

March 18th, 2024

To:

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Via US mail

Re: Petition to the Interior Department to Cancel the Environmental Impact Statement review of the Rough Hat Clark County Solar Project

Dear Secretary Haaland, Assistant Director Davis, Director Stone-Manning, Deputy Director Culver, State Director Raby, and Director Souza,

Due to the large-scale elimination of viable, intact habitat for the federally threatened Mojave desert tortoise throughout its range in the Southwestern United States, the undersigned request that Secretary Haaland, and the Interior Department cancel the Environmental Impact Statement and further review of the proposed Rough Hat Clark County Solar Project located on lands managed by the Bureau of Land Management (BLM) south of Pahrump, Nevada.

The Rough Hat Clark County Solar Project is a proposed 400-megawatt solar photovoltaic facility on 2,400 acres of public land that would replace nearly 4 square miles of good quality Mojave desert tortoise (*Gopherus agassizii*) habitat with solar panels, battery storage banks, and new transmission lines. The project is one of 6 large-scale solar projects and transmission upgrades either built or proposed in Mojave desert tortoise habitat on public lands managed by BLM south of Pahrump, Nevada.

The project site is over 3,000 feet in elevation, receives 5 to 10 inches of rain annually, and supports a healthy, reproducing desert tortoise population.

The draft Environmental Impact Statement for the Rough Hat Clark County Solar Project estimates that there are 114 adult desert tortoises on the site. According to population models based on life table information, the number of juvenile tortoises in a population should be much greater than the number of adults. However, most field studies find far more adult desert tortoises than juveniles, which indicates that juvenile recruitment is low at these sites, likely due to high rates of predation by common ravens.

The 2020 Biological Opinion for the Yellow Pine Solar Project issued by U.S. Fish and Wildlife Service estimated the number of adult tortoises to be 66 in the 4,284.5-acre fenced solar footprint, while the number of juvenile tortoises was estimated to be 434. These data suggest that the population here is healthy and exhibits high juvenile recruitment. It should also be noted that nearly 3 times more tortoises were found on the adjacent 3,000-acre Yellow Pine Solar Project site than were predicted by project biologists.

The US Fish and Wildlife Service requires that only adult tortoises be moved and not juveniles due to their higher mortality rates, but this means that hundreds of desert tortoise juveniles and hatchlings will probably be crushed and killed by large earth-moving equipment. Tortoises located by biologists would be moved 5 miles south to the Stump Spring and Trout Canyon translocation areas.

However, translocation should not be assumed to be the solution to deal with tortoises for projects approved in tortoise habitat. The “success” of translocation depends on several factors including the absence of drought, the ability of the translocation area to support additional tortoises, social interactions between resident and translocated tortoises, and effective management of the translocation areas to minimize/eliminate human-caused threats to the tortoise. Mack and Berry (2023) monitored translocated adult tortoises for 10 years. They learned that 17.72% of the tortoises survived, 65.82% died, 15.19% were missing, and 1.27% were removed from the study because they returned to the original site. Mortality was high during the first 3 years: >50% of the released animals died, primarily from predation. Thereafter, mortality declined but remained high. Thus, few tortoises survived during this translocation effort. The authors considered the translocation unsuccessful because > 50% of the tortoises died (Mack and Berry 2023). In addition, during the first four years, male tortoises that were translocated did not produce offspring with resident or translocated female tortoises. This means their genes were not added to the population at the translocation site (Mulder et al. 2017).

The desert tortoise was listed as Threatened under the Federal Endangered Species Act in 1990 and has seen substantial declines in all five Recovery Units according to U.S. Fish and Wildlife Service (USFWS) data through 2021 (please see the two tables below). Starting in 2009, large-scale solar energy applications have been accepted on tens of thousands of acres of tortoise habitat and over 75,000 acres of this tortoise habitat have been developed so far for solar energy. In the Pahrump Valley in 2021, 139 tortoises were moved off the adjacent Yellow Pine Solar Project during a record-breaking drought and 33 were killed by badgers. The habitat on the Rough Hat Clark site is even more suitable for desert tortoises due, in part, to its higher elevation. This may prove important in helping tortoises survive during predicted environmental impacts from climate change, making this location desirable for future survival and management for the tortoise.

The desert tortoise density predicted for the Rough Hat Clark County Solar Project was originally estimated to be 3.4 tortoises per square kilometer (km²). In 2022, the BLM admitted that the project site predicted density is actually 5.6 per square kilometer. It needs to be noted that the tortoise density of the project site now exceeds 7 of the established U.S. Fish and Wildlife Service designated Critical Habitat units for the desert tortoise.

Table 1.

Recovery Unit: Designated Critical Habitat Unit/Tortoise Conservation Area	Surveyed area (km²)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km² (SE)	% 10-year change (2004–2014)
Western Mojave, CA	6,294	24.51	2.8 (1.0)	–50.7 decline
Fremont-Kramer	2,347	9.14	2.6 (1.0)	–50.6 decline
Ord-Rodman	852	3.32	3.6 (1.4)	–56.5 decline
Superior-Cronese	3,094	12.05	2.4 (0.9)	–61.5 decline
Colorado Desert, CA	11,663	45.42	4.0 (1.4)	–36.25 decline
Chocolate Mtn AGR, CA	713	2.78	7.2 (2.8)	–29.77 decline
Chuckwalla, CA	2,818	10.97	3.3 (1.3)	–37.43 decline
Chemehuevi, CA	3,763	14.65	2.8 (1.1)	–64.70 decline
Fenner, CA	1,782	6.94	4.8 (1.9)	–52.86 decline
Joshua Tree, CA	1,152	4.49	3.7 (1.5)	+178.62 increase
Pinto Mtn, CA	508	1.98	2.4 (1.0)	–60.30 decline
Piute Valley, NV	927	3.61	5.3 (2.1)	+162.36 increase
Northeastern Mojave	4,160	16.2	4.5 (1.9)	+325.62 increase
Beaver Dam Slope, NV, UT, AZ	750	2.92	6.2 (2.4)	+370.33 increase
Coyote Spring, NV	960	3.74	4.0 (1.6)	+ 265.06 increase
Gold Butte, NV & AZ	1,607	6.26	2.7 (1.0)	+ 384.37 increase
Mormon Mesa, NV	844	3.29	6.4 (2.5)	+ 217.80 increase
Eastern Mojave, NV & CA	3,446	13.42	1.9 (0.7)	–67.26 decline
El Dorado Valley, NV	999	3.89	1.5 (0.6)	–61.14 decline
Ivanpah Valley, CA	2,447	9.53	2.3 (0.9)	–56.05 decline
Upper Virgin River	115	0.45	15.3 (6.0)	–26.57 decline
Red Cliffs Desert	115	0.45	15.3 (6.0)	–26.57 decline
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	25,678	100.00		–32.18 decline

Table 2.

Recovery Unit: Designated CHU/TCA &	% of total habitat area in Recover y Unit & CHU/T CA	2004 density / km ²	2014 density/ km ² (SE)	% 10- year change (2004– 2014)	2015 density / km ²	2016 density / km ²	2017 density / km ²	2018 density / km ²	2019 density / km ²	2020 density / km ²	2021 density / km ²
Western Mojave, CA	24.51		2.8 (1.0)	-50.7 decline							
Fremont-Kramer	9.14		2.6 (1.0)	-50.6 decline	4.5	No data	4.1	No data	2.7	1.7	No data
Ord-Rodman	3.32		3.6 (1.4)	-56.5 decline	No data	No data	3.9	2.5/3.4 *	2.1/2.5 *	No data	1.9/2.5 *
Superior- Cronese	12.05		2.4 (0.9)	-61.5 decline	2.6	3.6	1.7	No data	1.9	No data	No data
Colorado Desert, CA	45.42		4.0 (1.4)	-36.25 decline							
Chocolate Mtn AGR, CA	2.78		7.2 (2.8)	-29.77 decline	10.3	8.5	9.4	7.6	7.0	7.1	3.9
Chuckwalla, CA	10.97		3.3 (1.3)	-37.43 decline	No data	No data	4.3	No data	1.8	4.6	2.6
Chemehuevi, CA	14.65		2.8 (1.1)	-64.70 decline	No data	1.7	No data	2.9	No data	4.0	No data
Fenner, CA	6.94		4.8 (1.9)	-52.86 decline	No data	5.5	No data	6.0	2.8	No data	5.3
Joshua Tree, CA	4.49		3.7 (1.5)	+178.6 2 increase	No data	2.6	3.6	No data	3.1	3.9	No data
Pinto Mtn, CA	1.98		2.4 (1.0)	-60.30 decline	No data	2.1	2.3	No data	1.7	2.9	No data

Piute Valley, NV	3.61		5.3 (2.1)	+162.36 increase	No data	4.0	5.9	No data	No data	No data	3.9
Northeastern Mojave AZ, NV, & UT	16.2		4.5 (1.9)	+325.62 increase							
Beaver Dam Slope, NV, UT, & AZ	2.92		6.2 (2.4)	+370.33 increase	No data	5.6	1.3	5.1	2.0	No data	No data
Coyote Spring, NV	3.74		4.0 (1.6)	+265.06 increase	No data	4.2	No data	No data	3.2	No data	No data
Gold Butte, NV & AZ	6.26		2.7 (1.0)	+384.37 increase	No data	No data	1.9	2.3	No data	No data	2.4
Mormon Mesa, NV	3.29		6.4 (2.5)	+217.80 increase	No data	2.1	No data	3.6	No data	5.2	5.2
Eastern Mojave, NV & CA	13.42		1.9 (0.7)	-67.26 decline							
El Dorado Valley, NV	3.89		1.5 (0.6)	-61.14 decline	No data	2.7	5.6	No data	2.3	No data	No data
Ivanpah Valley, CA	9.53		2.3 (0.9)	-56.05 decline	1.9	No data	No data	3.7	2.6	No data	1.8
Upper Virgin River, UT & AZ	0.45		15.3 (6.0)	-26.57 decline							
Red Cliffs Desert**	0.45	29.1 (21.4-39.6)*	15.3 (6.0)	-26.57 decline	15.0	No data	19.1	No data	17.2	No data	

Rangewide Area of CHUs - TCAs/Rangewide de Change in Population Status	100.00			-32.18 decline							
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*This density includes the adult tortoises translocated from the expansion of the MCAGCC, that is resident adult tortoises and translocated adult tortoises.

**Methodology for collecting density data initiated in 1999.

The first table includes the area of each Recovery Unit and Tortoise Conservation Area (TCA), percent of total habitat, density (number of breeding adults/km² and standard errors = SE), and the percent change in population density between 2004 and 2014 (Allison and McLuckie 2018). Populations below the viable population level of 3.9 breeding individuals/km² (10 breeding individuals per mi²) (assumes a 1:1 sex ratio) and showing a decline from 2004 to 2014 are in red.

In total, the USFWS has determined that the desert tortoise has seen a 37 percent range-wide decline between 2004 and 2014 and has not experienced any improvement. In the Eastern Mojave Recovery Unit where the proposed Rough Hat Solar Project would be located, the desert tortoise has seen a 67 percent decline in tortoise density between 2004 and 2014 (Allison and McLuckie 2018). Approval of the Rough Hat Clark County Solar Project will predictably contribute to this on-going extinction trend.

The second table shows the estimated density of adult tortoises since 2014 using USFWS data (USFWS 2016, 2018, 2019, 2020, 2022a, 2022b). Between 1998 and 2019, tortoises in the core reserve area of the Upper Virgin River Recovery Unit declined more than 50 percent (Eddington 2024) and tortoise densities in the Northeastern Mojave Recovery Unit declined in three of the four TCAs to densities less than that needed for population viability (USFWS 1994).

The BLM has designated the entire region as Priority 2 Desert Tortoise Connectivity Habitat.¹ These are defined as blocks of habitat with the greatest potential to support populations of desert tortoises, outside least cost corridors, and may also have important value to recovery.

The 1994 Desert Tortoise Recovery Plan (USFWS 1994) states that: “Large blocks of habitat, containing large populations of the target species, are superior to small blocks of habitat containing small populations.” The Revised Recovery Plan emphasized the need for linkage habitats to be managed to maintain gene flow between tortoise in Tortoise Conservation Areas (e.g., critical habitat units, etc.) (USFWS 2011). Thus, managing more than designated critical habitat is needed for the survival and recovery of the tortoise.

Regarding linkage habitat to provide and manage for population connectivity for the tortoise, Averill-Murray et al. (2021) stated that “Ignoring minor or temporary disturbance on the landscape could result in a cumulatively large impact that is not explicitly acknowledged (Goble, 2009); therefore, understanding and quantifying all surface disturbance on a given landscape is prudent.” They further stated that “habitat linkages among TCAs must be wide enough to sustain multiple home ranges or local clusters of resident tortoises (Beier and others, 2008; Morafka, 1994), while accounting for edge effects, in order to sustain regional tortoise populations.” The lifetime home range for the Mojave desert tortoise is more than 1.5 square miles (3.9 square kilometers) of habitat (Berry 1986) and tortoises may make periodic forays of more than 7 miles (11 kilometers) at a time (Berry 1986). Consequently, effective linkage habitats are not long narrow corridors. Any development within them has an edge effect (i.e., indirect impact) that

¹ https://solareis.anl.gov/documents/fpeis/maps/FWS_Connectivity_Explanation.pdf

extends from all sides into the linkage habitat further narrowing or impeding the use of the linkage habitat, depending on the extent of the edge effect.

Solar energy projects require so much land, they have become one of the major threats to the desert tortoise along with highways, urban sprawl, ravens, invasive species, and climate change.

The Interior Department has the authority to cancel a National Environmental Policy Act review and has done so in the past. In 2018, Interior Secretary Ryan Zinke and the Energy and Infrastructure Team canceled² the Environmental Impact Statement for the Crescent Peak Wind Project near Searchlight, Nevada, which would have developed over 200 wind turbines on 38,000 acres of sensitive wildlife habitat in what is now the Avi Kwa Ame National Monument.

In 2021, Interior Secretary Deb Haaland canceled³ the Environmental Impact Statement that would have weakened many of the conservation actions approved under the California Desert Renewable Energy Conservation Plan.

Large-scale solar projects can be sited in many different locations. The Interior Department is mandated to protect the desert tortoise and other species protected under the Federal Endangered Species Act.

The Federal Endangered Species Act was established in 1973 with the goal of preventing extinction, recovering plants and animals, and preventing habitat loss. These goals cannot be accomplished when thousands of acres at a time are approved for habitat removal. With so many alternative locations for solar projects, we question how responsible it is to approve this development on so much important wildlife habitat.

For the sake of the future viability of the desert tortoise, please cancel the Environmental Impact Statement review for the Rough Hat Clark County Solar Project.

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³ <https://www.blm.gov/press-release/official-statement-department-interior-will-revoke-blms-comment-period-proposed>

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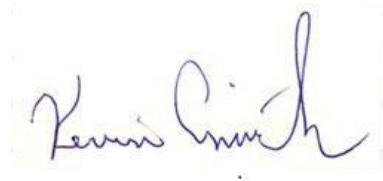
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Thank you,



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