THE WILDLIFE SOCIETY
5410 Grosvenor Lane • Bethesda, MD 20814-2197
Tel: (301) 897-9770 • Fax: (301) 530-2471
E-mail: tws@wildlife.org

18 June 2010

Allison Shaffer
Project Manager
Palm Springs South Coast Field Office
Bureau of Land Management
1201 Bird Center Drive
Palm Springs, California 92262
Email: *CAPSSolarBlythe@blm.gov*

Dear Ms. Shaffer:

The Wildlife Society (TWS) appreciates the opportunity to submit comments concerning the draft Environmental Impact Statement (DEIS) for Chevron Energy Solutions/Solar Millennium Blythe Solar Power Plant (BSPP).

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, particularly that contain vulnerable or threatened or endangered species. As solar power arrays are 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 and potentially increasing erosion. 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 BSPP 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] Energy development may place similar pressure on the Sonoran population. For example, roads can cause significantly greater death rates, with one study finding lesser population densities up to 400 meters from the road, likely because of car strikes.[5] For a threatened animal like the desert tortoise, substantial increases in mortality can have devastating effects on local populations and the ultimate survival of the species.

Studies have shown that genetic diversity in the desert tortoise is likely supported by long-distance immigrations 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 genetically 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 BSPP project would occupy 9,400 acres of federal land and destroy 7,040 acres of tortoise habitat. One proposal would 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 human density can also cause behavioral stress, adversely affecting important biological functions like reproduction, foraging, and predator avoidance.[7]and perhaps also making the animals more vulnerable to disease. A small, isolated population of tortoises with little ability to rapidly reproduce and maintain genetic diversity through immigration 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 lack 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 to assess 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 regions are developed. The EIS for the Blythe Solar project lists the burrowing owl, desert bighorn sheep, American badger, Loggerhead shrike, Swainson's hawk, ferruginous hawk, yellow warbler, and Mojave fringe-toed lizard as species of concern for the project. It also notes that habitat fragmentation may impede immigration of the mountain lion, kit fox, and badger.

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] The creosote bush scrub vegetative plant association of the Sonoran desert provides foraging habitat for the golden eagle, and is an important source of food and cover for many other species. Destruction of this critical habitat could mean reduced food availability for golden eagles that use the area as wintering grounds. The EIS fails to address the impacts of development on this group of golden eagles; further studies are needed to determine the full extent of threats posed to eagles and other species that depend on cresote bush scrub.

In addition to the background information that we have provided above, we would like to offer several more specific comments on the EIS:

1. Because the Biological Resources section's laws, ordinances, regulations, and standards (LORS) compliance and impacts mitigation conclusions are undetermined, it is difficult to provide meaningful public comments, as the potential effects of the project are not fully disclosed in the draft EIS. If it is determined that the effects to Biological Resources cannot be fully mitigated, please consider issuing a Revised EIS so the public has the opportunity to comment on the evaluation of consequences.
2. Page B.1-5 details water requirements for operation of the project, and page B.1-11 details construction water requirements. However, nowhere in the DEIS are the potential effects of such usage on the water table addressed. High and sustained use of the local water supply may have deleterious effects on wildlife, such as a lowering of the water table that may affect downstream springs or other surface water supplies. The final EIS should disclose all measures that will be used to monitor the local water table and mitigate any resulting negative consequences on wildlife and other natural resources.
3. The potential negative impacts of nighttime lighting are discussed on pages C.2-73-75. It is noted that nighttime lighting can play a large role in the mortality of bats, nocturnal birds, and migrating birds and mitigation measures that will be taken are outlined. These include minimizing lighting to as few areas as possible, use of flashing, rather than steady-burning lights, and use of hoods on all lights. While all of these measures may provide some degree of mitigation, the full extent of lighting disturbance on this desert ecosystem is unknown. We recommend adopting a Condition of Certification similar to BIO-15 for collisions that will provide information needed to determine if lighting adversely affects wildlife and provides adaptive management measures to mitigate those impacts to less than significant levels.
4. The addition of 600-1000 workers over a 69-month construction phase may have substantial indirect effects on fragile desert resources. The final EIS should describe any

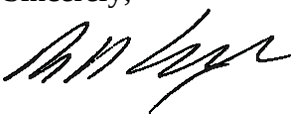
actions that are being taken to prevent additional environmental degradation on and off-site as a result of an increased human presence.

5. The Final EIS or the Record of Decision should fully disclose if any Conservation Recommendations from the Biological Assessment are adopted, given the fragile nature of the desert ecosystem and the admitted potential for long lasting environmental effects that could last longer than the project facilities' lifespan.

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 do not outweigh the benefits of clean energy. The Wildlife Society asks that you take into account injurious effects on wildlife and accept our recommendations as you prepare the EIS for the Blythe Solar Power Plant.

Thank you for considering the views of wildlife professionals. Please feel free to contact Jenna Jadin, Assistant Director of Government Affairs, at jenna@wildlife.org or at (301) 897-9770 x 309 if you need further information or have any questions.

Sincerely,



Bruce D. Leopold, Ph.D.
President

---

[1] Lovich, J.E., & D. Bainbridge. 1999. Anthropogenic Degradation of the Southern California Desert Ecosystem and Prospects for Natural Recovery and Restoration. *Environmental Management* 24(3): 309–326. Available from: http://www.ncbi.nlm.nih.gov/pubmed/10486042 Accessed 4/22/10.

[2] Lovich, J.E., & D. Bainbridge. 1999. Anthropogenic Degradation of the Southern California Desert Ecosystem and Prospects for Natural Recovery and Restoration. *Environmental Management* 24(3): 309–326. Available from: http://www.ncbi.nlm.nih.gov/pubmed/10486042 Accessed 4/22/10.

[3] Edwards, T., C.R. Schwalbe, D.E. Swann & C.S. Goldberg. 2004. Implications of anthropogenic landscape change on inter-population movements of the desert tortoise *(Gopherus agassizii).Conservation Genetics* 5: 485–499.

[4] Cohn, J.P. 1996. The Sonoran Desert. *BioScience,* 46(2): 84-87. Available from: http://www.jstor.org/stable/1312810. Accessed: 13/05/2010

[5] Boarman, W.I., M. Sazaki. 2006. A highway's road-effect zone for desert tortoises (Gopherus agassizii). *Journal of Arid Environments* 65: 94–101.

[6] Teixeira, C.P., C.S. De Azevedo, M. Mendl, C.F. Cipreste & R.J. Young. 2007. Revisiting translocation and reintroduction programmes: the importance of considering stress. *Animal Behaviour* 73: 1-13. Available from: sciencedirect.com. Accessed 4/28/2010.

[7] Teixeira, C.P., C.S. De Azevedo, M. Mendl, C.F. Cipreste & R.J. Young. 2007. Revisiting translocation and reintroduction programmes: the importance of considering stress. *Animal Behaviour* 73: 1-13. Available from: sciencedirect.com. Accessed 4/28/2010.

[8] Edwards, T., C.R. Schwalbe, D.E. Swann & C.S. Goldberg. 2004. Implications of anthropogenic landscape change on inter-population movements of the desert tortoise *(Gopherus agassizii).Conservation Genetics* 5: 485–499.

[9] Nussear, K.E., C.R. Tracy. 2007. Can modeling improve estimation of desert tortoise population density? *Ecological Applications* 17(2): 579–586. Available from: http://www.jstor.org/pss/40061879 Accessed 4/28/2010.

[10] Teixeira, C.P., C.S. De Azevedo, M. Mendl, C.F. Cipreste & R.J. Young. 2007. Revisiting translocation and reintroduction programmes: the importance of considering stress. *Animal Behaviour* 73: 1-13. Available from: sciencedirect.com. Accessed 4/28/2010.

[11] Sauer, J.R., J.E. Hines, I. Thomas, and J. Fallon. 2001. The North American breeding bird survey, results, and analysis 1966-2000, version 2001.2. United States Geological Survey, Patuxent Wild-life Research Center, Laurel, Maryland.

[12]Boal, C.W., T.S. Estabrook, A.E. Duerr 2003. Productivity and Breeding Habitat of Loggerhead Shrikes in a Southwestern Urban Environment. *The Southwestern Naturalist* 48 (4):557-562. Available from: http://www.jstor.org/stable/3672768 Accessed 13/05/2010.