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Siting, Transmission, and Environmental Protection Division
California Energy Commission
1516 Ninth Street, MS–15
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Dear Mr. Solorio:

The Wildlife Society (TWS) appreciates the opportunity to submit scoping comments concerning the draft Environmental Impact Statement (DEIS) for Solar Millennium's Ridgecrest Solar Power Project (RSPP).

The Wildlife Society was founded in 1937 and is a non-profit scientific and educational association of over 9,100 professional wildlife biologists and managers, dedicated to excellence in wildlife stewardship through science and education. Our mission is to represent and serve wildlife professionals—the scientists, technicians, and practitioners actively working to study, manage, and conserve native and desired non-native wildlife and their habitats worldwide.

TWS believes that solar energy will be an important component of a clean-energy solution to climate change. However, we are concerned about the effects that solar projects may have on wildlife and wildlife habitat. Every form of energy development can have lasting effects on wildlife and habitat if not developed responsibly. Solar power development must take into account the potential loss of wildlife habitat in sensitive areas that house many vulnerable species. As solar power arrays continue to be developed in the Southwest, desert ecosystems are some of these sensitive areas that are increasingly under threat.

In desert ecosystems recovery from disturbances can be especially slow. Ecosystem damages that accompany energy development, such as hard-packing of the soil and destruction of plant cover, are obstacles to recovery. Compacted soil and the absence of plants' roots will prevent the soil from absorbing and holding water, further reducing water availability in an already arid environment. Disturbed habitat is also vulnerable to invasion by non-native species, which gain a competitive edge when native species are destroyed.[1] Maintenance and activity around the project site will continue to impede recovery even after construction is finished.

Roadways, an inherent feature of energy production, increase direct animal mortalities from vehicle strikes, provide access to remote areas for illegal collection of plants and animals, act as an inroad for invasive species that thrive in disturbed areas, cause habitat fragmentation, restrict gene flow among native populations, and increase erosion.[2]

In respect to the RSPP project, the potential effects on the native – and threatened -- desert tortoise (*Gopherus agassizii)* are of particular concern. Native to the deserts of the American southwest, the species is recognized as having distinct populations in the Sonoran and Mojave deserts, respectively. The Sonoran population is listed as a species of concern by the Arizona Game and Fish Department, while the Mojave population was listed as threatened by the US Fish and Wildlife Service in 1990.[3] The Mojave listing came after habitat loss and off-road vehicle use, along with an outbreak of upper respiratory disease, led to a decline in the tortoise population.[4] Roads can cause significantly higher death rates, with one study finding lower population densities up to 400 meters from the road, likely as a result of car strikes.[5] For a threatened animal like the desert tortoise, any population depressions can have devastating effects on diversity and the ultimate survival of the species.

Studies have shown that genetic diversity in the desert tortoise is likely supported by long-distance migrations of individuals between populations. Man-made obstacles, like highways and residential developments are known to decrease migration rates in animals. Keeping corridors open for exchange between populations will be critical to maintaining a healthy and diverse population, and in the event that roads must be built, fencing or barriers alongside roads can be used to guide tortoises to culverts for safe crossing.

The RSPP project would occupy 1,448 acres and create a disturbance area of 1,944 acres, all on previously undisturbed desert tortoise habitat. It has been proposed that one possible solution will be to relocate tortoises to unaffected habitat. However, a review of translocation attempts showed high mortality rates in many species,[6] as initial capture, temporary captivity, and introduction to a new environment can all cause physiological and behavioral harm. Environmental disturbances like noise, vibration, and increased density can also cause behavioral distress, impinging on important biological functions like reproduction, foraging, and predator avoidance.[7] A small, isolated population of tortoises with little ability to rapidly reproduce will be unable to recover from the large loss of adults that could result from translocation efforts.[8] There are means by which the stress of relocation can be lessened, including using a “soft” release technique, where animals are kept in pens in the new habitat to acclimate before they are ultimately freed.

Because desert tortoises spend a large amount of time in underground burrows, it has been difficult to estimate the population density by direct survey.[9] This loss of accuracy will complicate efforts to monitor tortoises’ response to development. Often, large relocations undertaken for commercial projects do not release data on the outcome of the affected populations: in the case of solar development this information will be critical in order to assess the ongoing conservation needs of the desert tortoise. Radiotelemetry will be an important tool to measure survival and determine causes of mortality as accurately as possible after release.[10]
The Desert tortoise is not the only native species at risk when desert is developed. The DEIS for the RSPP lists many other affected species, including the Mohave Ground Squirrel, kit fox, American badger, Loggerhead shrike, western burrowing owl, and a variety of snakes and lizards.

The Loggerhead shrike (*Lanius ludovicianus*), a songbird, is declining in the Sonoran Desert at a rate of 4.3% every year, faster than the background rate of decline for the species across North America.[11] Loggerhead shrikes need undeveloped open spaces to breed successfully, and could decline further if these habitats are lost.[12]

According to a BLM report on the Mohave Ground squirrel (*Spermophilus mohavensis*), urbanization and development have led to decline in the species in the Ridgecrest area.[13] The report cites connectivity as one of the most critical elements of conserving the squirrels; small, isolated populations leave the species as a whole vulnerable to loss of genetic diversity.[14] The DEIS states that impacts to the rare Mohave Ground Squirrel will be unavoidable and impossible to fully mitigate.

Climate change will imperil species across the United States and around the world. Alternative energy sources are an essential part of mitigating that change to protect our environment, but siting and development must be done carefully to ensure that the losses to wildlife and wild lands to not outweigh the benefits of clean energy. The Wildlife Society asks that you take into account these injurious effects on wildlife as you prepare the EIS for the Ridgecrest Solar Power Plant. Furthermore, it is crucial that the cumulative effects of all desert solar projects be considered: the damages of each project may be acceptable taken alone, but untenable in combination.

Thank you for considering the views of wildlife professionals. Please feel free to contact Laura Bies, Director of Government Affairs, at laura@wildlife.org or at (301) 897-9770 x 308 if you need further information or have any questions.

Sincerely,

Bruce D. Leopold, Ph.D.
President

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