



January 31, 2023

Erica Stewart, Project Manager
Bureau of Land Management
Yuma Field Office
7341 East 30th Street, Suite A
Yuma, AZ 85365

Via email: estewart@blm.gov
BLM_AZ_CRD_SOLAR@blm.gov

RE: Jove Solar Project, DOI-BLM-AZ-C020-2022-0006-EIS

Dear Ms. Stewart:

Arizona Sportsmen for Wildlife Conservation (AZSFWC) appreciates the opportunity to comment on the Jove Solar Project (Project).

AZSFWC is the leading 501c-3 non-profit organization dedicated to wildlife conservation, habitat improvement, youth recruitment and retention, as well as providing educational opportunities for outdoor enthusiasts on issues important to their passions. AZSFWC consists of 42 member, affiliate, and associate groups that reach across the spectrum of hunting, angling, shooting, outdoor recreation, and businesses from across Arizona. Our member groups alone represent well over 27,000 people from Arizona.

AZSFWC is a strong supporter and advocate for the Arizona Game and Fish Department (AZGFD) who statutorily is responsible for managing all of Arizona's over 800 species of wildlife. We also appreciate the fact the AZGFD maintains a cooperating agency status with the Bureau of Land Management (BLM).

AZSFWC appreciates the focus on renewable energy projects, as well as the possible benefits some of these projects can and might offer. Commensurate with the benefits are challenges, issues, and some problems that need to be addressed.

It comes as no surprise the BLM has targeted the relatively flat, sun drenched, sparsely populated areas of southwest Arizona for these solar energy developments. However, utilizing thousands of acres of the Sonoran Desert landscape for these projects is going to misplace and negatively impact wildlife, as well as disrupt the sensitive desert environment on and around the sites.

It is also going to negatively impact access to our public lands, as well as recreational opportunities that will be eliminated with these large solar footprints.

AZSFWC Comments on the BLM Jove Solar Project – 1-31-23

Arizona Sportsmen for Wildlife Conservation
PO Box 75731 New River, AZ 85087

The Project is primarily located on 3,495 acres of public land. By itself, it's impact on wildlife, the environment, access, and recreation may be minimal, but how many more projects like this one are on the horizon?

The BLM has identified variances for renewable energy projects around Arizona for over 3.3 million acres! https://blmsolar.anl.gov/documents/docs/peis/Solar_PEIS_ROD.pdf

AZSFWC's position and concerns with this Project align with the requests made in the AZGFD's comment letter of January 6, 2023. (copy attached) AZSFWC supports the requests made by your cooperating agency, responsible for all of Arizona's wildlife species, and implores the BLM to work with AZGFD to do everything possible to minimize the impending impact on the wildlife, habitat, and access, that either will be, or might be, impacted by this Project's development and construction.

Finally, AZSFWC would request the BLM review and consult the research by Dr. Jeffrey Lovich, a Research Ecologist with the U.S. Geological Survey (USGS) from Flagstaff, AZ.

<https://www.usgs.gov/staff-profiles/jeffrey-e-lovich>

Dr. Lovich's decades of research have concentrated on tortoises and turtles, but also wildlife in general and the desert environments impacted by solar developments. Here are some of those references:

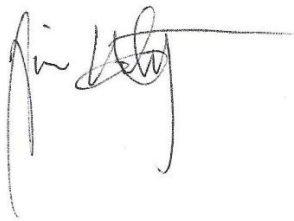
<https://www.scopus.com/record/display.uri?eid=2-s2.0-83655184112&origin=inward&txGid=72136884fe65859442c04880a462eb59>

<https://www.usgs.gov/centers/southwest-biological-science-center/science/gemini-solar-project>

<https://www.usgs.gov/centers/southwest-biological-science-center/science/desert-tortoise-ecology-and-renewable-energy>

Thank you!

Yours in Conservation,

A handwritten signature in black ink, appearing to read 'Jim Unmacht', with a long horizontal line extending to the right.

Jim Unmacht
Executive Director

CC: AZGFD Director, Ty Gray
Jeffrey Lovich, PhD, FLS

AZSFWC Comments on the BLM Jove Solar Project – 1-31-23

Arizona Sportsmen for Wildlife Conservation
PO Box 75731 New River, AZ 85087



January 6, 2023

Ms. Erica Stewart
Project Manager
Bureau of Land Management
Yuma Field Office
7341 East 30th Street, Suite A
Yuma, Arizona 85365

Electronically submitted to: estewart@blm.gov and BLM_AZ_CRD_SOLAR@blm.gov

Re: Jove Solar Project Environmental Impact Statement and Segregation Notice

Dear Ms. Stewart:

The Arizona Game and Fish Department (Department) reviewed the Bureau of Land Management (BLM)'s Federal Register Notice of Intent to Prepare an Environmental Impact Statement and Notice of Segregation for the Proposed Jove Solar Project. The Department understands that this notice serves as the beginning of the scoping process to solicit public comments and identify issues for the proposed project. As well the Department understands the project would encompass 3,495 acres of BLM administered land and 38 acres of Arizona State Land Department (ASLD) land located in southeastern La Paz County, Arizona, southeast of the Little Harquahala Mountains and north of the Eagle Tail Mountains, and the project would connect into the authorized Ten West Link 500-kilovolt transmission line.

Under Title 17 of the Arizona Revised Statutes, the Department, by and through the Arizona Game and Fish Commission (Commission), has jurisdictional authority and public trust responsibilities to conserve and protect the state fish and wildlife resources. In addition, the Department manages threatened and endangered species through authorities of Section 6 of the Endangered Species Act and the Department's 10(a)1(A) permit. It is the mission of the Department to conserve and protect Arizona's diverse fish and wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

The Department recognizes the importance of planning efforts to develop renewable energy locations that contribute to regional and state economic growth needs and would like to work closely with the Bureau of Land Management and Jove Solar, LLC during planning and development of this economically important facility. The Department recognizes that appropriate coordination, proper planning, and voluntary measures to implement best management practices allow projects to be developed that avoid, minimize, or offset potential impacts to wildlife and recreational access during development and operation of the facility.

azgfd.gov | 928.342.0091

YUMA OFFICE: 9140 E. 28TH ST., YUMA AZ 85365

GOVERNOR: DOUGLAS A. DUCEY **COMMISSIONERS:** CHAIRMAN JAMES E. GOUGHNOUR, PAYSON | TODD G. GEILER, PRESCOTT
CLAY HERNANDEZ, TUCSON | MARSHA PETRIE SUE, SCOTTSDALE | LELAND S. "BILL" BRAKE, ELGIN
DIRECTOR: TY E. GRAY **DEPUTY DIRECTOR:** TOM P. FINLEY

Arizona has recently seen an increase in the number of proposed and in-development renewable energy generation projects and associated infrastructure, including transmission lines. Several solar projects are proposed within the vicinity of the Jove solar project, and while each of these projects individually may have a limited impact on the broader landscape, these projects cumulatively could result in loss of habitat, impact wildlife movements, and affect wildlife related recreation. Additionally, long-term effects to wildlife can extend several kilometers beyond the footprint of a solar project area (Sawyer et al. 2022¹). During the NEPA process, it is important to consider all potential cumulative effects and for this project to be evaluated in association with other projects in the region. Department staff are available to assist in identifying potential cumulative impacts to wildlife and associated voluntary conservation measures that can be implemented for the project.

The project area, as well as the land surrounding it, is utilized by wildlife. The Department recommends conducting surveys in the project area and adjacent lands to help determine species presence and potential effects. These surveys should be of sufficient duration and intensity to adequately assess all habitat types and potential species occurrence in and adjacent to the project area. Department personnel are available to review survey designs and provide input on best-management practices and design features that can help avoid, minimize, or offset potential impacts. Information from any surveys conducted to date should be used to help identify such conservation measures in the EIS. Additional information can be found in *Guidelines for Solar Development in Arizona*².

Maintaining habitat connectivity is a high priority for the Department, and wildlife movement corridors are important for wildlife to respond to changing environmental conditions. A portion of this project falls within an identified wildlife linkage, and the broader landscape in which this project occurs provides critical movement pathways for a variety of species. The Department encourages analysis of the potential effects on habitat connectivity in the EIS, especially in relation to the cumulative impacts with other projects in the area. The Department is available to share its expertise on measures to reduce impacts to connectivity, including the following:

- The Department recommends establishing a set-back from the identified wildlife movement area and maintaining additional open corridors across the project area to facilitate wildlife movement. The Department is available to provide assistance in identifying wildlife movement corridors during project development and to assist in identifying strategies for site design to maintain the ephemeral washes that occur in the project area in their natural state. These washes serve multiple functions in the ecosystem. Not only do they provide for hydrologic flow, which is important in areas that receive infrequent and isolated precipitation events, but these washes also contain riparian habitat that serve as landscape-level conveyance corridors for wildlife movement.
- To the extent possible, the Department recommends retaining habitat features underneath the panels, including vegetation and soils, instead of grading the entire site. The

¹ <https://esajournals.onlinelibrary.wiley.com/doi/10.1002/fee.2498>

² <https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/FinalSolarGuidelines03122010.pdf>

topography in the majority of the site is flat and would require minimal trimming of shrubs and existing vegetation to install the panels. Keeping the existing soil and root structures intact would serve to minimize erosional run-off and help reduce biodiversity loss within the site (Grotsky and Hernandez 2020³).

- The Department's *Wildlife Compatible Fencing Guidelines*⁴ provide information on how fencing impacts wildlife, ways to design fencing to prevent wildlife entanglement and impalement, and to ensure wildlife movement is not restricted. Department personnel are available as resources to help determine appropriate fencing design and layout that will achieve its objective while reducing impact to wildlife, such as leaving a 6–8-inch gap between the ground surface and bottom of the fence to allow for smaller wildlife species to move freely through the area and make use of any habitat within the project boundary.

Based on Department data, the project area contains a portion of the 10J designated, experimental nonessential population of the endangered Sonoran pronghorn. Sonoran pronghorn have specific habitat requirements based on their life history and survival strategy. This population is relatively new and its range is expanding into previously unused areas. Based on the proposed location of the project, the Department encourages analysis of potential impacts to this species in the EIS and would welcome the opportunity to work with BLM and Jove Solar, LLC to minimize any potential impacts to Sonoran pronghorn. The Department recommends the following measures to avoid and minimize potential impacts:

- The Department welcomes opportunities to coordinate prior to construction activities and exchange information on current Sonoran pronghorn use in the project area.
- To minimize potential impacts, it is ideal to schedule construction activities outside the fawning season for Sonoran pronghorn, February 1 to July 15.
- If pronghorn are detected during construction activities, please notify the US Fish and Wildlife Service, Arizona Ecological Services Office (AESO) and the Department's Sonoran Pronghorn Program Lead (jbright@azgfd.gov) as soon as possible.
- To the extent feasible, locate stationary noise sources that exceed background ambient noise levels away from known or likely locations of Sonoran pronghorn and its habitat.

The Sonoran desert tortoise, which is covered under a Candidate Conservation Agreement (CCA), could occur in the project area. The Department recommends conducting surveys, in accordance with the *Desert Tortoise Survey Guidelines for Environmental Consultants*⁵, to determine the presence of this species or its habitat. If tortoises are identified, please refer to and implement the *Recommended Standard Mitigation Measures for Projects in Sonoran Desert Tortoise Habitat*⁶ and *Guidelines for Handling Sonoran Desert Tortoises Encountered on Development Projects*⁷.

³ <https://www.nature.com/articles/s41893-020-0574-x>

⁴ https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/110125_AGFD_fencing_guidelines.pdf

⁵ <https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2010SurveyguidelinesForConsultants.pdf>

⁶ <https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/MitigationMeasures.pdf>

⁷ <https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/2014%20Tortoise%20handling%20guidelines.pdf>

Large-scale solar PV facilities can result in bird mortality due to habitat loss, collision with panels, attraction due to an optical illusion of water, and unknown causes (Kosciuch et al. 2020⁸). Studies are currently occurring to identify patterns of bird behavior around solar facilities and measures to reduce the “lake effect,” which can be amplified by multiple large-scale solar facilities in close proximity to each other. The Department recommends assessing potential impacts to birds from this facility, especially considering its proximity to other proposed projects, and is available to discuss potential conservation measures to reduce the potential for avian collisions.

A number of Species of Economic and Recreational Importance (SERI) such as Mule Deer, Mountain Lion, Gambel’s Quail, Mourning Dove, and White-Winged Dove have been identified to occur within the project footprint and surrounding areas. The Department recommends evaluating potential impacts on these species, their associated habitat, and movement corridors that may result from activities associated with the construction, operation, or decommissioning of the proposed Project.

The Department recommends evaluating potential impacts to recreation and administrative access in the EIS. The Department places a high priority on conserving existing access and modes of access for hunting, fishing, trapping, shooting, wildlife watching, off-highway vehicle use, dispersed camping, and other responsible forms of outdoor recreational use on public lands. There are a number of access roads that run through and adjacent to the project area providing recreational access to large areas of public land as well as Department access to perform wildlife management actions in the surrounding area. The Department requests that these roads remain open to public use in the project’s site plan. If this is not feasible, the Department recommends providing alternative access around the project to these recreational important areas and is available to help identify potential alternatives.

When developing the EIS, the Department encourages consideration of all species and habitats that could be influenced by this project. Please note that the State Wildlife Action Plan⁹ was recently updated, and the Department recommends including the most recent list of state-sensitive species in the analyses. The Department also has an interactive website, Arizona Wildlife Conservation Strategy¹⁰, to help navigate and identify conservation opportunities within the State Wildlife Action Plan. The Department offers the following best management practices to reduce potential effects to wildlife and habitats that may be affected by the facility:

- Kit fox could occur within the project area. The Department encourages consideration of this species in the EIS and is available to assist in identifying suitable conservation measures, such as one-way exclosures that allow kit foxes to exit the burrows and disperse to adjacent lands.
- If any wildlife are encountered during construction or operational activities, the Department recommends moving them out of harm’s way, no more than 0.25 mile outside the project boundary into similar habitat.

⁸ <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0232034>

⁹ https://azgfd-wdw.s3.amazonaws.com/awcs-2022/documents/AWCS_Final_Approved_11-22.pdf

¹⁰ <https://awcs.azgfd.com>

- Artificial lighting could impair the ability of nocturnal animals to navigate (e.g., owls, migratory birds, bats, and other nocturnal mammals) and may affect wildlife behavior and populations (Davies et. al. 2013¹¹). The Department recommends using only the minimum amount of light needed for safety. If feasible, narrow spectrum lighting is wildlife-friendly and should be used as often as possible to minimize the number of species affected by lighting. It is also beneficial that all lighting is shielded, canted, or cut to minimize the amount of upward shining light.
- Birds of prey such as raptors, owls, vultures, and eagles are vulnerable to electrocution and powerline strikes during construction and operation; power poles can also serve as perches for many birds of prey. The Department recommends following standards established by the Avian Power Line Interaction Committee (APLIC), which can be found in *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*¹² and *Reduced Avian Collisions with Power Lines: The State of the Art in 2012*¹³. Tuk Jacobson, the Department's Raptor Coordinator, can provide further information on specific design features and best management practices, such as bird flight diverters to decrease avian mortalities; he can be contacted at raptors@azgfd.gov or 623-236-7575.
- The Department recommends a review of Arizona's Native Plant Law. If native vegetation will be disturbed, please review the list of native plants that are protected and minimize impacts to native vegetation during project construction to the extent feasible. Additionally, the Department recommends best management practices be implemented to minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects, and pathogens. This can be accomplished by taking precautions to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. Also, see the Arizona Department of Agriculture website¹⁴ for a list of prohibited and restricted noxious weeds and the Arizona Native Plant Society¹⁵ for recommendations on how to control. A great resource to view a list of documented invasive species, or to report invasive species in or near your project area, is iMapInvasives¹⁶ - a national cloud-based application for tracking and managing invasive species.
- The Department recommends revegetating disturbed areas with native drought-tolerant species that represent the pre-construction vegetation characteristics and the surrounding landscape. Landscaping with native plants can help support wildlife and pollinator species in the area while reducing dust and erosion.
- If trenching will occur for the proposed project, the Department recommends that trenching and backfilling crews be close together to minimize the amount of open trenches at any given time. Where trenches cannot be back-filled immediately, the Department recommends escape ramps be constructed at least every 90 meters. Escape ramps can be short lateral trenches or wooden planks sloping to the surface. The

¹¹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3657119>

¹² [https://www.aplic.org/uploads/files/2643/SuggestedPractices2006\(LR-2\).pdf](https://www.aplic.org/uploads/files/2643/SuggestedPractices2006(LR-2).pdf)

¹³ https://www.aplic.org/uploads/files/15518/Reducing_Avian_Collisions_2012watermarkLR.pdf

¹⁴ <https://agriculture.az.gov/pestspest-control/agriculture-pests/noxious-weeds>

¹⁵ <https://aznps.com/invas>

¹⁶ <https://imap.natureserve.org/imap/services/page/map.html>

Department recommends that slopes be less than 45 degrees (1:1) and trenches that have been left open overnight be inspected to remove animals prior to backfilling.

Thank you for the opportunity to provide comments regarding the Notice of Intent to Prepare an Environmental Impact Statement and Notice of Segregation for the proposed Jove Solar Project. The Department looks forward to continued collaboration and coordination with BLM and Jove Solar, LLC during the NEPA process as well as project development and implementation. For further coordination, please contact Tyler Williford at Twilliford@azgfd.gov or (928) 341-4047.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Sumner", with a long, sweeping horizontal stroke extending to the right.

Michael Sumner

Regional Supervisor, Region 4 (Yuma)

cc: Luke Thompson - Habitat, Evaluation, and Lands Branch Chief
Ginger Ritter - Project Evaluation Program Supervisor
Tiffany Sprague - Project Evaluation Program Specialist
Tyler Williford - Region 4 (Yuma) Habitat, Evaluation, and Lands Program Manager

AZGFD #M22-12073422