United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ventura Fish and Wildlife Office
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IN REPLY REFER TO:
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February 6, 2014

Memorandum

To: Field Manager, Barstow Field Office, Bureau of Land Management, Barstow, California

From: Acting Field Supervisor, Ventura Fish and Wildlife Office, Ventura, California

Subject: Variance Application – Proposed Silurian Valley Solar Project, San Bernardino County, California (CACA-53865)

This memorandum is in response to your request, dated October 31, 2013, for comments on the proposed Silurian Valley solar project. The project is proposed in a solar variance area and is therefore subject to the solar variance policies as described in Appendix B, Section B.5 of the Bureau of Land Management's (Bureau) solar programmatic environmental impact statement (SPEIS). We attended a site visit and the second preliminary meeting for the proposed project organized by the Bureau on December 11, 2013, at which project representatives from Aurora Solar, LLC (the applicant), presented the proposed project, Bureau staff explained the process for reviewing applications for solar projects in variance areas, and stakeholder agencies commented on the proposal. At that meeting, the applicant provided copies of its plan of development. The applicant proposes to construct and operate a 200-megawatt solar energy generation facility on public lands located 13 miles north of the Town of Baker along State Highway 127. We are providing these comments under the authorities of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.), the Migratory Bird Treaty Act (MBTA) of 1918, as amended (16 U.S.C. 703 et seq.), the Bald and Golden Eagle Protection Act (Eagle Act) of 1940, as amended (16 U.S.C. 668 et seq.), and other authorities of the Department of the Interior.

Under the SPEIS, the Bureau coordinates with the Service through the variance process on projects proposed on variance lands that could result in impacts on federally listed species and their habitat, migratory birds, and eagles. We have reviewed the proposed development plans, maps, information gathered at the site visit and preliminary meeting, and other information. Based on our review, we have significant concerns with the proposed project in its proposed location. Any renewable energy development in the Silurian Valley will have substantial adverse effects on trust resources; for example, the proposed project area is being considered an area of critical environmental concern within the current draft preferred alternative of the Desert Renewable Energy Conservation Plan. As such, we recommend the Bureau reject the variance application and not proceed with environmental review of the proposed project.

Desert Tortoise

For proposed solar projects that are in variance areas, applicants are required to follow a special variance process for the federally threatened Mojave desert tortoise (*Gopherus agassizii*) that requires an assessment of site-specific data to determine whether a site is an acceptable location for industrial-scale solar development (see Appendix B, Section B.5.3 of the Bureau's SPEIS).

According to the plan of development, individuals and sign of the desert tortoise have been recorded at the project site and, according to the plan of development and our evaluation, the proposed project site is located within suitable habitat for desert tortoise. In particular, we note that the project site partially overlaps desert tortoise habitat that links the Superior-Cronese desert tortoise conservation area to the west and the Ivanpah desert tortoise conservation area to the east; protecting the functionality of such linkages is a high priority (Averill-Murray et al. 2013). In fact, this linkage was identified by the Service as an especially important ("Priority 1") linkage in the least cost path analysis we conducted in the context of the SPEIS. Least cost paths represent linkages most likely to sustain connectivity between desert tortoise populations. Preserving connectivity between tortoise conservation areas will make the desert tortoise conservation network more robust than the existing network which has limitations due to conservation area size, shape, and population abundance. A more connected conservation network could also allow for a potential range shift in response to climate change. In addition, preserving connectivity between tortoise conservation areas will help maintain genetic variability through long-term gene flow between populations. Development within key habitat linkages such as this will lead to further fragmentation of desert tortoise habitat and could compromise the viability of demographic and genetic connections in the area. The importance of this area is highlighted by its overlap with a proposed area of critical environmental concern identified in the current draft preferred alternative for the Desert Renewable Energy Conservation Plan. This proposed area of critical environmental concern would establish a connection with other linkage habitat already covered by existing areas of critical environmental concern and wilderness areas. Recovering desert tortoises throughout their range requires that conservation areas be connected by habitat linkages in which desert tortoises reside and reproduce. Such areas need to be free of large-scale impediments from anthropogenic activities, such as industrial-scale renewable energy developments, that would result in loss of habitat and introduce additional sources of mortality.

We also note that, as with any development in desert tortoise habitat, the construction and operation of any industrial-scale renewable energy facility would likely lead to a local increase in the number of common ravens (*Corvus corax*); these birds are highly attracted to human activity and the proposed project would provide subsidies to them in the form of food and sites for nesting, roosting, and perching that are not currently present in the area. In addition to food wastes that may be generated during construction and operation of the facilities, they may also use various structures in the project area for shade, perching, roosting, or nesting. Common ravens prey on desert tortoises and, for this reason, any local increase in the number of common ravens may have detrimental effects on desert tortoises, both near and distant, from the proposed solar project, as these birds travel large distances on a daily basis between various areas that provide them with food, water, and shelter.

Migratory Birds

Migratory birds are a trust resource of the Service and are protected by the MBTA, which prohibits their take or possession. Migratory birds are important economically; they control insect and rodent pests and are important to numerous communities where bird watching attracts tourists. Solar projects may affect migratory bird populations in several ways. The clearance of vegetation and development of the facility can cause loss of breeding habitat and degradation of foraging habitat for birds that indirectly affects the vigor and viability of local migratory populations. In recently constructed solar energy facilities in California (photovoltaic, solar trough, and solar power tower) resident and migratory birds have been found dead within the solar fields. Migratory water birds, such as grebes, have landed at solar facilities in the desert, perhaps mistaking the sites for water bodies. Because some species of birds such as grebes cannot easily take flight unless they are in water, some species of birds that land within solar facilities will most likely die. Other species have collided with panels, fences, and ancillary building at solar sites. We also expect birds to collide with and be electrocuted by power lines associated with solar projects.

Migratory birds were not mentioned in the plan of development except in Table 5-2 (Applicant Committed Environmental Protection Measures) in which the applicant proposes to use raptor-safe designs complying with Avian Power Line Interaction Committee standards on all overhead transmission lines and to comply with all measures required under the MBTA and other laws and policies for the protection of sensitive species. At the site visit, the applicant's consultant said that, based on the results of recent bird surveys conducted on the site, migratory bird use of the site is low. However, and as noted at the site visit, the desert has been experiencing drought conditions over the last several years. In wet years, when dry lakebeds in the area are expected to hold water, we would expect a substantial number of birds to pass through the valley. Also, given the potential for birds to mistake large solar arrays for bodies of water as described above, development of an industrial-scale solar facility in the proposed location may attract birds to the site, which may result in their injury or mortality.

The project site is surrounded by numerous areas used by migratory birds and visited by bird watchers including the Bureau's Salt Creek Hills and Amargosa River Areas of Critical Environmental Concern and Saratoga Springs in Death Valley National Park to the north, and numerous stopover sites within Mojave National Preserve to the south. The Kingston Range to the northwest of the proposed site and the Avawatz Mountains to the west also contain numerous springs that migratory birds use. We are concerned that any proposed renewable energy development within the migratory pathway through the Silurian Valley that connects these important stopover sites would have substantial adverse impacts on migratory birds.

Golden Eagles

Golden eagles (*Aquila chrysaetos*) are protected under the Eagle Act. We are aware that golden eagles have been observed in Death Valley National Park to the north and Mojave National Preserve to the south. In addition, the mountainous topography surrounding the Silurian Valley

supports nesting golden eagles as documented by records we reviewed in the California Natural Diversity Data Base.

According to the plan of development and based on the information gathered at the site visit and meeting, several golden eagle nest sites were identified within a 10-mile radius of the project. These included two sites that were recorded as occupied during aerial surveys. The applicant's consultant indicated that no golden eagles were observed flying or foraging over the project property during ground-based avian surveys; however, raptor-specific point counts of longer duration were not conducted as is recommended by the Service. In addition, suitable foraging habitat for golden eagles occurs on and around the project site. We are concerned that the proposed project would pose a risk to golden eagles through direct impacts such as collision or electrocution with power lines and indirect impacts such as loss of foraging habitat.

Recommendation

We recommend the Bureau reject Aurora Solar, LLC's variance application for the Silurian Solar Project because of its potential for substantial adverse effects on trust resources including desert tortoises, migratory birds, and golden eagles. The proposed project would introduce a substantial amount of human impact into an area that is currently undisturbed. The undisturbed nature of the area increases its value for the Service's trust resources and intensifies the impact that loss and disturbance of habitat and wildlife will have if the project is built. Additionally, we cannot envision how a redesigned project or a project at a different location within the Silurian Valley could avoid the sorts of impacts to trust resources described above.

In regards to the variance factors to be considered by the Bureau for right of way applications in variance areas, based on our review of the proposed project, we do not think the applicant will be able to document the following: that the proposed project is in an area with low or comparatively low resource conflicts, that the proposed project will be located in an area identified as suitable for solar energy development in an applicable Bureau land use plan and/or by another related process such as the California Desert Renewable Energy Conservation Plan (e.g., Development Focus Areas), that the proposed project will minimize adverse impacts on access and recreational opportunities on public lands, that the proposed project will minimize adverse impacts on important fish and wildlife habitats and migration/movement corridors, and that the proposed project will minimize impacts on lands with wilderness characteristics and the values associated with these lands (e.g., wildlife habitat).

If you have any questions regarding these comments, please contact Jessica Rempel of my staff at (805) 644-1766, extension 370.

Reference

Averill-Murray, R.C., C.R. Darst, N. Strout, and M. Wong. 2013. Conserving population linkages for the Mojave desert tortoise (*Gopherus agassizii*). Herpetological Conservation and Biology 8(1)1-15.