F.14,
 cont.

2. The DEIR Fails to Adequately Disclose and Analyze Impacts to Biological Resources from Fatality Rates, Habitat Loss, Wildlife Movement, and Cumulative Impacts

The DEIR fails to adequately disclose and analyze impacts on several special-status species that leads the County to underestimate significant impacts on biological resources. As such, the DEIR fails to demonstrate with substantial evidence that impacts to these species will be less than significant, as required by CEQA. The DEIR must be revised to correct these deficiencies.

F.15

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a. Fatality Rates for the Burrowing Owl

In his letter, Mr. Smallwood provides detailed predictive analysis of mortality rates for Burrowing Owl with respect to the Project:

After losing their habitat to solar projects, burrowing owls collide with PV solar panels at a rate of 0.182 (95% CI: 0.150-0.258) fatalities/MW/year. Burrowing owls also collide with perimeter fences at a rate of 0.25 (95% CI: 0.197-0.329) fatalities/km/year and with gen-ties at a rate of 0.034 (95% CI: 0.027-0.043) fatalities/km/year. Applied to the project, these rates would predict 3.64 (95% CI: 3-5.2) burrowing owl fatalities per year at PV arrays, 0.37 (95% CI: 0.29-0.48) fatalities per year along the fence, and 0.03 (95% CI: 0.04-0.06) fatalities per year along the gen-tie, totaling 101 (95% CI: 83-144) over the project's projected life, assuming burrowing owls are not earlier extirpated from Imperial County.³⁷

In other words, the Project is expected to kill approximately 101 burrowing owls over the Project's projected life,

Mr. Smallwood's projection comes in stark contrast to the County's claim in the DEIR, which states that because of the "static and highly visible nature of solar panels and transmission towers, burrowing owls are not expected to collide with the structures during daytime foraging activities when they may be hovering or flying in search of prey. No impacts on burrowing owl are anticipated as a result of collision with facility structures, and no mitigation would be required."³⁸

Mr. Smallwood has commented on previous solar projects in Imperial County with similar features and his projections on avian mortality have been proven correct by the facts on the ground.³⁹ He explains, "[t]he scientific evidence is now overwhelming that solar PV arrays deployed at utility scale pose considerable collision risk to birds."⁴⁰ The County cannot cursorily dismiss the potential for burrowing owl mortality at the Project site without disclosing and analyzing the substantial evidence of potentially significant impact provided by Mr. Smallwood.

F.16

³⁷ Smallwood Comments, p. 8.

³⁸ DEIR, p. 3.4-27.

³⁹ See Smallwood Comments, pp. 8-9.

⁴⁰ Smallwood Comments, p. 8.

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b. Habitat Loss

The DEIR's primary claim regarding habitat loss for biological resources at the Project site is that any loss would compose a small percentage of available habitat within the geographic range of any given species.⁴¹ However, Mr. Smallwood identifies three errors with this logic: 1) only a portion of the area within a species' geographic range consists of habitat suitable to the species; 2) species of wildlife are well known to be spatially aggregated within contiguous expanses of suitable habitat, typically occupying only 25% of their available habitat at any given time; and 3) the claim examines project-generated habitat loss at a cumulative scope without examining cumulative impacts.⁴² Correcting for the DEIR's inaccurate assumption, Mr. Smallwood finds that the project's destruction of habitat would deny the Sonoran Desert of 1,733 birds, while also killing 8,485 birds for a combined toll of 10,218 birds.⁴³

F.17

The DEIR provides essentially no evidence supporting its conclusion that habitat loss will not result in a significant environmental impact. The DEIR must be revised to consider the substantial evidence from Mr. Smallwood to support its conclusions.

c. Wildlife Movement

The County's discussion of wildlife movement in the DEIR concludes that, because "the BSA does not occur within any known wildlife movement corridor or habitat linkage" no significant impact is present.⁴⁴ However, a significant impact can be found under CEQA with respect to wildlife movement regardless of whether the movement is channeled by a corridor. Mr. Smallwood elaborates:

F.18

A site such as the proposed project site is critically important for wildlife movement because it composes a diminishing patch of natural cover within a growing expanse of anthropogenic land uses – especially of solar projects, forcing more volant wildlife to use the site as stopover and staging habitat during migration, dispersal, and home range patrol.⁴⁵

⁴¹ See DEIR, p. 3.4-28.

⁴² Smallwood Comments, pp. 9–10.

⁴³ Smallwood Comments, p. 13.

⁴⁴ DEIR, p. 3.4-15

⁴⁵ Smallwood Comments, p. 13.

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Additionally, the project would block half of the width of the strip of land between the East Highline Canal and Coachella Canal, which bind a long strip of land from which many small mammals and reptiles likely cannot leave by traveling east or west.⁴⁶ These Canals effectively created a forced wildlife movement corridor which would largely be blocked by the Project.⁴⁷ This significant evidence, published in publicly available research, was omitted from the DEIR's analysis of the biological impacts from the Project. This omission must be remedied before the EIR can be certified.

F.18,
cont.

d. Cumulative Impacts

Mr. Smallwood's research shows that, between collision fatalities and lost breeding capacity due to habitat loss, the cumulative toll of renewable energy projects on birds in the Imperial Valley would remove 472,115 birds over 25 years.⁴⁸ The DEIR does not include this type of quantitative analysis in its discussion of cumulative impacts. Instead, it merely acknowledges the mitigation and other regulatory requirements from FWS and CDFW and claims that the Project's compliance, in addition to project compliance at large within Imperial County, with these guidelines and regulations would therefore not contribute substantially to a cumulative biological resources impact.⁴⁹ This is an incorrect application of CEQA's guidelines on cumulative impacts.

F.19

A project has a significant cumulative impact if the project's potential environmental impacts, although individually limited, are cumulatively considerable.⁵⁰ The term "cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.⁵¹ Thus, by relying on a determinations of less than significant biological impacts for each individual solar project in Imperial County without considering the impacts of all the solar projects *cumulatively*, the DEIR completely fails to conduct a cumulative impacts analysis for the Project.

No doubt, justification for the Project comes both from the local and state-wide need for energy and the desire to mitigate anthropogenic climate change. But

⁴⁶ Smallwood Comments, p. 13.

⁴⁷ Smallwood Comments, p. 13.

⁴⁸ Smallwood Comments, p. 14.

⁴⁹ DEIR, pp. 5-9-5-11.

⁵⁰ PRC § 21083(b); 14 CCR §§ 15064(h)(1), 15065(a)(3).

⁵¹ PRC § 21083(b)(2).

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in making this consideration, it cannot be lost that a primary reason for slowing anthropogenic climate change is to reduce its damaging and disruptive effects on wildlife and their habitats, including the many ecosystem services these habitats provide when intact. By continually declaring cumulative impacts to biological resources not significant and not attempting to seek other feasible methods of mitigation, e.g., compensatory mitigation, while allowing the numbers of wildlife fatalities to continue to rise, the DEIR attempts to sidestep one of the pillars of CEQA review and has arrived at a point where the adverse environmental effects are no longer be considered “acceptable.”⁵² A full quantitative analysis must be completed by the County in order to determine the full extent of cumulative impacts from the Project and similar projects in the County, and additional mitigation should be employed to reduce those impacts before the EIR can be certified.

F.19,
cont.

3. The DEIR Fails to Adequately Mitigate Impacts to Biological Resources and does not Include all Feasible Mitigation Measures

Many of the impacts to biological resources discussed above are considered less than significant by the DEIR due to mitigation measures purporting to reduce impacts to biological resources. However, in his letter, Mr. Smallwood identifies multiple mitigation measures that do not adequately mitigate against the extent of impacts to biological resources. Additionally, Mr. Smallwood presents eight feasible mitigation measures not currently adopted by the DEIR that would facilitate further reduction in environmental impacts.

F.20

As previously stated, CEQA imposes an affirmative obligation on agencies to avoid or reduce environmental harm by adopting feasible project alternatives or mitigation measures.⁵³ Before a project that will cause significant environmental impacts can be approved, a lead agency must find that *all* feasible mitigation measures that would reduce or eliminate a project’s impacts have been adopted.⁵⁴ The DEIR has failed to do so.

a. Many of the DEIR’s Proposed Mitigation Measures are Inadequate

First, Mr. Smallwood indicates that the preconstruction surveys proposed in BIO-1, BIO-4, BIO-6, BIO-7, and BIO-9 are not sufficient to adequately track the

F.21

⁵² See CEQA Guidelines Section 15093(a).

⁵³ Pub. Res. Code §§ 21002-21002.1.

⁵⁴ See CEQA Guidelines §§ 15092(b), 15043.4106-013acp

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biological resources on the Project site. He finds that what “are missing from [the DEIR], and what are in greater need than preconstruction surveys, are detection surveys consistent with guidelines and protocols that wildlife ecologists have uniquely developed for use with each special-status species.”⁵⁵ Moreover, it is highly unlikely that preconstruction surveys would detect all of the existing nest sites of special-status species of birds on the project site.⁵⁶ Thus, the proposed preconstruction survey measures are insufficient to mitigate against their intended impacts.

F.21,
cont.

Second, Mr. Smallwood reiterates the issues raised above regarding avian impacts on PV facilities and habitat loss with respect to BIO-2, BIO-3, and BIO-5. Although all of the suggested measures in BIO-2, BIO-3, and BIO-5 are appropriate and necessary, “none of the listed measures would minimize collision fatalities with project infrastructure, and none would minimize or mitigate in any way the impacts of habitat loss.”⁵⁷ Thus, neither avian fatality rates nor habitat loss are sufficiently analyzed or mitigated in the DEIR. A recirculated DEIR must remedy this error.

F.22

Finally, the Bird and Bat Conservation Strategy proposed in BIO-8 is legally insufficient because it defers the development of the strategy until after the project is approved.⁵⁸ Under CEQA, an EIR may not defer a mitigation measure beyond its approval without clear performance standards for what the future mitigation must achieve.⁵⁹ Mr. Smallwood describes the type of clear performance standards that would satisfy this requirement under CEQA:

F.23

(1) Describe baseline conditions for bird and bat species present within the Project site, including results of site-specific surveys, (2) Assess potential risk to bird and bats based on the proposed activities, and (3) Specify conservation measures that will be employed to avoid, minimize, and/or mitigate any potential adverse effects to these species.⁶⁰

The performance standards listed in BIO-8 do not rise to this level of specificity or provide adequate protection as required by CEQA. The mitigation measure must be revised to satisfy the legal requirement.

⁵⁵ Smallwood Comments, p. 15.

⁵⁶ Smallwood Comments, p. 16.

⁵⁷ Smallwood Comments, p. 18.

⁵⁸ Smallwood Comments, p. 18.

⁵⁹ See *Sacramento Old City Assoc. v. City Council of Sacramento* (1991) 229 Cal. App. 3d 1011.

⁶⁰ Smallwood Comments, p. 18.

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b. The DEIR fails to Consider All Feasible Mitigation Measures

In his letter, Mr. Smallwood identifies eight feasible mitigation measures not included in the DEIR that would contribute to the mitigation of biological impacts from the Project. The County must consider and implement these measures in a revised EIR before the EIR can be certified.

F.24

- **Detection Surveys:** County of Imperial should recirculate a revised EIR that is founded on adequate detection surveys for special-status species and nesting birds. An example of detection surveys needed at the project site are those of burrowing owls from CDFW guidelines
- **Post-construction Monitoring of Project Impacts:** Post-monitoring of the Project site for potential impacts should include on-foot and/or scent-detection dog surveys in addition to carcass detection trials.
- **Behavior Surveys:** The DEIR should require behavior surveys by qualified behavioral ecologists to begin to understand why birds and bats are colliding with solar facilities and what can be done to reduce the impacts.
- **Transparent Reporting:** Construction and fatality monitoring through several years of operations should be performed by qualified biologists and reported publicly.
- **Adequate Fatality Monitoring:** Qualified biologists should be retained to perform fatality monitoring. Monitoring should include a single search interval, no longer than weekly searches.
- **County-Wide Assessment of Solar Impacts:** The County should require scientifically sound fatality monitoring either at all of its solar projects or at a randomized selection of projects and share the results with the public.
- **Implement Mitigation Measures with Sound Experimental Designs:** Experimental design principles, e.g., mylar ribbons intended to dissuade birds from flying into PV arrays, marked powerlines, and treatments to fences, must be considered prior to implementation of any mitigation measures intended to reduce collision fatalities.
- **Compensatory Mitigation:** The DEIR needs to be revised to include measures such as habitat protected in exchange for habitat loss and collision fatalities, and donations to wildlife rehabilitation facilities that will care for injured animals delivered from solar projects and other anthropogenic sources.

F.24a

F.24b

F.24c

F.24d

F.24e

F.24f

F.24g

F.24h

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B. The DEIR Fails to Adequately Disclose, Analyze, and Mitigate Impacts on Air Quality and Public Health

The DEIR fails to adequately disclose, analyze, and mitigate impacts from the Project's construction and operational emissions. As demonstrated by SWAPE and explained below, the DEIR's analysis is flawed and its finding that impacts from air emissions will be less than significant is not supported by substantial evidence.

First, the DEIR relies on inadequate and unsubstantiated construction and operational emission values. When corrected, an updated analysis shows significant pollutant emissions as a result of the Project's construction. Second, the DEIR improperly concludes that the Project's health risk impacts from construction and operational emissions would be less than significant without conducting a quantified health risk analysis.

The DEIR fails to provide substantial evidence to demonstrate that the Project's construction and operational emissions will result in less than significant impacts. As such, the DEIR does not adequately disclose, analyze, and mitigate impacts on air quality and public health. The DEIR must be revised to address these deficiencies and the revised DEIR must be recirculated for public review and comment.

F.25

1. The DEIR does not Adequately Evaluate all Emissions from the Project's Construction and Operation

The Project proposes to install a fiberoptic cable and gen-tie line, along with the solar PV modules and substation facility. However, the DEIR completely omits a quantification of emissions resulting from the construction and operation of the fiberoptic cable and gen-tie line, claiming:

The installation of the fiberoptic cable would require substantially less construction equipment and shorter duration compared to the construction of the solar energy facility and gen-tie line. Based on this consideration, the installation of the fiberoptic cable would result in GHG emissions below allowable thresholds. This is considered a less than significant impact.⁶¹

F.26

⁶¹ DEIR, p. 3.7-15.
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A lead agency’s significance determination with regard to each impact must be supported by accurate scientific and factual data.⁶² Here, SWAPE notes that “there is a large gap in the DEIR’s analysis of the Project’s impacts on regional air quality” due to the failure to quantify emissions related to the fiberoptic cable and gen-tie line.⁶³ As such, the DEIR fails to support both its determination that installation of the fiberoptic cable and gen-tie line will result in a less than significant air quality impact and that the Project’s air quality impacts as a whole are less than significant.

F.26,
cont.

2. The DEIR’s Air Quality Modeling Inputs are Unsubstantiated

The DEIR relies upon emission modeling through the California Emissions Estimator Model (“CalEEMod”) to support its findings that the Project would have less than significant air quality impacts.⁶⁴ However, SWAPE’s review of the air modeling inputs determined that certain inputs were not justified while some inputs were not incorporated at all into the calculation.

F.27

First, the DEIR’s output files show that the Project’s anticipated operational vehicle fleet mix percentage values were modified.⁶⁵ However, the DEIR’s stated justification for these modifications were based on a “*construction-related* vehicle fleet mix,” when in fact, “these changes impact the Project’s *operational* fleet mix.”⁶⁶ This incorrect categorization likely causes the DEIR’s modeling to underestimate operational emissions.

Second, the DEIR fails to input all operational emission values associated with proposed land uses and activities for the Project. As SWAPE points out, the Project proposes to construct 12 blocks of 2,520 3.5-foot by 4.8-foot PV panels, a 300-foot by 175-foot substation, and a fiberoptic cable and gen-tie line.⁶⁷ In total, the Project would include 508,032-SF of PV panels and a 52,500-SF substation, as well as a fiber optic cable and gen-tie line.⁶⁸ However, the Project’s CalEEMod output files for the Project’s operation reveal that PV panels and a substation facility are not included in the land use modeling. Because of this, the model necessarily

F.28

⁶² CEQA Guidelines § 15064(b).

⁶³ SWAPE Comments, pp. 11–12.

⁶⁴ DEIR, p. 3.3-14.

⁶⁵ SWAPE Comments, p. 7.

⁶⁶ SWAPE Comments, p. 5.

⁶⁷ SWAPE Comments, p. 5.

⁶⁸ SWAPE Comments, pp. 5–6.

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underestimates the Project’s operational emissions and thus renders the County’s analysis incorrect and incomplete.⁶⁹ } F.28, cont.

Third, the DEIR underestimates and fails to substantiate modeling changes related to operational vehicle trips. SWAPE’s review of the CalEEMod output revealed that the modeling underestimated daily operational vehicle trips to the Project site by 10 one-way trips per week and failed to support changes to trip lengths and trip purposes with any justification, against the recommendations of the CalEEMod User’s guide.⁷⁰ As such, SWAPE could not verify the accuracy of the modeling’s vehicle trip emissions, which are likely underestimated. } F.29

Fourth, the DEIR’s model included changes to the Project’s construction and operational paved roads percentages, but these changes were not fully explained and directly contradict the percentages of paved/unpaved roads disclosed in the DEIR.⁷¹ } F.30

Finally, the DEIR’s modeling shows mitigation measures included for “water exposed area” and “reduce vehicle speed on unpaved roads” were modified, however, these mitigation measures too are not substantiated or explained in the modeling output.⁷² Thus, SWAPE was again unable to verify the accuracy of the modeling output. } F.31

Unless the DEIR acknowledges and incorporates **all emissions** related to the Project’s construction and operational activities and these emissions are adequately supported per the CalEEMod User’s Guide, the air model is incomplete, likely results in an underestimation of emissions, and should not be relied upon to determine Project significance. As it is, the DEIR does not have substantial evidence to support its findings of less than significant air quality emissions. The DEIR must be revised to include an accurate and adequate air quality analysis. } F.32

3. The DEIR Did Not Evaluate Emissions from Decommissioning Activities

An EIR must describe the project as a whole and the project’s “reasonably foreseeable” impacts on the environment.⁷³ Here, this means analyzing the Project’s } F.33

⁶⁹ SWAPE Comments, p. 6.

⁷⁰ SWAPE Comments, p. 7.

⁷¹ SWAPE Comments, pp. 9–10.

⁷² SWAPE Comments, pp. 10–11.

⁷³ Pub. Res. Code § 20165; CEQA Guidelines §§ 15064(d), 15378(a).
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decommissioning impacts as well as its construction and operation impacts. However, the DEIR completely fails to grapple with or provide any quantification of air emissions for the decommissioning of the Project after its 20- to 25-year lifespan, cursorily concluding that “[t]he overall activity would be anticipated to be somewhat less than project construction, and the emissions from off-road and on-road equipment are expected to be much lower than those for the Project construction.”⁷⁴ This is insufficient, as SWAPE points out, because it is known that the solar panels and associated structures will need to be removed, impacted soils will need to be restored, and debris will need to be hauled off-site.⁷⁵ Thus, a quantitative estimation could have been made and emissions from these activities associated with decommissioning should have been evaluated as part of the DEIR’s analysis of the Project’s impacts to air quality.

F.33,
 cont.

Until an adequate analysis is conducted that incorporates emissions related to decommissioning activities, the DEIR’s analysis results in an underestimation of emissions and should not be relied upon to determine Project significance. As such the DEIR does not have substantial evidence to support its finding of less than significant air quality emissions. The DEIR must be revised to include an accurate and adequate air quality analysis.

F.34

4. When Corrected, the DEIR’s Construction Emissions Result in a Significant Impact

After correcting for the errors found in the DEIR’s modeling, SWAPE found that the Project’s construction-related PM10 emissions increase when compared to the DEIR’s model and exceed the 150 pounds per day (“lbs/day”) threshold set by the Imperial County Air Pollution Control District (ICAPCD), seen in the table below.⁷⁶

F.35

Model	PM10
DEIR	17.6999
SWAPE	639.7735
% Increase	3515%
ICAPCD Regional Threshold (lbs/day)	150

⁷⁴ DEIR, p. 3.3-22.

⁷⁵ SWAPE Comments, p. 11.

⁷⁶ SWAPE Comments, p. 12.

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<u>Threshold Exceeded?</u>	<u>Yes</u>	
<p>As SWAPE’s updated modeling shows, a correct accounting for the Project’s construction PM10 emissions shows an increase of 3,515% from the DEIR’s estimation, resulting in an exceedance of the ICAPCD’s significance threshold. Any significant air quality impacts must be disclosed, analyzed, and mitigated against in an EIR before a project can be approved.⁷⁷ The County must do so here before certifying an EIR for the Project.</p>		F.35, cont.
<p>5. The DEIR Did Not Adequately Analyze the Project’s Cancer Risk from Construction and Operational Emissions</p>		
<p>One of the primary emissions of concern regarding health effects for land development projects is diesel particulate matter (“DPM”), which can be released during Project construction and operation. DPM consists of fine particles with a diameter less than 2.5 micrometer (“µm”) including a subgroup of ultrafine particles (which have a diameter less than 0.1 µm). Diesel exhaust also contains a variety of harmful gases and cancer-causing substances. As the DEIR recognizes, exposure to DPM is a recognized health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems.⁷⁸</p>		F.36
<p>The DEIR concludes that the Project would have a less than significant health risk impact without adequately evaluating adverse health impacts resulting from exposure to toxic air contaminants (“TACs”).⁷⁹ However, the DEIR fails to include a health risk assessment to disclose the increased cancer risk that will be caused by exposure to TACs, such as DPM, from the Project’s construction and operational emissions.⁸⁰ By omitting a health risk assessment, the DEIR fails to disclose and mitigate the potentially significant cancer risk posed to nearby residents and children from TACs. Moreover, because the DEIR offers no adequate support for its conclusion that the Project’s health risk impacts will be less than significant, the DEIR’s conclusion is not supported by substantial evidence.</p>		F.37

⁷⁷ Pub. Res. Code §§ 21002.1, subd. (a), 21100, subd. (b)(3).

⁷⁸ DEIR, p. 3.3-5.

⁷⁹ DEIR, p. 3.3-20.

⁸⁰ SWAPE Comments, p. 12.
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CEQA expressly requires that an EIR discuss, inter alia, “health and safety problems caused by the physical changes” resulting from the project.⁸¹ When a project results in exposure to toxic contaminants, this analysis requires a “human health risk assessment.”⁸²

F.38

a. The DEIR’s Finding that the Project’s Health Risk Impacts Will Be Less-Than-Significant Health Risk Impact Is Not Supported by Substantial Evidence

Although the DEIR acknowledges that the greatest potential for TAC emissions would be related to DPM emissions from heavy-duty equipment during construction, the DEIR simply concludes that the Project’s cancer risk from exposure to DPM would be less than significant without any quantitative analysis.⁸³ Relying on non-quantitative analysis and unsupported assumptions to determine that a health risk assessment is not necessary results in a premature and improper finding that TAC impacts would be less than significant. For the reasons discussed below, the DEIR’s finding that the Project’s health risk impacts will be less than significant is not supported by substantial evidence.

F.39

First, as discussed in Section III(B)(1) and (2), the DEIR’s analysis relies upon a flawed air modeling analysis with inputs that have not been justified and emission values that were not incorporated (*e.g.*, emissions from all operational and decommissioning activities). As a result, the DEIR’s conclusion that DPM emissions would not exceed the significant cancer threshold is unsupported because the emission inputs relied upon are inaccurate and incomplete.

F.40

Second, the nearest sensitive receptors to the Project site are considerably closer than that disclosed by the DEIR.⁸⁴

F.41

Third, the DEIR cannot conclude a less than significant finding for health risk impacts of DPM based on the assumption that a health risk assessment is not required. More importantly, a less than significant finding for cancer risk is determined by a numeric threshold, ICAPCD’s significance threshold is 10 in one

F.42

⁸¹ 14 CCR § 15126.2(a).

⁸² *Berkeley Jets*, at 1369; *Bakersfield Citizens for Local Control v. City of Bakersfield* (2004) 124 Cal.App.4th 1184, 1219–1220 (CEQA requires that there must be some analysis of the correlation between the project’s emissions and human health impacts).

⁸³ SWAPE Comments, p. 12.

⁸⁴ SWAPE Comments, p. 13.

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million, and therefore a quantitative analysis is necessary.⁸⁵ Without a quantitative analysis of the Project's TACs emissions, the DEIR's less than significant finding lacks substantial evidence.

F.42,
cont.

Finally, SWAPE points that the omission of a quantified health risk assessment is inconsistent with recent widely-adopted guidance published by the Office of Environmental Health Hazard Assessment ("OEHHA"), which recommends that all short-term projects lasting at least two months be evaluated for cancer risks to nearby sensitive receptors.⁸⁶ OEHHA's guidance document also recommends that exposure from projects lasting more than 6 months should be evaluated for the duration of the project, and a 30-year exposure duration should be used to estimate individual cancer risk for the maximally exposed individual resident ("MEIR").⁸⁷ Because the Project's construction will last approximately 221 days, and the Project's operational timeline is approximately 20 years, the County is required to conduct an assessment of public health risks, supported by substantial evidence, as recommended by ICAPCD and OEHHA and as required by CEQA. By failing to prepare a health risk assessment, the DEIR's conclusions of less than significant impacts to public health is unsupported.

F.43

C. The DEIR Fails to Adequately Disclose, Analyze, and Mitigate Impacts on Climate Change from Greenhouse Gas ("GHG") Emissions

CEQA requires agencies to "make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project."⁸⁸ A lead agency can determine the significance of a project's GHG emissions by (1) quantifying GHG emissions resulting from the project; and/or (2) relying on a qualitative analysis or performance based standards.⁸⁹ The "agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes."⁹⁰ Finally, as with the analysis of all impact areas, the agency must employ all feasible mitigation measures to reduce or eliminate impacts.

F.44

⁸⁵ SWAPE Comments, p. 14.

⁸⁶ SWAPE Comments, p. 13.

⁸⁷ SWAPE Comments, p. 14.

⁸⁸ CEQA Guidelines, § 15064.4 (a).

⁸⁹ CEQA Guidelines, § 15064.4 (a)(1) and (a)(2)

⁹⁰ CEQA Guidelines, § 15064.4 (b).

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Here, the DEIR fails to adequately disclose, analyze, and mitigate GHG impacts on climate change from the Project's construction and operational activities for several reasons. As SWAPE discusses in its technical comments, the DEIR's finding of no significant GHG impacts is incorrect because the DEIR fails to demonstrate with substantial evidence that the Project is consistent with goals, plans, policies or regulations adopted for the purpose of reducing the emissions of GHG.

F.45

As such the DEIR improperly concludes that the Project's GHG impacts would be less than significant. The County must make a reasonable effort to conduct a complete and thorough GHG analysis to determine the significant impacts on climate change and propose adequate mitigation measures, based on substantial evidence, that reduces those impacts to less than significant.

F.46

1. The DEIR Fails to Provide Substantial Evidence Demonstrating the Project is Consistent with Applicable Plans, Policies or Regulations to Determine that GHG Impacts Are Less-Than-Significant

In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.⁹¹ CEQA Guidelines explicitly mandate, however, that the "analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes."⁹² Moreover, California Courts have acknowledged that "over time, consistency with year 2020 goals will become a less definitive guide, especially for long-term projects that will not begin operations for several years [after 2020]."⁹³

F.47

The DEIR purportedly analyzed impacts from GHG based on "whether the project would be consistent with the State's applicable GHG reduction goals, plans, policies and regulatory requirements."⁹⁴ Specifically, the DEIR primarily discusses the Project's consistency with the CARB Scoping Plan ("Scoping Plan"), as neither

F.48

⁹¹ CEQA Guidelines, § 15064.4 (b)(3).

⁹² 14 CCR §15064.4(b)

⁹³ *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th at 223.

⁹⁴ DEIR, p. 3.7-14.

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the County of Imperial or ICAPCD have any specific plans, policies, nor regulations adopted for reducing the emissions of GHGs.⁹⁵ However, the DEIR fails to provide substantial evidence to support this determination as required by CEQA for two reasons.

F.48,
cont.

First, the Scoping Plan is only intended to provide emission reduction goals through 2020.⁹⁶ As previously stated, California Courts have expressed doubt about the continued efficacy of 2020 goals as industrial projects move beyond 2020 in their construction and operation.⁹⁷ Indeed, SWAPE notes, “[g]iven that it is already August of 2020, and the Project has not yet been approved, [the Scoping] plan is outdated and does not apply to the proposed Project.”⁹⁸

F.49

Second, the DEIR merely offers bare conclusions in its determination that the Project is consistent with the Scoping Plan. These conclusory statements do not contain sufficient detail to allow those who did not participate in the EIR’s preparation to understand and meaningfully consider the issues raised by the Project.⁹⁹ As such, the DEIR lacks substantial evidence to demonstrate that the Project’s consistency with these policies results in less-than-significant impacts from GHG emissions.

F.50

For the above-stated reasons, the DEIR ultimately fails to adequately disclose, analyze, and mitigate the Project’s impacts from GHG emissions. The DEIR must correct these deficiencies in a revised and recirculated EIR.

F.51

D. The DEIR Fails to Adequately Disclose, Analyze, and Mitigate Public Health Risk Impacts from the Project

F.52

CEQA requires lead agencies to consider whether a project would “create a significant hazard to the public or the environment through the routine transport,

⁹⁵ DEIR, p. 3.7-14.

⁹⁶ “Climate Change Scoping Plan: A Framework for Change Pursuant to AB 32 The California Global Warming Solutions Act of 2006.” California Air Resources Board (CARB), December 2008, available at:

https://ww2.arb.ca.gov/sites/default/files/classic/cc/scopingplan/document/adopted_scoping_plan.pdf, p. 1.

⁹⁷ *Center for Biological Diversity v. Department of Fish & Wildlife* (2015) 62 Cal.4th at 223.

⁹⁸ SWAPE Comments, p. 15.

⁹⁹ E.g. *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, 516 (“The ultimate inquiry, as case law and the CEQA guidelines make clear, is whether the EIR includes enough detail ‘to enable those who did not participate in its preparation to understand and to consider meaningfully the issues raised by the proposed project.’”).

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use, or disposal of hazardous materials.”¹⁰⁰ Likewise, CEQA requires lead agencies to determine whether projects create “a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment.”¹⁰¹

F.52,
cont.

As SWAPE notes in its letter, the DEIR failed to address potential health risk impacts from hazardous materials at the Project site and from Valley Fever. As such the DEIR is inadequate as an informational document and must be revised to address these issues.

1. The DEIR Fails to Disclose, Analyze, and Mitigate Against Potential Hazards and Hazardous Materials at the Project Site

The DEIR states that there are no significant impacts due to the possible release of hazardous materials at the Project site. However, the only information the DEIR relies upon to make this determination is a regulatory database search of the “Cortese List,” which SWAPE notes, “does not suffice for disclosure of impacts.”¹⁰² SWAPE notes further that, “consistent with professional due diligence procedures commonly used in CEQA matters, a Phase I ESA, completed by a licensed environmental professional is necessary for inclusion in an MND to identify recognized environmental conditions, if any, at the proposed Project site.”¹⁰³ Thus, without preparing a Phase I ESA, the DEIR did not provide substantial evidence showing that no significant impact will occur from hazards or hazardous materials as a result of the Project.

F.53

2. The DEIR does not Evaluate Potential Health Risk from Valley Fever

CEQA requires that an EIR be prepared with a “sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences.”¹⁰⁴ However, the DEIR provides no discussion of the Project’s impacts on public health from Valley

F.54

¹⁰⁰ CEQA Guidelines Appendix G Section IX: Hazards and Hazardous Materials.

¹⁰¹ CEQA Guidelines Appendix G Section IX: Hazards and Hazardous Materials.

¹⁰² SWAPE Comments, p. 1.

¹⁰³ SWAPE Comments, p. 2.

¹⁰⁴ CEQA Guidelines, § 15151.

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Fever and provides no substantial evidence to demonstrate the proposed mitigation measures will result in less than significant impacts.¹⁰⁵

As discussed in greater detail in SWAPE’s comments, Valley Fever, also known as coccidioidomycosis, is an infectious disease caused by inhaling the spores of the soil dwelling fungus, *Coccidioides immitis* (CI).¹⁰⁶ The CI spores become airborne when infected soils are disturbed during construction activities, agricultural operations, dust storms, or during earthquakes.¹⁰⁷ The disease is debilitating and prevents those who have contracted Valley Fever from working.¹⁰⁸ A 2012 study revealed that, between 1990 and 2008, half of the 3,000 people who died from Valley Fever in the United States were in California.¹⁰⁹ In recent years, reported Valley Fever cases in southwestern United States have increased dramatically.¹¹⁰ No known cure exists for the disease and there is no vaccine.¹¹¹

F.54,
cont.

Notably, another study documented the impact of Valley Fever on workers constructing large, industrial-scale projects during the period of October 2011 through April 2014 and found 44 California solar construction workers diagnosed with symptom onset.¹¹² Project construction and operation will generate dust which is one of the primary routes of exposure for contracting Valley Fever.¹¹³ Thus, construction workers are one of the most at-risk populations and exposure is much larger for workers on or adjacent to the project site, according to SWAPE’s research.¹¹⁴ Furthermore, the dust generated from Project construction carries very small spores – 0.002-0.005 millimeters in diameter – into other areas, potentially exposing large segments of the public.¹¹⁵

F.55

By completely failing to address this issue, the DEIR fails as an informational document and fails to adequately mitigate against significant health risk impacts. In their comments, SWAPE identifies the following mitigation measures that the County must adopt to mitigate against this impact:

¹⁰⁵ SWAPE Comments, p. 2.

¹⁰⁶ SWAPE Comments, p. 3.

¹⁰⁷ SWAPE Comments, p. 3.

¹⁰⁸ SWAPE Comments, p. 3.

¹⁰⁹ SWAPE Comments, p. 3.

¹¹⁰ SWAPE Comments, p. 3.

¹¹¹ SWAPE Comments, p. 3.

¹¹² SWAPE Comments, p. 3.

¹¹³ SWAPE Comments, p. 3.

¹¹⁴ SWAPE Comments, p. 3.

¹¹⁵ SWAPE Comments, p. 4.

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1. Minimize Exposure to Potential Valley Fever–Containing Dust through:
 - Cleaning equipment and vehicles of dust
 - Conducting earth-moving activities downwind of worker when possible
 - Spraying areas to be graded with water
 - Ceasing work if water runs out until a water truck can return
 - Using earth-moving vehicles with closed-cabs and equipped with a HEPA-filtered air systems
 - Training workers about Valley Fever and providing informational handouts.
2. Providing respirators to workers when requested and providing training on the proper use of personal protective equipment.
3. Payment of a monetary fee to Imperial County for implementation of Valley Fever public awareness programs.
4. To require a respiratory protection program that is compliant with California Code of Regulations, Title 8, Section 5144.¹¹⁶

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The DEIR must be revised to adequately analyze the Project’s impacts of Valley Fever on public health and should fully evaluate and propose a wider range of mitigation measures to reduce those impacts.

E. The DEIR Fails to Implement all Feasible Mitigation Measures for the Project’s Air Quality, Health Risk, and GHG Impacts

Finally, SWAPE identifies multiple sets of feasible mitigation measures that the DEIR does not consider as a means of mitigating the air quality, health risk, and GHG impacts outlined above. As stated previously, before a project that will cause significant environmental impacts can be approved, a lead agency must find that *all* feasible mitigation measures that would reduce or eliminate a project’s impacts have been adopted.¹¹⁷ The DEIR has failed to do so here. SWAPE’s proposed mitigation measures are reproduced below:

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NEDC’s *Diesel Emission Controls in Construction Projects*¹¹⁸

¹¹⁶ SWAPE Comments, p. 4.

¹¹⁷ See CEQA Guidelines §§ 15092(b), 15043.

¹¹⁸ “Diesel Emission Controls in Construction Projects.” Northeast Diesel Collaborative (NEDC), December 2010, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>.
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Measures – Diesel Emission Control Technology
<p>a. Diesel Onroad Vehicles All diesel nonroad vehicles on site for more than 10 total days must have either (1) engines that meet EPA onroad emissions standards or (2) emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.</p>
<p>b. Diesel Generators All diesel generators on site for more than 10 total days must be equipped with emission control technology verified by EPA or CARB to reduce PM emissions by a minimum of 85%.</p>
<p>c. Diesel Nonroad Construction Equipment</p> <ul style="list-style-type: none"> i. All nonroad diesel engines on site must be Tier 2 or higher. Tier 0 and Tier 1 engines are not allowed on site ii. All diesel nonroad construction equipment on site for more than 10 total days must have either (1) engines meeting EPA Tier 4 nonroad emission standards or (2) emission control technology verified by EPA or CARB for use with nonroad engines to reduce PM emissions by a minimum of 85% for engines 50hp and greater and by a minimum of 20% for engines less than 50hp.
<p>d. Upon confirming that the diesel vehicle, construction equipment, or generator has either an engine meeting Tier 4 non road emission standards or emission control technology, as specified above, installed and functioning, the developer will issue a compliance sticker. All diesel vehicles, construction equipment, and generators on site shall display the compliance sticker in a visible, external location as designated by the developer.</p>
<p>e. Emission control technology shall be operated, maintained, and serviced as recommended by the emission control technology manufacturer.</p>
<p>f. All diesel vehicles, construction equipment, and generators on site shall be fueled with ultra-low sulfur diesel fuel (ULSD) or a biodiesel blend¹¹⁹ approved by the original engine manufacturer with sulfur content of 15 ppm or less.</p>
Measures – Idling Requirements
<p>During periods of inactivity, idling of diesel onroad vehicles and nonroad equipment shall be minimized and shall not exceed the time allowed under state and local laws.</p>
Measures – Additional Diesel Requirements
<p>a. Construction shall not proceed until the contractor submits a certified list of all diesel vehicles, construction equipment, and generators to be used on site. The list shall include the following:</p> <ul style="list-style-type: none"> i. Contractor and subcontractor name and address, plus contact person responsible for the vehicles or equipment.

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¹¹⁹ Biodiesel blends are only to be used in conjunction with the technologies which have been verified for use with biodiesel blends and are subject to the following requirements:
<http://www.arb.ca.gov/diesel/verdev/reg/biodieselcompliance.pdf>
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<ul style="list-style-type: none"> ii. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, engine serial number, and expected fuel usage and hours of operation. iii. For the emission control technology installed: technology type, serial number, make, model, manufacturer, EPA/CARB verification number/level, and installation date and hour-meter reading on installation date.
<p>b. If the contractor subsequently needs to bring on site equipment not on the list, the contractor shall submit written notification within 24 hours that attests the equipment complies with all contract conditions and provide information.</p>
<p>c. All diesel equipment shall comply with all pertinent local, state, and federal regulations relative to exhaust emission controls and safety.</p>
<p>d. The contractor shall establish generator sites and truck-staging zones for vehicles waiting to load or unload material on site. Such zones shall be located where diesel emissions have the least impact on abutters, the general public, and especially sensitive receptors such as hospitals, schools, daycare facilities, elderly housing, and convalescent facilities.</p>
<p>Reporting</p>
<p>a. For each onroad diesel vehicle, nonroad construction equipment, or generator, the contractor shall submit to the developer's representative a report prior to bringing said equipment on site that includes:</p> <ul style="list-style-type: none"> i. Equipment type, equipment manufacturer, equipment serial number, engine manufacturer, engine model year, engine certification (Tier rating), horsepower, and engine serial number. ii. The type of emission control technology installed, serial number, make, model, manufacturer, and EPA/CARB verification number/level. iii. The Certification Statement signed and printed on the contractor's letterhead.
<p>b. The contractor shall submit to the developer's representative a monthly report that, for each onroad diesel vehicle, nonroad construction equipment, or generator onsite, includes:</p> <ul style="list-style-type: none"> i. Hour-meter readings on arrival on-site, the first and last day of every month, and on off-site date. ii. Any problems with the equipment or emission controls. iii. Certified copies of fuel deliveries for the time period that identify: <ul style="list-style-type: none"> 1. Source of supply 2. Quantity of fuel 3. Quality of fuel, including sulfur content (percent by weight)

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<i>SMAQMD's Basic Construction Emission Control Practices¹²⁰</i>
<i>The following Basic Construction Emissions Control Practices are considered feasible for controlling fugitive dust from a construction site. The practices also serve as best management practices (BMPs), allowing the use of the non-zero particulate matter significance thresholds. Lead agencies should add these emission control practices as Conditions of Approval (COA) or include in a Mitigation Monitoring and Reporting Program (MMRP).</i>
Control of fugitive dust is required by District Rule 403 and enforced by District staff.
Water all exposed surfaces two times daily. Exposed surfaces include, but are not limited to soil piles, graded areas, unpaved parking areas, staging areas, and access roads.
Cover or maintain at least two feet of free board space on haul trucks transporting soil, sand, or other loose material on the site. Any haul trucks that would be traveling along freeways or major roadways should be covered.
Use wet power vacuum street sweepers to remove any visible trackout mud or dirt onto adjacent public roads at least once a day. Use of dry power sweeping is prohibited.
Limit vehicle speeds on unpaved roads to 15 miles per hour (mph).
All roadways, driveways, sidewalks, parking lots to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
<i>The following practices describe exhaust emission control from diesel powered fleets working at a construction site. California regulations limit idling from both on-road and offroad diesel-powered equipment. The California Air Resources Board (CARB) enforces idling limitations and compliance with diesel fleet regulations.</i>
Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.

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¹²⁰ "Basic Construction Emission Control Practices (Best Management Practices)." Sacramento Metropolitan Air Quality Management District (SMAQMD), July 2019, available at: <https://www.epa.gov/sites/production/files/2015-09/documents/nedc-model-contract-sepcification.pdf>
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Provide current certificate(s) of compliance for CARB's In-Use Off-Road Diesel-Fueled Fleets Regulation [California Code of Regulations, Title 13, sections 2449 and 2449.1].
<i>Although not required by local or state regulation, many construction companies have equipment inspection and maintenance programs to ensure work and fuel efficiencies</i>
Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determine to be running in proper condition before it is operated.
SMAQMD's Enhanced Exhaust Control Practices¹²¹
<p>1. The project representative shall submit to the lead agency and District a comprehensive inventory of all off-road construction equipment, equal to or greater than 50 horsepower, that will be used an aggregate of 40 or more hours during any portion of the construction project.</p> <ul style="list-style-type: none"> • The inventory shall include the horsepower rating, engine model year, and projected hours of use for each piece of equipment. • The project representative shall provide the anticipated construction timeline including start date, and name and phone number of the project manager and on-site foreman. • This information shall be submitted at least 4 business days prior to the use of subject heavy-duty off-road equipment. • The District's Equipment List Form can be used to submit this information. • The inventory shall be updated and submitted monthly throughout the duration of the project, except that an inventory shall not be required for any 30-day period in which no construction activity occurs. <p>2. The project representative shall provide a plan for approval by the lead agency and District demonstrating that the heavy-duty off-road vehicles (50 horsepower or more) to be used in the construction project, including owned, leased, and subcontractor vehicles, will achieve a project wide fleet-average 20% NOX reduction and 45% particulate reduction compared to the most recent California Air Resources Board (ARB) fleet average.</p> <ul style="list-style-type: none"> • This plan shall be submitted in conjunction with the equipment inventory. • Acceptable options for reducing emissions may include use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available.

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¹²¹ "Enhanced Exhaust Control Practices." Sacramento Metropolitan Air Quality Management District (SMAQMD) October 2013, available at: <http://www.airquality.org/LandUseTransportation/Documents/Ch3EnhancedExhaustControlFINAL10-2013.pdf>.
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<ul style="list-style-type: none">• The District's Construction Mitigation Calculator can be used to identify an equipment fleet that achieves this reduction.
<p>3. The project representative shall ensure that emissions from all off-road diesel powered equipment used on the project site do not exceed 40% opacity for more than three minutes in any one hour.</p> <ul style="list-style-type: none">• Any equipment found to exceed 40 percent opacity (or Ringelmann 2.0) shall be repaired immediately.• Non-compliant equipment will be documented and a summary provided to the lead agency and District monthly.• A visual survey of all in-operation equipment shall be made at least weekly.• A monthly summary of the visual survey results shall be submitted throughout the duration of the project, except that the monthly summary shall not be required for any 30-day period in which no construction activity occurs. The monthly summary shall include the quantity and type of vehicles surveyed as well as the dates of each survey.
<p>4. The District and/or other officials may conduct periodic site inspections to determine compliance. Nothing in this mitigation shall supersede other District, state or federal rules or regulations.</p>

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IV. CONCLUSION

The DEIR fails as an informational document and lacks substantial evidence to support its analysis and conclusions in violation of CEQA. The DEIR failed to properly establish the environmental setting for biological resources, adequately disclose and analyze the Project's impacts on biological resources, air quality, public health, and climate change, and adequately mitigate those impacts.

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The County must revise the DEIR to cure these deficiencies and must circulate the revised DEIR for public review and comment. We respectfully urge the County to do so prior to any further consideration of the Project.

Sincerely,



Aaron M. Messing
Attorney

Attachments

AMM:acp

4106-013acp

EXHIBIT A

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11 August 2020

RE: Wister Solar Energy Facility EIR

Dear Mr. Messing,

I write to comment on the Environmental Impact Report (EIR) that was prepared for the proposed Wister Solar Energy Facility, which I understand would consist of 20 MW of photo-voltaic (PV) panels and infrastructure covering 100 acres of the Sonoran Desert (County of Imperial 2020). (Note that page 3.4-1 of the EIR identifies the project size as 122.5 acres, and elsewhere it identifies the size as 115 acres.) The PV array itself would cover 89 acres, and the rest of the project site would include a substation, control room, parking area, and 2,070 m of 20-foot wide, all-weather surfaced access roads (3.1 acres). The PV arrays would be surrounded by “earthen channels” and 1.46 km of 6-foot tall chain-link fence topped by barbed wire, and connected by a 762 m long gen-tie and 3.2 km of fiberoptic cable. A new groundwater well would be constructed to provide the project 0.81 acre-feet per year of water for washing PV panels. I write to comment on the impacts of these facilities on wildlife, which was also addressed by Stantec (2020).

My qualifications for providing an expert review includes the following. I earned a Ph.D. degree in Ecology from the University of California at Davis in 1990, where I also performed four years of post-graduate research. My research is on animal density and distribution, habitat selection, conservation of rare and endangered species, and interactions between wildlife and human infrastructure and activities. I’ve authored many peer-reviewed papers, reports and book chapters. I served as Chair of the Conservation Affairs Committee for The Wildlife Society – Western Section. I am a member of The Wildlife Society and the Raptor Research Foundation, and I’ve lectured part-time at California State University, Sacramento. I served as Associate Editor of Journal of Wildlife Management and Biological Conservation, I guest-edited a special issue of Wildlife Society Bulletin, and I served on the Editorial Board of Environmental Management.

As part of research and consulting, I have performed wildlife surveys in California for 35 years, including for many special-status species potentially occurring on the project site -- burrowing owl, golden eagle, Swainson’s hawk, American badger, and many others. I have researched bird and bat interactions with renewable energy for 21 years, including diurnal and nocturnal behavior surveys, GPS/GSM telemetry of golden eagles, fatality rate estimation, and efficacy of mitigation measures. I served on the Alameda County Scientific Review Committee that was charged with overseeing the fatality monitoring

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and mitigation measures in the Altamont Pass Wind Resource Area, and I prepared many comment letters on proposed renewable energy projects, including many solar projects. I am in the process of completing a scientific review of California’s solar energy impacts on wildlife. I collaborate with colleagues worldwide on the underlying science and policy issues related to renewable energy impacts on wildlife and I also served as a party to multiple California Energy Commission Proceedings on policy related to renewable energy goals and development, including the 33% Renewable Portfolio Standard, the Planning Reserve Margin, and Tehachapi Transmission Line Project. My CV is attached.

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BIOLOGICAL IMPACTS ASSESSMENT

Stantec (2020) visited the site on a single day on 30 January 2019 to perform “*focused non-protocol surveys for special-status plant and wildlife species.*” It is unclear what Stantec meant by focused non-protocol surveys. What did Stantec focus on? Anyhow, Stantec did not report when the surveys began or how long they lasted. So far that I can determine, Stantec’s survey effort appears to have been grossly deficient for detecting more than a fraction of the wildlife species that use the project site.

In contrast to whatever it was that Stantec did on the project site, Barrett’s Biological Surveys actually followed a survey protocol for a special-status species -- the flat-tailed horned lizards (*Phrynosoma mcallii*; California species of special concern). Following the survey recommendations of Foreman (2003), Barrett’s Biological Surveys visited the site on 31 August 2018. They did not detect the species of their focus, but they did report detecting another special-status species – loggerhead shrike (*Lanius ludovicianus*, California species of special concern, priority level 2). And yet this detection was not reported by Stantec (2020) nor County of Imperial (2020), both of whom assigned only a moderate potential for loggerhead shrikes to occur on the site. How many other special-status species were similarly mischaracterized in their potential to occur on the site?

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No protocol-level surveys were performed for desert tortoise or burrowing owl, despite known occurrences of these species near the project site. The EIR needs to be revised so that it is founded on the results of detection surveys that are consistent with US Fish and Wildlife Service (2017) for desert tortoise and with CDFW (2012) for burrowing owl. Until these surveys are completed, the EIR’s reports of either these species having not been present during Stantec’s survey remain uninformative and even misleading. Burrowing owls are known to be difficult to detect during winter, which is when Stantec visited the site. I must add that preconstruction surveys, which are what County of Imperial (2020) proposes for these species, are not detection surveys. Preconstruction surveys perform a different function than does detection surveys. Detection surveys are needed to inform readers of the EIR -- decision-makers and the public – as well as those who later perform preconstruction surveys.

After reviewing eBird and iNaturalist, I must conclude that Stantec (2020) and County of Imperial (2020) neglect the occurrence likelihoods of many special-status species of wildlife (Table 1). It also appears that County of Imperial (2020) considers occurrence

Table 1. Potentially occurring species of wildlife on the project area according to EIR and eBird (<https://eBird.org>) or iNaturalist (<https://www.inaturalist.org/observations>), where 'nearby' means within a few miles of the project site.

Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Brant, <i>Branta bernicla</i>	SSC2	Yes		Nearby
American white pelican, <i>Pelecanus erythrorhynchos</i>	SSC1	Yes		Nearby
Brown pelican, <i>Pelecanus occidentalis californicus</i>	FE, CE, CFP	Yes	None	Nearby
Double-crested cormorant, <i>Phalacrocorax auritus</i>	TWL	Yes		Nearby
Least bittern, <i>Ixobrychus exilis</i>	BCC, SSC2	Yes		Nearby
Yuma Ridgway rail, <i>Rallus longirostris yumanensis</i>	FE, CT	Yes	Low	Nearby
Greater sandhill crane, <i>Grus canadensis tabida</i>	CT	Not yet		Nearby
Redhead, <i>Aythya americana</i>	SSC3	Yes		Nearby
Western snowy plover, <i>Charadrius alexandrinus nivosus</i>	FT, BCC	Yes	Low	Nearby
Mountain plover, <i>Charadrius montanus</i>	SSC2	Not yet	Moderate	Nearby
Marbled godwit, <i>Limosa fedoa</i>	BCC	Not yet		Nearby
Short-billed dowitcher, <i>Limnodromus griseus</i>	BCC	Not yet		Nearby
Black skimmer, <i>Rynchops niger</i>	BCC, SSC3	Not yet	Low	Nearby
California gull, <i>Larus californicus</i>	TWL	Yes	Low	Nearby
Caspian tern, <i>Hydropogone caspia</i>	TWL	Not yet	Low	Nearby
Gull-billed tern, <i>Geochelidon nilotica</i>	SSC3	Not yet	Low	Nearby
California least tern, <i>Sterna antillarum browni</i>	FE, CE	Not yet		Nearby
Osprey, <i>Pandion haliaetus</i>	TWL, FGC 3503.5	Yes		Nearby
Golden eagle, <i>Aquila chrysaetos</i>	BGEPA, CFP, FGC 3503.5	Not yet		Nearby
Bald eagle, <i>Haliaeetus leucocephalus</i>	BGEPA, BCC, CE, FGC 3503.5	Not yet		Nearby
Cooper's hawk, <i>Accipiter cooperii</i>	TWL, FGC 3503.5	Yes		Nearby
Sharp-shinned hawk, <i>Accipiter striatus</i>	TWL, FGC 3503.5	Not yet		Nearby
Ferruginous hawk, <i>Buteo regalis</i>	BLM, TWL, FGC 3503.5	Not yet		Nearby
Red-tailed hawk, <i>Buteo jamaicensis</i>	FGC 3503.5	Yes		Nearby
Swainson's hawk, <i>Buteo swainsoni</i>	CT, FGC 3503.5	Not yet		Nearby
Red-shouldered hawk, <i>Buteo lineatus</i>	FGC 3503.5	Not yet		Nearby

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Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Northern harrier, <i>Circus cyaneus</i>	SSC3, FGC 3503.5	Yes		Nearby
White-tailed kite, <i>Elanus leucurus</i>	CFP, FGC 3503.5	Not yet		Nearby
American kestrel, <i>Falco sparverius</i>	FGC 3503.5	Yes	On site	Nearby
Merlin, <i>Falco columbarius</i>	TWL, FGC 3503.5	Not yet	Moderate	Nearby
Prairie falcon, <i>Falco mexicanus</i>	BCC, TWL, FGC 3503.5	Yes		Nearby
Peregrine falcon, <i>Falco peregrinus</i>	CE, CFP, BCC, FGC 3503.5	Yes		Nearby
Long-billed curlew, <i>Numenius americanus</i>	TWS	Yes		Nearby
Whimbrel, <i>Numenius phaeopus</i>	BCC	Yes		Nearby
Western yellow-billed cuckoo, <i>Coccyzus americanus occidentalis</i>	FT, BCC, CE	Yes		Nearby
Barn owl, <i>Tyto alba</i>	FGC 3503.5	Yes		Nearby
Long-eared owl, <i>Asio otus</i>	BLM, SSC3	Yes		Nearby
Short-eared owl, <i>Asio flammeus</i>	SSC3, FGC 3503.5	Yes		Nearby
Great-horned owl, <i>Bubo virginianus</i>	FGC 3503.5	Yes		Nearby
Western screech-owl, <i>Megascops kennicotti</i>	FGC 3503.5	Not yet		Nearby
Western burrowing owl, <i>Athene cunicularia</i>	BCC, SSC2	Yes	High	Nearby
Gila woodpecker, <i>Melanerpes uropygialis</i>	CE, BCC	Not yet	Low	Nearby
Ladder-backed woodpecker, <i>Dryobates scalaris</i>	BLM, BCC, CE	Yes		Nearby
Vaux's swift, <i>Chaetura vauxi</i>	SSC2	Yes		Nearby
Costa's hummingbird, <i>Calypte costae</i>	BCC	Yes		Nearby
Olive-sided flycatcher, <i>Contopus cooperi</i>	SSC2	Yes		Nearby
Vermilion flycatcher, <i>Pyrocephalus rubinus</i>	SSC2	Yes		Nearby
Southwestern willow flycatcher, <i>Empidonax traillii</i>	FE, CE	Not yet	Low	Nearby
Cactus wren, <i>Campylorhynchus brunneicapillus</i>	BCC	Yes		Nearby
Purple martin, <i>Progne subis</i>	SSC2	Not yet		Nearby
Bank swallow, <i>Riparia riparia</i>	CT	Yes		Nearby
Crissal thrasher, <i>Toxostoma crissale</i>	BLM, BCC, SSC3	Yes	Moderate	Nearby
LeConte's thrasher, <i>Toxostoma lecontei</i>	BLM, BCC, SSC1	Not yet	Moderate	Nearby
Bendire's thrasher, <i>Toxostoma bendirei</i>	BCC, SSC3	Not yet		Nearby

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cont.

Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Loggerhead shrike, <i>Lanius ludovicianus</i>	SSC2	Yes	On site ²	Nearby
California horned lark, <i>Eremophila alpestris</i>	TWL	Yes		Nearby
Black-tailed gnatcatcher, <i>Polioptera nigriceps</i>	TWL	Yes	Moderate	Nearby
Arizona Bell's vireo, <i>Vireo bellii arizonae</i>	CE, BCC	Not yet		Nearby
Yellow-breasted chat, <i>Icteria virens</i>	SSC3	Yes	Low	Nearby
Lucy's warbler, <i>Oreothlypis luciae</i>	BCC, SSC3	Yes		Nearby
Yellow warbler, <i>Dendroica petechia sonorana</i>	BCC, SSC2	Yes	Moderate	Nearby
Bell's sage sparrow, <i>Amphispiza belli</i>	TWL	Yes		Nearby
Vesper sparrow, <i>Poocetes gramineus affinis</i>	SSC2	Yes		Nearby
Grasshopper sparrow, <i>Ammodramus savannarum</i>	SSC2	Not yet		Nearby
Large-billed savannah sparrow, <i>Passerculus s. rostratus</i>	SSC2	Yes		Nearby
Summer tanager, <i>Piranga rubra</i>	SSC1	Yes		Nearby
Tricolored blackbird, <i>Agelaius tricolor</i>	CT, BCC	Not yet		Nearby
Yellow-headed blackbird, <i>X. xanthocephalus</i>	SSC3	Yes		Nearby
Lawrence's goldfinch, <i>Spinus lawrencei</i>	BCC	Not yet		Nearby
Sonoran Desert toad, <i>Incilius alvarius</i>	SSC	Not yet	Moderate	In range
Lowland leopard frog, <i>Lithobates yavapaiensis</i>	SSC	Not yet	Moderate	Near range
Couch's spadefoot, <i>Scaphiopus couchii</i>	BLM, SSC	Not yet	Moderate	Nearby
Desert tortoise, <i>Gopherus agassizii</i>	FT, CT	Yes	Moderate	Nearby
Flat-tailed horned lizard, <i>Phrynosoma mcallii</i>	SSC	Not yet		Nearby
Hoary bat, <i>Lasiurus cinereus</i>	WBWG: M	Not yet		In range
Pallid bat, <i>Antrozous pallidus</i>	BLM, SSC, WBWG:H	Yes	Low	Nearby
Western mastiff bat, <i>Eumops perotis californicus</i>	BLM, SSC, WBWG:H	Not yet		Nearby
Townsend's big-eared bat, <i>Corynorhinus t. townsendii</i>	BLM, SSC, WBWG:H	Yes		In range
Big free-tailed bat, <i>Tadarida molossa</i>	SSC, WBWG:MH	Not yet		In range
Pocketed free-tailed bat, <i>Nyctinomops femorosaccus</i>	SSC, WBWG:M	Not yet	High	In range
Western yellow bat, <i>Lasiurus xanthinus</i>	SSC, WBWG:H	Not yet		In range
Western red bat, <i>Lasiurus blossomii</i>	SSC, WBWG:H	Not yet		In range
Small-footed myotis, <i>Myotis cililabrum</i>	BLM, WBWG:M	Yes		In range

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cont.



Species	Status ¹	Known fatalities at solar energy	Occurrence likelihood	
			EIR	eBird / iNaturalist
Fringed myotis, <i>Myotis thysanoides</i>	BLM, WBWG:H	Not yet		In range
Yuma myotis, <i>Myotis yumanensis</i>	BLM, WBWG:LM	Yes		In range
California leaf-nosed bat, <i>Mactotis californicus</i>	BLM, SSC, WBWG:H	Not yet	Low	Nearby
Round-tailed ground squirrel, <i>Xerospermophilus tereticaudus chlorus</i>	SSC	Not yet		Nearby to north
American badger, <i>Taxidea taxus</i>	SSC	Not yet	Moderate	Nearby
Desert kit fox, <i>Vulpes macrotis arsipus</i>	CFP	Not yet	On site	Nearby
Burro deer, <i>Odocoileus hemionus eremicus</i>	SS, PS	Not yet		Nearby
Peninsular bighorn sheep, <i>Ovis canadensis nelson</i>	FE, CT	Not yet	None	In range

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¹ Listed as FE and FT = federal endangered and threatened, BCC = U.S. Fish and Wildlife Service Bird Species of Conservation Concern, CE and CT = California endangered and threatened, CFP = California Fully Protected (FGC Code 3511), FGC 3503.5 = California Fish and Game Code 3503.5 (Birds of prey), SSC = California species of special concern (not threatened with extinction, but rare, very restricted in range, declining throughout range, peripheral portion of species' range, associated with habitat that is declining in extent), and SSC1, SSC2 and SSC3 = priorities 1, 2 and 3, respectively (Shuford and Gardali 2008), TWL = Taxa to Watch List (Shuford and Gardali 2008), WBWG = Western Bat Working Group listing as moderate or high priority.

² The EIR assigned the site moderate potential for supporting loggerhead shrike, but Barrett's Biological Surveys (2018) reported detecting the species on site.

potential only in the contexts of natural habitat affiliations, but not in the context of birds fooled into perceiving PV arrays as bodies of water. The Lake Effect associated with PV solar projects has been discussed for a decade, so it is nothing new. Birds not normally seen on desert scrub, such as California brown pelicans, brant, and double-crested cormorants, have been found dead where they attempted to land on solar panels in the false belief they were landing on water. There may be additional effects of the PV arrays that attract birds or bats to locations they normally would not visit. The evidence of these effects is in the fatality monitoring reports of about 25% of California's installed capacity of solar energy projects where monitoring has been implemented and their results came into my possession.

My review of records of species occurrences reveals an astonishing 91 special-status species nearby the project site or whose geographic ranges overlap or nearly overlap the project site. The site of the proposed project is rich in special-status species, and therefore is vulnerable to significant impacts multiple times over. Of these 91 special-status species, 53% are represented as fatalities during construction or operation of California's solar projects. County of Imperial (2020) addressed the occurrence likelihoods of only 28 (30%) of these species. The EIR needs to be revised to make much greater use of species occurrence data that are available to the County, including from eBird and iNaturalist, and from fatality monitoring reports from 1,488.5 MW of solar projects within Imperial County as of 2019 (according to the California Energy Commission).

Based on my review of the available fatality monitoring reports (Althouse and Meade 2012, 2014; Chambers Group 2016; Doering and Santistevan 2013; Dudek 2018; Heritage Environmental Consultants 2014, 2015a,b, 2016, 2017a,b,c; H.T. Harvey & Associates 2013, 2015a,b; Martinson et al. 2018a,b; Shoener and Barrett's Biological Surveys 2018; UltraSystems. 2014a – e; Western EcoSystems Technology 2016, 2017a,b,c, 2018a,b, 2019), 190 species of birds and 8 species of bats have been documented as collision fatalities at California solar projects. Many of these species are special-status species, and some are listed as threatened or endangered (Table 1). Of 81 volant, special-status species in Table 1, 47 (58%) have already been recorded as solar project fatalities. The rest are likely to be also eventually identified as solar project fatalities.

Because the fatality monitoring efforts varied widely in methods that affect estimation of fatality rates, and because some reports reported on the fatalities found but did not report fatality estimates, I applied a uniform suite of adjustment factors to the data collected at each study to improve comparability (Smallwood unpublished data). I relied on on-site carcass detection trials to the degree that was reasonable (e.g., I did not use searcher detection rates of Christmas tree ornaments placed in one study to represent birds in Imperial County), but I also scaled some of the results to variation in detection rates linked to body mass of the species found as fatalities. Both bird and bat fatalities found at solar projects tend to be smaller-bodied species than those found at wind projects, and the tended to be smaller than the species used in carcass detection trials.

F.62

Predicted Fatality Rates

After losing their habitat to solar projects, burrowing owls collide with PV solar panels at a rate of 0.182 (95% CI: 0.150-0.258) fatalities/MW/year. Burrowing owls also collide with perimeter fences at a rate of 0.25 (95% CI: 0.197-0.329) fatalities/km/year and with gen-ties at a rate of 0.034 (95% CI: 0.027-0.043) fatalities/km/year. Applied to the project, these rates would predict 3.64 (95% CI: 3-5.2) burrowing owl fatalities per year at PV arrays, 0.37 (95% CI: 0.29-0.48) fatalities per year along the fence, and 0.03 (95% CI: 0.04-0.06) fatalities per year along the gen-tie, totaling 101 (95% CI: 83-144) over the project's projected life, assuming burrowing owls are not earlier extirpated from Imperial County.

To estimate County-wide burrowing owl collision fatalities at existing solar projects plus the proposed project, I relied on mean burrowing owl fatalities among whole projects (PV arrays, fences, gen-ties all together as causal factors). With the project, the available data support a cumulative County-wide toll of 275 (95% CI: 226-389) burrowing owl collision deaths/MW/year. Assuming burrowing owls persist long enough, the 25-year toll would be 6,875 (95% CI: 1,875-3,250) collision fatalities in the County based on the 2019 installed capacity plus the proposed project.

All birds together collide with PV solar panels or associated infrastructure at a rate of 11.605 deaths/MW/year (95% CI: 8.570-16.626 deaths/MW/year). Birds also collide with perimeter fences at a rate of 14.435 (95% CI: 10.88-20.339) fatalities/km/year and with gen-ties at a rate of 113.162 (95% CI: 71.78-198.424) fatalities/km/year. Applied to the project, these rates would predict 232.1 (95% CI: 171.4-332.5) bird fatalities per year at PV arrays, 21.1 (95% CI: 15.88-29.69) fatalities per year along the fence, and 86.2 (95% CI: 54.70-151.20) fatalities per year along the gen-tie, totaling, or 8,485 (95% CI: 6,050-12,835) over the project's projected life.

Relying on the mean fatality rates of whole projects including this project, the available data support a cumulative County-wide toll of 17,506 (95% CI: 12,929-25,080) bird collision deaths/year. The 25-year toll would be 437,650 (95% CI: 32,323-627,000) bird collision fatalities in the County based on the 2019 installed capacity plus the proposed project.

After I predicted fatality rates of birds that might be caused by the Imperial Valley Solar II project in 2013, County of Imperial (2013:682-683) responded to my comments, "*There is no scientific evidence of fatality risks to birds associated with solar PV arrays.*" It also states "*However, PV panels are dark black rather than reflective, as they are designed to absorb rather than reflect sunlight, and there is no firm evidence of bird strikes associated with solar PV.*" And, "*Burrowing owls, like all raptors, are not known to collide with stationary objects.*" The County was correct at the time that scientific evidence had yet to exist of fatality risks to birds associated with solar PV arrays, but it was incorrect that burrowing owls and other raptors were not known to collide with stationary objects; they were (Figures 1 and 2). The scientific evidence is now overwhelming that solar PV arrays deployed at utility scale pose considerable collision risk to birds.

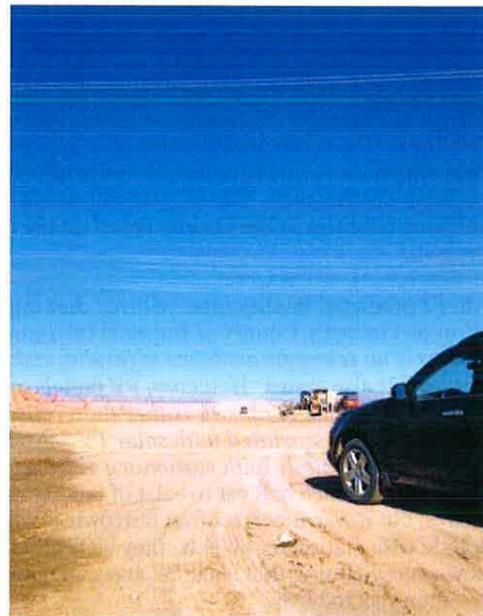
F.63

Figure 1.
Photo of burrowing owl fatality at the Imperial Solar Energy Facility West (photo source: 18 June 2015 memo from Michael Robinson to Carrie Simmons (BLM), Magdalena Rodriguez (CDFW), Jody Fraser (USFWS) and David Black (Imperial County)).



Photo 1: BUOW carcass, ventral view (as found) 6-18-15

Figure 2. *Photo of burrowing owl carcass under generation tie-in lines at the Imperial Solar Energy Facility West (photo source: 18 June 2015 memo from Michael Robinson to Carrie Simmons (BLM), Magdalena Rodriguez (CDFW), Jody Fraser (USFWS) and David Black (Imperial County)).*



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In my comments on the Imperial Valley Solar II project in 2013, I relied on what information I had available at the time -- as well as a couple of assumptions -- to predict 324 (80% CI: 107 to 540) bird fatalities/year, or 10.8 (3.57 to 18) bird fatalities/MW/year. My predicted fatality rate turned out to be very close to the measured mean fatality rate at PV arrays among California solar PV projects -- 11.605 (95% CI: 8.570-16.626) bird fatalities/MW/year. The mean fatality rate ended up only 7% higher than my prediction, and the confidence range was narrower (also note that I used an 80% CI in 2013, but a 95% CI in 2020). Even in 2013, prediction science was sufficiently advanced to accurately predict bird collision impacts of solar PV. Today's impact predictions should be taken even more seriously.

Unfortunately, County of Imperial (2020:3.4-27) expresses the same false risk assessment for burrowing owls that it did in 2013: *"Given the static and highly visible nature of solar panels and transmission towers, burrowing owls are not expected to collide with the structures during daytime foraging activities when they may be hovering or flying in search of prey. No impacts on burrowing owl are anticipated as a result of collision with facility structures, and no mitigation would be required."* Just as it did in 2013, County of Imperial presents a false description of burrowing owl foraging behavior. Having spent 995 hours on a thermal-imaging camera to watch burrowing owl foraging behavior at night, and having spent 25 years studying burrowing owls during daylight hours, I can state with confidence that the majority of burrowing owl foraging flights are made at night. I have also seen a burrowing owl collide with a static structure. Furthermore, I have quantified a large number of burrowing owls killed after colliding with static structures (Smallwood and Bell 2020). Finally, the fatality monitoring reports from solar PV projects, including those in Imperial County, prove the County wrong in its risk assessment. The burrowing owl is one of the species of birds that most often collides with PV panels and associated infrastructure. After removing habitat of burrowing owls, PV solar projects become ecological sinks for burrowing owls residing in surrounding areas.

F.64

County of Imperial (2020) concludes that collision fatalities of birds with the project's solar panels and associated infrastructure would qualify as significant impacts. It then says these impacts would be mitigated to less than significant levels with the implementation of BIO-5 and BIO-8. I comment on these measures under MITIGATION.

HABITAT LOSS

County of Imperial (2020) argues that the habitat loss would compose small percentages of available habitat within each species' geographic range. LeConte's thrasher is used as an example, in which the County points out that the habitat area of the project composes only 0.0003% of the area of the species' range. This argument, however, is fallacious for multiple reasons. First, only a portion of the area within a species' geographic range consists of habitat suitable to the species. For example, burrowing owls disproportionately reside on valley bottoms and the lower portions of southwest-facing slopes.

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Second, species of wildlife are well known to be spatially aggregated within contiguous expanses of suitable habitat, typically occupying only 25% of their available habitat at any given time (Taylor and Taylor 1979, den Boer 1981, Hanski 1994, Smallwood 1995, 1997, 2001; Smallwood et al. 2013, Smallwood and Morrison 2018). In the burrowing owl example, only 25% of the valley floors and 25% of the southwest-facing slopes are typically occupied at any given time (Smallwood et al. 2013).

The third fallacy of the argument made by County of Imperial is that it examines project-generated habitat loss at a cumulative scope without examining cumulative impacts. The County's premise is that, cumulatively, there remains ample habitat available to LeConte's thrasher and other species, but it neglects to point out the rapid habitat loss caused by solar projects and other projects permitted by the County and by other jurisdictions. Within only a few years, County of Imperial has permitted the conversion of enough open space to have installed 1,488.5 MW of solar PV (as of 2019). Based on my review of the fatality monitoring reports, PV projects typically require 6.604 acres per MW. Therefore, the County has permitted the conversion of about 9,830 acres to solar PV, and likely is in the process of allowing much more habitat destruction for utility-scale solar projects.

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County of Imperial's argument, made repeatedly by themselves and by too many others, is the main reason that overall bird abundance has declined 29% across North America over the past 48 years (Rosenberg et al. 2019). Using radar data, and using BBS data in the manner these data were intended to be used, Rosenberg et al. (2019) revealed a loss of 3 billion birds from North America – a loss with profound ecological and economic impacts yet to be quantified or understood. The long-term economic loss might vastly exceed the short-term economic gain from utility-scale PV. For example, my review of California's fatality monitoring reports reveals an average fatality rate of 1.482 mourning doves per MW per year, or 20,996 mourning doves/year. Thus, solar projects are taking 2% to 3% of the annual hunter harvest of a California population that already decline 67% between 2003 and 2017 (Seamans 2018). If the population's decline is accelerated by utility-scale solar, then California will suffer an economic loss in terms of its mourning dove harvest.

Even greater economic harm looms in the case of the burrowing owl as an example of costs associated with attempting to conserve special-status species that are rapidly declining. Thirteen years ago, 71% of California's entire burrowing owl population resided within the Imperial Valley, after the species had declined throughout the rest of its range in California (DeSante et al. 2007, Shuford and Gardali 2008). It is difficult to say what percentage of the population now resides in Imperial Valley, because much of the Valley has been converted to utility-scale solar projects. In the meantime, I measured a substantial decline at Naval Air Station Lemoore, in the Altamont Pass, and in Yolo County (Smallwood, unpublished data). Burrowing owls have also delinked in the San Francisco Bay Region and throughout the Great Central Valley. Attempts to reverse the trend are expensive drains on the economy, including for inventory and monitoring surveys, vegetation management, installations of nest boxes, capture and relocations, and artificial breeding.



When commenting on the Desert Renewable Energy Conservation Plan (DRECP), I reviewed reports of burrowing surveys in the Imperial Valley (Table 2). The average density was 8.47 pairs per km². This average density applied to the area of the project site would predict about 4 breeding pairs of burrowing owls. The DRECP targeted 71,000 acres (287.3 km²) of solar projects in Imperial Valley. Based on mean density of burrowing owls in the Valley, the targeted acreage would result in the loss of 2,433 pairs of burrowing owls, or 43% of the 2007 Imperial Valley population. The proposed project appears to be independent of the DRECP, given that County of Imperial (2020) never explains whether or how this project would participate with the DRECP. If this and other projects are added to the acreage targeted by the DRECP, then the cumulative impacts to burrowing owls will be even greater.

Table 2. Nesting densities of burrowing owls at proposed project sites within Imperial County.

Source	Site	Ha	Pairs	Nest density, pairs/km ²
Cornett 2012	Imperial Valley Solar Company 2	64	4	6.25
Ecology and Environment 2012	Hudson Ranch Power II Geothermal Project	99	13	13.13
Ecology and Environment 2012	McDonald Road portion of Hudson Ranch	78	13	16.67
HDR 2011	Mt. Signal	1,711	72	4.21
BLM 2012	Ocotillo Sol	46	5	8.58
Imperial County 2012	Solar Gen II	813	56	5.61
Heritage Environmental Consultants, LLC. 2012a	Campo Verde	1,338	65	4.86
Average				8.47

F.66

Franzeb (1978) provided a basis for applying the average density approach to estimating breeding bird capacity. Franzeb's (1978) study was nearby the project site, at the Algodones Dunes, and included 2 types of vegetation cover that resembled that of the project site; it was likely inhabited by a similar suite of bird species. Franzeb (1978) estimated 0.366 breeding birds/ha on the 2 similar cover types. Projected to the areas of the project site, this density would predict 42 breeding birds, or 21 nests that would be wiped out upon construction grading. Assuming 25 years of operational impacts, and assuming an average fledging of 2.9 birds/nest/year (Young 1948) and a generation time of 5 years, the lost capacity of both breeders and annual chick production would total 1,733 birds ((nests/year × chicks/nest × number of years) + (2 adults/nest × nests/year × (number of years ÷ years/generation))). The project would deny the Sonoran Desert another 1,733 birds during the 25-year lifespan of the project. The project would have a very large impact on the breeding capacity of birds.

As I noted earlier, the impacts of habitat loss would be compounded by solar projects acting as ecological sinks. Over the project's life, the project's destruction of habitat would deny the Sonoran Desert of 1,733 birds, while also killing 8,485 birds for a combined toll of 10,218 birds. A cost of 511 bird fatalities per MW would be a high cost.

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WILDLIFE MOVEMENT

The premise of County of Imperial's (2020) analysis of potential impacts on wildlife movement in the region is that a wildlife movement corridor must be known to exist, and that it is the corridor to which the project must interfere for an impact to be significant. This premise is false, however. County of Imperial's consultant characterized wildlife movement more accurately. Stantec's (2020) characterization was consistent with my own experience with monitoring the movement patterns of wildlife, and that is that most animals do not follow linear elements of the landscape most of the time. If animals did follow streams or ridgelines, as examples, their movement patterns would become too predictable to avoid predation, and alternatively prey species would too easily predict where predators would be waiting. This double-sided logical problem is why animals move across all feasible route alternatives.

The primary phrase of the CEQA standard goes to wildlife movement regardless of whether the movement is channeled by a corridor. A site such as the proposed project site is critically important for wildlife movement because it composes a diminishing patch of natural cover within a growing expanse of anthropogenic land uses – especially of solar projects, forcing more volant wildlife to use the site as stopover and staging habitat during migration, dispersal, and home range patrol (Warnock 2010, Taylor et al. 2011, Runge et al. 2014). The EIR needs to be revised to seriously address the project's potential impacts on wildlife movement in the region.

F.67

Non-volant species of wildlife might be particularly vulnerable to the project's interference with their ability to move through the region. The project would block half of the width of the strip of land between the East Highline Canal and Coachella Canal. These Canals bound a long strip of land from which many small mammals and reptiles likely cannot leave by traveling east or west. These Canals effectively created a forced wildlife movement corridor (Smallwood 2015). The project would largely block movement along that corridor.

Figure 5-1 of the EIR depicts a much more dire interference with wildlife movement in the region as a consequence of cumulative effects of existing and possible future projects. The eventual buildout of renewable energy would completely block wildlife movement along the strip of land between the East Highline and Coachella Canals. Even worse, it would entirely block wildlife movement between the Coachella Canal and Salton Sea. The EIR needs to be revised to seriously address this issue.

Would the project Interfere with an adopted HCP?

The project does not appear to be participating with the DRECP; County of Imperial (2020) only lists the DRECP in its definitions of terms, but never explains the project's

relationship to the DRECP. I raised serious concerns with the DRECP when its EIR was circulated for public review. That said, a great deal of work went into the DRECP, so I find it troubling that the proposed project appears to have ignored it. The project, if approved, would take the place of another project that I assume would have participated with the DRECP. The impacts analyses and mitigation plan of the DRECP would not apply to this project, which would generate impacts above and beyond those anticipated in the DRECP.

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CUMULATIVE IMPACTS

Figure 5-1 of the EIR identifies 1,336.6 MW of renewable energy capacity on >5,203 acres. County of Imperial (2020) claims that impacts at other projects would be reduced to less than significant levels through mitigation formulated by CDFW and USFWS, which is an indirect way of claiming the DRECP was formulated to mitigate impacts at those projects. However, the fatality monitoring reports reveal what has been happening despite any implementation of mitigation measures. The fatality rates are occurring at the levels I summarized earlier – they are substantial and highly significant in their impacts.

County of Imperial (2020) claims that because each project mitigates its impacts, and because Wister Solar would also mitigate its impacts, there will be no significant cumulative impacts. In other words, County of Imperial claims that cumulative impacts are residual impacts of unsuccessful mitigation. If this were true, CEQA would define cumulative effects simply as the effects of unmitigated impacts. If CEQA did define cumulative effects this way, then cumulative effects analysis would be the analysis of mitigation efficacy. But this is not how CEQA defines cumulative effects.

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County of Imperial relies on the list method of cumulative effects analysis, even though, assuming the County receives reports from the solar projects in the County, it has the means to more directly estimate ongoing cumulative impacts and to predict future cumulative impacts. As I commented earlier, the fatality monitoring reports available to me support an estimated mean 11.605 bird fatalities/MW/year (95% CI: 8.570-16.626). This rate applied to the County's cumulative total 1,336.6 MW in the Imperial Valley, combined with the 20 MW of the proposed project, would predict a cumulative annual toll of 15,743 (95% CI: 11,626-22,555) bird collision fatalities//year. The 25-year toll would be 393,575 (95% CI: 290,650-563,875) bird collision fatalities within the geographic scope defined by the County for its cumulative impacts analysis. And of course, a more comprehensive cumulative effects analysis would also estimate the number of failed nests resulting from solar project collision victims never returning to the nest, and it would estimate additional incremental and interactive effects. It would be indefensible to refer to thousands of bird fatalities as less-than-significant cumulative impacts, for they are indeed residual impacts after mitigation was implemented (or not, as the case may be). Having worked for 20 years in the Altamont Pass Wind Resource Area (APWRA), where the annual toll on birds was estimated to have been half of the toll predicted for the Imperial Valley (Smallwood and Karas 2009), I can assure County of Imperial that the cumulative impacts of renewable energy on wildlife will be significant. Millions of dollars have been spent, thousands of hours used, and legal

actions brought to address the APWRA's impacts to wildlife, and the ecological and economic costs continue to pile up 40 years after the first wind turbines were installed.

County of Imperial can also do more than the list method to estimate the cumulative impacts from habitat loss. As I commented earlier, Franzeb (1978) estimated 0.366 breeding birds/ha on the least productive vegetation cover types at Algodones Dunes. Projecting that density to the acres of project development in the County's list, and assuming bird density on agricultural land would equal the densities of the least productive vegetation covers at Algodones Dunes, Franzeb's bird density would predict >1,904 breeding birds, or 952 nests that have been or would be wiped out upon construction grading. Assuming 25 years of operational impacts, and assuming an average fledging of 2.9 birds/nest/year (Young 1948) and a generation time of 5 years, the lost capacity of both breeders and annual chick production would total 78,540 birds $((\text{nests/year} \times \text{chicks/nest} \times \text{number of years}) + (2 \text{ adults/nest} \times \text{nests/year} \times (\text{number of years} \div \text{years/generation})))$. The list of projects in County of Imperial's cumulative effects analysis would deny Imperial Valley another 78,540 birds over the next 25 years. Cumulative impacts from habitat loss would be highly significant on the breeding capacity of birds.

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Between collision fatalities and lost breeding capacity due to habitat loss, the cumulative toll of renewable energy projects on birds in the Imperial Valley would remove 472,115 birds over 25 years. As mentioned earlier, cumulative impacts do not stop with these numbers, but also include abandoned nests, disrupted social bonds, demographic imbalances and other ecological consequences that are difficult to quantify. Cumulative impacts will also extend to the actions and funds that will be expended to deal with declines in special-status species and game species. The EIR should be revised to more seriously analyze cumulative impacts.

MITIGATION

BIO-1, BIO-4, BIO-6, BIO-7 and BIO-9 – Preconstruction Surveys

Preconstruction surveys should be performed for special-status species of plants, nesting birds, desert tortoise, burrowing owl, and American badger. However, preconstruction surveys are more effective when preceded and informed by detection surveys. Detection surveys are needed to inform preconstruction surveys by mapping out where biologists performing preconstruction surveys are most likely to find animals before the tractor blade finds them. Detection surveys are also needed to assess impacts, because preconstruction surveys are not designed for assessing impacts. Furthermore, detection surveys are needed to inform the formulation of appropriate mitigation measures, because preconstruction surveys are not intended for this role either. What are missing from County of Imperial (2020), and what are in greater need than preconstruction surveys, are detection surveys consistent with guidelines and protocols that wildlife ecologists have uniquely developed for use with each special-status species. For example, County of Imperial needs to implement the CDFW (2012) detection survey guidelines for burrowing owls.

F.69

Based on my experience and review of the scientific literature, bird nests are easily missed in preconstruction surveys, because birds are skilled at concealing nests within dense clusters of branches or dense foliage, or even on open ground, e.g., killdeer nests include eggs colored to blend with the local pebbles and are laid in a cupped depression with no vegetation. Very difficult to find are nests of Allen's hummingbirds and cavity-nesters. Loggerhead shrikes nest in various plant structures, but typically in the densest portions of shrubs or trees which are further concealed by the adults' skill at misleading human observers into concluding the nest site might be somewhere else. In short, it is highly unlikely that preconstruction surveys would detect all of the existing nest sites of special-status species of birds on the project site.

Preconstruction surveys, which are also referred to as take-avoidance surveys, are really salvage operations for the individual plants or animals that are readily detectable right before construction grading begins, will not prevent substantial harm such as construction- and operations-caused fatalities and habitat loss. Preconstruction surveys do not avoid, reduce, rectify or compensate for impacts. At best, preconstruction surveys only minimize impacts by granting salvaged individuals a second chance. But even for the rare "salvaged" individuals, their displacement often results in their deaths or the deaths of others in the areas receiving translocated plants or animals (Griffith et al. 1989, Dodd and Seigel 1991, Schulz 1997). Conspecifics outside the project area can be injured or killed or starved as a result of competition with desperate animals that are translocated from the project. In one study of relocated burrowing owls, for example, many of the translocated owls collided with windows and automobiles soon after release (Schulz 1997). The process of translocation appears to be traumatic for the translocated individuals, as it probably also is for the conspecifics having to deal with the translocated animals released into their territories. Below I summarize mitigation guidelines with which I concur. I recommend that the EIR be revised to accommodate these guidelines.

The California Native Plant Society (CNPS) prepared mitigation guidelines for projects posing threats to special-status species of plants (CNPS 1998). Here I summarize the CNPS guidelines as well as CDFW's (1997) expectations for mitigation.

CNPS (1998) advocates only for mitigation involving avoidance of impacts. To avoid impacts, CNPS recommends pre-project planning and design, reconfiguring an existing project, or adopting the no-project alternative, in addition to site protection such as fencing and transfer of development rights in easements or fee title.

When lead agencies decide to minimize, rectify, reduce or compensate impacts, CNPS (1998) recommends certain standards. For example, mitigation measures should be developed on a site-specific basis, and should involve consultation with the appropriate regulatory agencies. Additional research should be conducted to determine which mitigation measures are appropriate for the specific life history and ecological relationships of rare plant species occurring at a particular site. CNPS (1998) regards habitat restoration and off-site introduction or translocation as unproven and usually

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unsuccessful. Genetic contamination of an otherwise unaffected population is intolerable.

When lead agencies allow reduction of impacts, CNPS's (1998) guidelines maintain that the project size should be reduced, the project sited in the least environmentally sensitive area and surrounded by buffer zones permanently protected in conservation easements. CNPS also insists that efforts be made to salvage portions of the population that will be lost.

When restoration is pursued, CNPS (1998) recommends that it be directed to mitigate impacts of projects approved prior to environmental regulations. It must be tailored to the project site based on the assembly of local species and habitats. The goals of the restoration project and the courses of action intended to achieve those goals need to precede implementation. Pre-impact site conditions should be determined, and the restoration plan should consider land contours, soil types, erosion patterns, and pre-impact hydrologic conditions. Study of the targeted species should be thorough so as to identify their total distribution, habitat descriptions of occupied site and symbiotic relationships with other species. The plan should consider propagation techniques, re-introduction strategy, invasive species controls, site protection, public access and other factors. Finally, a monitoring program should be sufficiently rigorous to assess restoration success, and to augment the knowledge base relevant to related restoration efforts.

When lead agencies authorize reductions of impacts over time, the CNPS (1998) recommends limiting public access to protected habitat areas through fencing or other means, and that the species and habitat conditions are monitored to detect intrusion and subsequent impacts caused by construction and operation activities. Public education should be implemented regarding the values of these areas.

When off-site compensation is pursued, off-site populations should be protected permanently through conservation easement or mitigation banking. The area of a conservation easement must be sufficiently large to support a biologically secure, reproducing population within a buffer zone in perpetuity. The surrounding land uses must be considered, as well as expected future land uses. The design of the site boundary and management plan must be scientifically based, utilizing information from baseline studies and natural history data for each species. The contract should specify the rights of the grantee, the grantors rights and uses, and restrictions of undesirable activities, and it should include language that binds the terms and conditions of the contract in perpetuity, regardless of fee title transfers. The contract should protect the site from land use change, introduction of exotic species and public access, and it should protect the right of the grantee to enforce compliance with the terms of the easement.

Also, the mitigation exchange ratio should exceed 1:1 for most species, thereby accounting for an inevitable net loss of individuals and habitat area. Where needed, off-site compensation areas should be enhanced by reducing impacts caused by on-going activities such as over-grazing by livestock or dumping of hazardous materials or trash. Translocations should be preceded by detailed inventories of species occurring at the

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receiving site, accompanied by a feasibility assessment regarding persistence and avoidance of genetic contamination. These should also occur at the appropriate time of year, following proper handling and propagation methods in consultation with the regulatory agencies. Furthermore, all translocations should be completed and shown to be successful prior to the initiation of project activities.

CNPS (1998) and CDFW (1997) insist that the mitigation design, implementation measures, and reporting methods be clearly documented, along with whom or which agencies are responsible for achieving clearly defined success criteria. Assurances must be provided in writing that certain performance criteria of the mitigation plan will be realized, and guaranteed by a negotiable performance security large enough to complete the mitigation and to pursue alternative mitigation measures should the implementation be incomplete or the objectives fail to be achieved. Five years of monitoring the success of the mitigation should be the minimum time period before returning the performance security.

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BIO-2 –Impact Avoidance and Minimization Measures

I concur with the implementation of all the measures listed per this measure. These measures can help minimize electrocutions of birds, bird-automobile collisions, non-target poisonings from use of anti-coagulant poisons, and so on. They should be implemented. However, none of the listed measures would minimize collision fatalities with project infrastructure, and none would minimize or mitigate in any way the impacts of habitat loss.

F.70

BIO-3 and BIO-5 – Worker Environmental Awareness Plan and Worker Education Plan

I concur that the measures listed for environmental awareness and education should be implemented. They have merit. However, none of them would minimize collision fatalities with project infrastructure, and none would minimize or mitigate in any way the impacts of habitat loss.

F.71

BIO-8 – Bird and Bat Conservation Strategy

For a utility-scale solar project, this measure is of high importance. Unfortunately, the formulation of this measure is deferred to an unspecified later date, but neither I nor the public will see the Bird and Bat Conservation Strategy (BBCS) prior to certification of the EIR. Elements of the BBCS should have contributed directly to the Environmental Setting, Impacts Analysis and Mitigation portions of the EIR. Those elements include (1) Describe baseline conditions for bird and bat species present within the Project site, including results of site-specific surveys, (2) Assess potential risk to bird and bats based on the proposed activities, and (3) Specify conservation measures that will be employed to avoid, minimize, and/or mitigate any potential adverse effects to these species. Decision-makers and the public need to see these portions of the BBCS detailed in the EIR.

F.72

This measure includes the later formulation of an adaptive management plan. However, adaptive management, by definition, requires participation of all stakeholders from the outset, who also identify and agree upon the objectives along with hypotheses to be tested, the monitoring plan to generate data needed for hypothesis-testing, and threshold fatality rates that would trigger management actions or alternative management prescriptions (see Holling 1978 or Walters 1986 for descriptions of the adaptive management process). Measures decided exclusively by two agencies would not be products of adaptive management.

I was a member of Alameda County Scientific Review Committee (SRC) which oversaw the implementation of an adaptive management plan in the Altamont Pass Wind Resource Area (APWRA) – the only such plan I am aware of having been implemented at a renewable energy resource area. Our plan began with a year of meetings of the Altamont Working Group, which included all stakeholders, including wind companies and their consultants, members of County, State, and Federal agencies, staff of politicians, scientists and environmentalists. The Altamont Working Group identified and agreed upon a suite of mitigation measures, but acknowledged those measures that would require greater technical scrutiny. The Alameda County Board of Supervisors passed a Resolution that emplaced the Alameda County SRC to further develop and oversee the adaptive management plan, along with open meetings to facilitate meaningful public participation, a use and fatality monitoring program to inform the SRC of the efficacy of mitigation measures and progress towards a raptor fatality reduction target. Alternative prescriptions were included. The plan set forward in the APWRA was true adaptive management, at least as written and initially implemented. Not all parties remained faithful to the plan, however, so progress was delayed and ultimately the plan proved ineffective (see Smallwood 2008 for an early assessment).

It is not enough for the EIR to say adaptive management will be implemented. It is not enough for the reasons given in the preceding paragraph, but also for not identifying candidate measures that would be implemented as part of adaptive management. Of all the candidate measures the SRC deliberated or implemented in the APWRA over 10 years, only two of the measures generated measurable results. Mitigation measures implemented at solar projects have been unable to generate any measurable results, largely due to poor experimental design. Unless viable candidate measures can be identified to reduce fatalities, and unless scientifically sound experimental designs can be proposed, The EIR's promise of adaptive management will be empty.

F.72,
cont.

RECOMMENDED MEASURES

Detection Surveys

County of Imperial should recirculate a revised EIR that is founded on adequate detection surveys for special-status species and nesting birds. Detection surveys need to be implemented according to available protocols and guidelines. An example of detection surveys needed at the project site are those of burrowing owls (CDFW 2012).

F.73

Post-construction Monitoring of Project Impacts

Of the fatality monitoring efforts at California's utility-scale solar projects, those in Imperial County were among those in need of greatest improvement. Monitors in Imperial County opted to search for fatalities by car, which would not have detected nearly as many fatalities as searching by foot or using scent-detection dogs. Some monitors in Imperial County opted to not implement carcass detection trials, which left the monitoring efforts incomplete. Some reports of fatality monitoring in Imperial County failed to identify exactly where the project was located, and some provided only meager descriptions of the project or the environment in which the project occurs. Reporting of fatality monitoring could also improve in Imperial County.

Behavior Surveys

Given the large magnitude of ongoing bird and bat fatalities at solar energy projects, Imperial County needs to require behavior surveys by qualified behavioral ecologists to begin to understand why birds and bats are colliding with solar facilities and what can be done to reduce the impacts. As an example, scientists argued for years over what factors contributed to bird and bat fatalities at wind turbines. Their arguments amounted to frustrating defenses of speculated relationships between volant animals and wind turbines. It was not until behavior surveys were implemented when causal factors were better clarified and more effective solutions implemented. My review of fatality monitoring at solar projects revealed no efforts to survey for avian or bat behaviors around solar PV arrays, fences and gen-ties. Behavior ecologists need to spend some time observing birds and bats at solar PV, and that means both day and night surveys using appropriate equipment.

F.73,
cont.

Transparent Reporting

The public needs to know, and scientists working to develop solutions need to know, of project impacts from construction through operations. Construction monitoring should be meticulously reported and shared with the public. Fatality monitoring through several years of operations should be performed by qualified biologists and reported publicly. Impacts to public trust resources such as to wildlife need to be reported publicly.

Adequate Fatality Monitoring

Qualified biologists should be retained to perform fatality monitoring. Monitoring should include a single search interval, no longer than weekly searches (Smallwood 2013, 2020). Searches should be made by biologists walking, not riding in cars, or better yet, by qualified dog handlers using scent-detection dogs (Smallwood et al. 2020). Searchers need to be tested for their detection rates of avian and bat carcasses, and trial carcasses need to be appropriate to the species killed at the projects and integrated into routine fatality monitoring rather than placed in separate trials for searcher detection and carcass persistence (Smallwood et al. 2018). Detection trials should not make use

of colorful Christmas ornaments to represent birds, or use birds to represent bats. County of Imperial needs to take scientific standards in fatality monitoring seriously.

County-Wide Assessment of Solar Impacts

County of Imperial needs to initiate scientifically sound fatality monitoring either at all of its solar projects or at a randomized selection of projects, and it needs to share the results with the public. The public needs to understand the impacts associated with utility-scale solar energy generation so that it can weight the merits of new projects against distributed generation. Distributed generation requires no additional habitat loss, no perimeter fences, and no additional transmission lines, and to date it has not been associated with a single bird or bat death.

Implement Mitigation Measures with Sound Experimental Designs

As I commented earlier, measures have been implemented to reduce fatalities at multiple solar projects, including mylar ribbons intended to dissuade birds from flying into PV arrays, marked powerlines, and treatments to fences, among other measures. However, none of these measures were implemented according to experimental designs that would facilitate measurement of treatment effects. Experimental design principles must be considered prior to implementation of any mitigation measures intended to reduce collision fatalities (Sinclair and DeGeorge 2016).

F.73,
cont.

Compensatory Mitigation

Wildlife fatality rates estimated at solar projects represent the number of animals per MW per year that are not mitigated in any way. This must stop. Compensatory measures are needed to offset the large numbers of birds and bats killed at solar projects, as well as for habitat loss. The EIR needs to be revised to include measures such as habitat protected in exchange for habitat loss and collision fatalities, and donations to wildlife rehabilitation facilities that will care for injured animals delivered from solar projects and other anthropogenic sources. The project needs to compensate for its impacts.

Thank you for your attention,



Shawn Smallwood, Ph.D.

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Curriculum Vitae

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Born May 3, 1963 in
Sacramento, California.
Married, father of two.

Ecologist

Expertise

- Finding solutions to controversial problems related to wildlife interactions with human industry, infrastructure, and activities;
- Wildlife monitoring and field study using GPS, thermal imaging, behavior surveys;
- Using systems analysis and experimental design principles to identify meaningful ecological patterns that inform management decisions.

Education

Ph.D. Ecology, University of California, Davis. September 1990.
M.S. Ecology, University of California, Davis. June 1987.
B.S. Anthropology, University of California, Davis. June 1985.
Corcoran High School, Corcoran, California. June 1981.

Experience

- 480 professional publications, including:
- 83 peer reviewed publications
- 24 in non-reviewed proceedings
- 371 reports, declarations, posters and book reviews
- 8 in mass media outlets
- 87 public presentations of research results

Editing for scientific journals: Guest Editor, *Wildlife Society Bulletin*, 2012-2013, of invited papers representing international views on the impacts of wind energy on wildlife and how to mitigate the impacts. Associate Editor, *Journal of Wildlife Management*, March 2004 to 30 June 2007. Editorial Board Member, *Environmental Management*, 10/1999 to 8/2004. Associate Editor, *Biological Conservation*, 9/1994 to 9/1995.

Member, Alameda County Scientific Review Committee (SRC), August 2006 to April 2011. The five-member committee investigated causes of bird and bat collisions in the Altamont Pass Wind Resource Area, and recommended mitigation and monitoring measures. The SRC

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reviewed the science underlying the Alameda County Avian Protection Program, and advised the County on how to reduce wildlife fatalities.

Consulting Ecologist, 2004-2007, California Energy Commission (CEC). Provided consulting services as needed to the CEC on renewable energy impacts, monitoring and research, and produced several reports. Also collaborated with Lawrence-Livermore National Lab on research to understand and reduce wind turbine impacts on wildlife.

Consulting Ecologist, 1999-2013, U.S. Navy. Performed endangered species surveys, hazardous waste site monitoring, and habitat restoration for the endangered San Joaquin kangaroo rat, California tiger salamander, California red-legged frog, California clapper rail, western burrowing owl, salt marsh harvest mouse, and other species at Naval Air Station Lemoore; Naval Weapons Station, Seal Beach, Detachment Concord; Naval Security Group Activity, Skaggs Island; National Radio Transmitter Facility, Dixon; and, Naval Outlying Landing Field Imperial Beach.

Part-time Lecturer, 1998-2005, California State University, Sacramento. Instructed Mammalogy, Behavioral Ecology, and Ornithology Lab, Contemporary Environmental Issues, Natural Resources Conservation.

Senior Ecologist, 1999-2005, BioResource Consultants. Designed and implemented research and monitoring studies related to avian fatalities at wind turbines, avian electrocutions on electric distribution poles across California, and avian fatalities at transmission lines.

Chairman, Conservation Affairs Committee, The Wildlife Society--Western Section, 1999-2001. Prepared position statements and led efforts directed toward conservation issues, including travel to Washington, D.C. to lobby Congress for more wildlife conservation funding.

Systems Ecologist, 1995-2000, Institute for Sustainable Development. Headed ISD's program on integrated resources management. Developed indicators of ecological integrity for large areas, using remotely sensed data, local community involvement and GIS.

Associate, 1997-1998, Department of Agronomy and Range Science, University of California, Davis. Worked with Shu Geng and Mingua Zhang on several studies related to wildlife interactions with agriculture and patterns of fertilizer and pesticide residues in groundwater across a large landscape.

Lead Scientist, 1996-1999, National Endangered Species Network. Informed academic scientists and environmental activists about emerging issues regarding the Endangered Species Act and other environmental laws. Testified at public hearings on endangered species issues.

Ecologist, 1997-1998, Western Foundation of Vertebrate Zoology. Conducted field research to determine the impact of past mercury mining on the status of California red-legged frogs in Santa Clara County, California.

Senior Systems Ecologist, 1994-1995, EIP Associates, Sacramento, California. Provided consulting services in environmental planning, and quantitative assessment of land units for their

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conservation and restoration opportunities based on ecological resource requirements of 29 special-status species. Developed ecological indicators for prioritizing areas within Yolo County to receive mitigation funds for habitat easements and restoration.

Post-Graduate Researcher, 1990-1994, Department of Agronomy and Range Science, *U.C. Davis*. Under Dr. Shu Geng's mentorship, studied landscape and management effects on temporal and spatial patterns of abundance among pocket gophers and species of Falconiformes and Carnivora in the Sacramento Valley. Managed and analyzed a data base of energy use in California agriculture. Assisted with landscape (GIS) study of groundwater contamination across Tulare County, California.

Work experience in graduate school: Co-taught Conservation Biology with Dr. Christine Schonewald, 1991 & 1993, UC Davis Graduate Group in Ecology; Reader for Dr. Richard Coss's course on Psychobiology in 1990, UC Davis Department of Psychology; Research Assistant to Dr. Walter E. Howard, 1988-1990, UC Davis Department of Wildlife and Fisheries Biology, testing durable baits for pocket gopher management in forest clearcuts; Research Assistant to Dr. Terrell P. Salmon, 1987-1988, UC Wildlife Extension, Department of Wildlife and Fisheries Biology, developing empirical models of mammal and bird invasions in North America, and a rating system for priority research and control of exotic species based on economic, environmental and human health hazards in California. Student Assistant to Dr. E. Lee Fitzhugh, 1985-1987, UC Cooperative Extension, Department of Wildlife and Fisheries Biology, developing and implementing statewide mountain lion track count for long-term monitoring.

Fulbright Research Fellow, Indonesia, 1988. Tested use of new sampling methods for numerical monitoring of Sumatran tiger and six other species of endemic felids, and evaluated methods used by other researchers.

Projects

Repowering wind energy projects through careful siting of new wind turbines using map-based collision hazard models to minimize impacts to volant wildlife. Funded by wind companies (principally NextEra Renewable Energy, Inc.), California Energy Commission and East Bay Regional Park District, I have collaborated with a GIS analyst and managed a crew of five field biologists performing golden eagle behavior surveys and nocturnal surveys on bats and owls. The goal is to quantify flight patterns for development of predictive models to more carefully site new wind turbines in repowering projects. Focused behavior surveys began May 2012 and continue. Collision hazard models have been prepared for seven wind projects, three of which were built. Planning for additional repowering projects is underway.

Test avian safety of new mixer-ejector wind turbine (MEWT). Designed and implemented a before-after, control-impact experimental design to test the avian safety of a new, shrouded wind turbine developed by Ogin Inc. (formerly known as FloDesign Wind Turbine Corporation). Supported by a \$718,000 grant from the California Energy Commission's Public Interest Energy Research program and a 20% match share contribution from Ogin, I managed a crew of seven field biologists who performed periodic fatality searches and behavior surveys, carcass detection trials, nocturnal behavior surveys using a thermal camera, and spatial analyses with the collaboration of a GIS