

US Fish and Wildlife Service Coordination

On October 31, 2018, United States Fish and Wildlife Service (USFWS) completed its development review of the proposed Palmer Solar Project (included here within). This voluntary review was initiated in May of 2018 following recommendations from Colorado Parks and Wildlife (CPW) that USFWS also review the Project for potential impacts to threatened and endangered species. Engaging wildlife agencies early in the process aligns with the Applicant's development approach and its commitment to low-impact projects.

The Applicant provided USFWS's Colorado Ecological Services Office with project materials and layouts, including the "Memorandum of Findings for Wildlife, Wetland, and Cultural Resource Surveys at the Proposed Palmer Solar Project in El Paso County, Colorado." Additionally, the USFWS Wildlife Biologist tasked with reviewing the Project, Elizabeth Duran, was provided the link to the County's online development review portal (EDARP) for the complete Wind and Solar Energy Overlay (WSEO) application.

USFWS reviewed the Project for a potential intersection with applicable federal regulations, including provisions under the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. § 1531 et seq.), the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. § 703 et seq.), the Bald and Golden Eagle Protection Act of 1940 (BGEPA), as amended (16 U.S.C. § 668 et seq.), and the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4327). Based upon the field surveys, geospatial datasets, and information provided by the Applicant to USFWS, along with datasets and information held internally by the agency, the following conclusion was reached:

"Section 9 of the ESA prohibits any action that would likely result in "take" of a listed species (take is defined by the Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct of listed species). Based on the information presented in your assessment, and the Service's understanding of the nature of the project, local conditions, and current information of listed species and their habitat, it *seems unlikely that the project will result in take of listed species*; however, the project may have minor adverse impacts to listed species or other sensitive species/resources that may occur in or near the project area"(Emphasis added). USFWS Letter TAILS: 06E24000-2018-TA-1090.

This conclusion aligns with findings made by the Project's professional environmental consultants and findings made in CPW's development review. Since the "take" of a federally-listed species is unlikely, an incidental take permit or additional engagement with USFWS is not required at this time. Furthermore, the Project does not constitute a federal action, or an authorization facilitated by a federal agency: a formal Section 7 consultation process is not required and likewise, a clearance letter would not be appropriate for the Project. By and large, the Section 7 consultation process is not triggered for private actions on private lands where there is no identifiable intersection with the Endangered Species Act or Migratory Bird Treaty Act.

While federal law does not require additional steps with USFWS for the Palmer Solar Project and Williams Creek Substation at this time, the Applicant is committed to minimizing impacts to wildlife. Accordingly, recommendations made by USFWS in its review of the Project are addressed sequentially below:

- 1. The project may have minor adverse impacts to listed species or other sensitive species/resources that may occur in or near the project area. Information about listed species within proposed project areas can be found online at IPaC (Information for Planning and Conservation) <https://ecos.fws.gov/ipac/>.**

IPaC was consulted during wildlife surveys and addressed in the Memorandum of Findings. See page X of Appendix J.

- 2. The Service Migratory Bird program website provides nationwide standard conservation measures that should be considered for all projects**

Applicant appreciates the Conservation Measures provided by USFWS and will incorporate recommendations for all three categories (General, Habitat Protection, and Stressor Management) into construction. The Project takes specific actions that align with USFWS conservation goals, including avoiding direct take, preventing the introduction of invasive plants, preventing increase in lighting of native habitats during the bird breeding season, minimizing collision risk, preventing birds from becoming trapped, preventing increases in noise ambient levels, preventing the introduction of chemicals, and minimizing fire potential. Existing plans submitted for the WSEO incorporate these wildlife strategies.¹

- 3. Service recommends that project proponents crosscheck their project locations with the Service BCC species list to determine if any of these species are present within development areas.**

The Project is in BCR 18 (Shortgrass Prairie). Field surveys did not identify any of the species in the table on site. Additionally, pre-construction surveys will be completed to confirm presence/absence of these bird species. Special attention will be given to Burrowing Owl and Mountain Plover, as recommended by CPW and the Project's environmental consultants.

- 4. If nesting migratory birds are present within or near the project area, timing of activities is a beneficial consideration and can be addressed in the early phases of project planning**

Applicant has committed to timing stipulations recommended by CPW in its development review if identified species are found in pre-construction wildlife surveys.

- 5. If proposed activities must occur during the nesting season, or at any other time that may result in the mortality of migratory birds, the Service recommends contacting the U.S. Fish and Wildlife Colorado Field Office, at coloradoes@fws.gov for guidance**

Applicant will coordinate with USFWS on construction that may result in mortality of migratory birds. Applicant will provide a copy of field survey results to USFWS prior to construction.

¹ Nationwide Standard Conservation Measures can be found here:
<https://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>



6. To reduce avian electrocutions and power outages caused by birds at your power lines, we recommend the project proponent follow recommendations provided in both *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*.

These documents have become standard protocol for large-scale generation and transmission projects, including for independent power producers and major utilities. All recommendations applicable to the Project have been incorporated.

7. Considering their importance and relative scarcity, impacts to wetlands and riparian areas should be strictly avoided at all times.

Project avoids wetlands that meet the criteria and/or are protected under the Clean Water Act.



United States Department of the Interior

FISH AND WILDLIFE SERVICE Colorado Ecological Services



IN REPLY REFER TO:
FWS/R6/ES CO

Front Range:
Post Office Box 25486
Mail Stop 65412
Denver, Colorado 80225-0486

Western Slope:
445 W. Gunnison Avenue
Suite 240
Grand Junction, Colorado 81501-5711

TAILS: 06E24000-2018-TA-1090

October 31, 2018

Mr. Stuart Coles
Project Planner
juwi Inc.
1710 29th Street, Suite 1068
Boulder, Colorado 80301

Dear Mr. Coles:

Thank you for your letter of May 29, 2018 requesting review from the U.S. Fish and Wildlife Service (Service) on behalf of Palmer Solar LLC, a whole owned subsidiary of juwi Inc. The letter requests review of the proposed 505-acre, 60-megawatt photovoltaic site (aka Palmar Solar project) and associated infrastructure including fencing, access, substations, arrays, operations/maintenance buildings, inverters, transformers and distribution line. The proposed project is located east of Interstate 25 and Fountain Creek in El Paso County, Colorado. These comments have been prepared under the provisions of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. § 1531 et seq.), the Migratory Bird Treaty Act of 1918 (MBTA), as amended (16 U.S.C. § 703 et seq.), the Bald and Golden Eagle Protection Act of 1940 (BGEPA), as amended (16 U.S.C. § 668 et seq.), and the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4327). Wetlands receive protection under Executive Orders 11990 and 11988, and section 404 of the Clean Water Act of 1972 (33 U.S.C. § 1251 et seq.). Other fish and wildlife resources are considered under the Fish and Wildlife Coordination Act (16 U.S.C. § 661 et seq.) and the Fish and Wildlife Act (16 U.S.C. § 742 et seq.).

We appreciate your inclusion of the April 2018, Memorandum of Findings which includes the Wildlife, Wetland and Cultural Resources Surveys for the proposed project, and we interpret your letter to be a request for technical assistance regarding the likelihood of the described project resulting in impacts to threatened or endangered species ("listed species"). Section 9 of the ESA prohibits any action that would likely result in "take" of a listed species (take is defined by the Act as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct of listed species). Based on the information presented in your assessment, and the Service's understanding of the nature of the project, local conditions, and current information of listed species and their habitat, it seems unlikely that the project will result

in take of listed species; however, the project may have minor adverse impacts to listed species or other sensitive species/resources that may occur in or near the project area. Information about listed species within proposed project areas can be found online at IPaC (Information for Planning and Conservation) <https://ecos.fws.gov/ipac/>. For information on any State species of special designation in Colorado that are not federally listed and may occur within your project area, please contact the Colorado Parks and Wildlife's (CPW) Southeast Region Energy Liaison and Land Use Specialist, Karen Voltura, by telephone at (719) 227-5232 or visit the CPW website at <http://www.cpw.state.co.us>.

According to a U.S. Geological Survey 2016 publication, “Solar power represents an important and rapidly expanding component of the renewable energy portfolio of the United States (Lovich and Ennen, 2011; Hernandez and others, 2014). Understanding the impacts of renewable energy development on wildlife is a priority for the Service in compliance with Department of Interior Order No. 3285 (U.S. Department of the Interior, 2009) to ‘develop best management practices for renewable energy and transmission projects on the public lands to ensure the most environmentally responsible development and delivery of renewable energy.’ Recent studies examining effects of renewable energy development on mortality of migratory birds have primarily focused on wind energy (California Energy Commission and California Department of Fish and Game, 2007), and in 2012 the Service published guidance for addressing wildlife conservation concerns at all stages of land-based wind energy development (U.S. Fish and Wildlife Service, 2012). As yet, no similar guidelines exist for solar development, and no published studies have directly addressed the methodology needed to accurately estimate mortality of birds and bats at solar facilities. In the absence of such guidelines, ad hoc methodologies applied to solar energy projects may lead to estimates of wildlife mortality rates that are insufficiently accurate enough to meaningfully inform conversations regarding mitigation of negative impacts. Although significant advances in monitoring protocols for wind facilities have been made in recent years, there remains a need to provide consistent guidance and study design to quantify mortality of bats, and resident and migrating birds at solar power facilities (Walston and others, 2015)”.¹

The Service appreciates your request and, to assist you at the earliest planning stages, we have provided recommendations for your consideration below. In the absence of guidelines for solar development, the following measures for other industries are provided as a starting point for projects to avoid impacts to bird and bat species.

The Service encourages you to consider these recommendations during project planning and implementation. The intent of these recommendations is to increase compatibility between species' conservation and the proposed project.

¹ Huso, Manuela, Dietsch, Thomas, and Nicolai, Chris. 2016. Mortality monitoring design for utility-scale solar power facilities: U.S. Geological Survey Open-File Report 2016-1087, 44 p., <http://dx.doi.org/10.3133/ofr20161087>.

Standard Conservation Measures

The Service Migratory Bird program website provides nationwide standard conservation measures that should be considered for all projects. In addition, depending on specific project design, there may be additional guidance available for specific activities/industries or species relevant to individual projects. Please see links below:

<http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

<http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>

A 1988 amendment to the Fish and Wildlife Conservation Act mandates the Service to “identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation actions, are likely to become candidates for listing under the ESA.” In response to this mandate the Service developed a list of Birds of Conservation Concern (BCC). Bird species included on the Service BCC list are largely species protected under MBTA that are of conservation concern due to several factors including: population declines, natural or human-induced reductions in ranges or populations sizes, threats to habitat, or other factors. The latest Service list of BCC species was finalized in 2008 and is available at:

<https://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>

Our intent for the BCC list is to encourage coordinated efforts to develop and implement comprehensive and integrated approaches for the study, management, and protection of non-ESA listed bird species deemed to be in the most need of additional conservation actions. Hence, the Service recommends that project proponents crosscheck their project locations with the Service BCC species list to determine if any of these species are present within development areas.

Project Design Conservation Measures

If nesting migratory birds are present within or near the project area, timing of activities is a beneficial consideration and can be addressed in the early phases of project planning. This modification can prevent migratory bird mortality (adults, young, and/ or eggs) and could especially benefit ground nesting birds within your 505-acre project area.

To minimize impacts to migratory birds, the Service recommends that construction occur outside of the typical breeding season for migratory birds. Most nesting activity occurs between April and August. If proposed activities must occur during the nesting season, or at any other time that may result in the mortality of migratory birds, the Service recommends contacting the U.S. Fish and Wildlife Colorado Field Office, at coloradoes@fws.gov for guidance.

The bald eagle (*Haliaeetus leucocephalus*) and golden eagle (*Aquila chrysaetos*) are protected from a variety of harmful actions via take prohibitions in both the Migratory Bird Treaty Act² (MBTA; 16 U.S.C. 703-712) and the Bald and Golden Eagle Protection Act (BGEPA; 16 U.S.C. 668–668d). The BGEPA, enacted in 1940 and amended several times, prohibits take of bald eagles and golden eagles, including their parts, nests, young or eggs, except where otherwise permitted pursuant to federal regulations. Incidental take of eagles from actions such as electrocutions from power lines or wind turbine strikes are prohibited unless specifically authorized via an eagle incidental take permit from US Fish and Wildlife Service (Service). BGEPA provides penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part, nest, or egg thereof." BGEPA defines take to include the following actions: "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." The Service expanded this definition by regulation to include the term "destroy" to ensure that "take" also encompasses destruction of eagle nests. Also the Service defined the term disturb which means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior.

The Service has developed guidance for the public regarding means to avoid take of bald and golden eagles:

- The 2007 *National Bald Eagle Management Guidelines* serve to advise landowners, land managers, and others who share public and private lands with bald eagles when and under what circumstances the protective provisions of BGEPA may apply. They provide conservation recommendations to help people avoid and/or minimize such impacts to bald eagles, particularly where they may constitute "disturbance," which is prohibited by the BGEPA.
<https://www.fws.gov/northeast/ecologicalservices/pdf/NationalBaldEagleManagementGuidelines.pdf>

The Service also has promulgated new permit regulations under BGEPA:

- New eagle permit regulations, as allowed under BGEPA, were promulgated by the Service in 2009 (74 FR 46836; Sept. 11, 2009) and revised in 2016 (81 FR 91494; Dec. 16, 2016). The regulations authorize the limited take of bald and golden eagles where the

² On December 22, 2017, the Department of the Interior's (DOI) Office of the Solicitor Memorandum M-37050 titled *The Migratory Bird Treaty Act Does Not Prohibit Incidental Take* (<https://www.doi.gov/sites/doi.gov/files/uploads/m-37050.pdf>) concludes that the MBTA's prohibitions on pursuing, hunting, taking, capturing, killing, or attempting to do the same apply only to affirmative actions that have as their purpose the taking or killing of migratory birds, their nests, or their eggs. The MBTA list of protected species includes bald and golden eagles, and the law has been an effective tool to pursue incidental take cases involving eagles. However, the primary law protecting eagles is the Bald and Golden Eagle Protection Act (BGEPA) (16 U.S. Code § 668), since the bald eagle was delisted under the Endangered Species Act in 2007. Memorandum-37050 does not affect the ability of the Service to refer entities for prosecution that have violated the take prohibitions for eagles established by the BGEPA.

take to be authorized is associated with otherwise lawful activities. These regulations also establish permit provisions for intentional take of eagle nests where necessary to ensure public health and safety, in addition to other limited circumstances. The revisions in 2016 included changes to permit issuance criteria and duration, definitions, compensatory mitigation standards, criteria for eagle nest removal permits, permit application requirements, and fees in order to clarify, improve implementation and increase compliance while still protecting eagles.

<https://www.gpo.gov/fdsys/pkg/FR-2016-12-16/pdf/2016-29908.pdf>

The Service's Office of Law Enforcement carries out its mission to protect eagles through investigations and enforcement, as well as by fostering relationships with individuals, companies, industries and agencies that have taken effective steps to avoid take, including incidental take of these species, and encouraging others to implement measures to avoid take. The Office of Law Enforcement focuses its resources on investigating individuals and entities that take eagles without identifying and implementing all reasonable, prudent and effective measures to avoid that take. Those individuals and entities are encouraged to work closely with Service biologists to identify available protective measures, and to implement those measures during all activities or situations where their action or inaction may result in the take of an eagle(s).

According to your May 29, 2018 letter, the proposed project includes a distribution line. Published studies indicate that power lines can negatively affect wildlife. Direct mortality may occur when birds or bats collide with power lines and associated infrastructure, or when power lines electrocute birds. Projects may also displace wildlife when activities alter or remove key components of important habitat. Early planning, coordination, Best Management Practices (BMPs), and the strategic placement of power lines and associated facilities, can avoid or reduce these impacts. The Avian Power Line Interaction Committee (APLIC) developed suggestions and resources intended to address and mitigate electrocutions and collisions with power lines. To reduce avian electrocutions and power outages caused by birds at your power lines, we recommend the project proponent follow recommendations provided in both *Suggested Practices for Avian Protection on Power Lines: The State of the Art in 2006*, and *Reducing Avian Collisions with Power Lines: The State of the Art in 2012*. We recommend that you review and consider implementing all applicable parts of these documents during the construction and operation of any electrical facilities. APLIC resources are available at the following web address: <http://www.aplic.org/mission>.

From the maps and photos included with your May 29, 2018 letter and report and the additional documentation supplied by juwi, it appears the proposed project is in the vicinity of Calhan Reservoir and associated unnamed drainages and waterbodies. Therefore, your project may affect wetlands or riparian areas. Wetlands not only provide habitats for many aquatic and terrestrial species, but also disperse floods, improve water quality, and recharge aquifers. Wetlands also provide aesthetic and recreational values. Riparian vegetation reduces erosion and sedimentation, improves water quality, maintains the water table, controls flooding, and provides shade and cover. Many listed species rely on riparian habitats.

Considering their importance and relative scarcity, impacts to wetlands and riparian areas should be strictly avoided at all times. Minimize all unavoidable encroachments into these areas. In order to minimize impacts to wetlands, riparian areas, and any associated species, the Service recommends that construction and new overhead lines strictly avoid wetlands and riparian areas; even if the intermittent streambeds or water bodies appear dry. During dry periods, intermittent and cyclical wetlands continue to support dormant wetland vegetation and their seeds. Ground disturbance in these areas at any time may upset native seed banks and promote colonization by invasive species, effectively altering the wetland ecosystem.

The Service also recommends enforcing BMPs within the project area to limit impacts to waterways, wetlands, and riparian areas. BMPs may include: limiting activities to previously disturbed ground; minimizing new disturbance footprints; preventing the spread of invasive species; installing limits of work fencing around sensitive areas; installing sediment and erosion control devices; locating equipment staging areas outside of wetlands, riparian areas, and floodplains; and reseeding or replanting disturbed ground with native seed mixtures or vegetation.

The Service appreciates your request for technical assistance and encourages you to contact us again if the scope of the project changes or new information indicates that the project may result in take of listed species. If you or the project proponent would like to discuss the proposed project, please contact Elizabeth Duran in this office at (303) 236-4779.

Sincerely,

Drue L. DeBerry
Colorado and Nebraska Field Offices Supervisor

cc: CPW, Karen Voltura
FWS/R6/LE, Tom Tidwell
FWS/R6/ES, Maria Boroja