



February 16, 2023

CDFW Inland Deserts Regional Office  
Attention: Shankar Sharma  
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Re: NOP comments regarding the Soda Mountain Solar Project (SMSP)

Dear Reader,

The Morongo Basin Conservation Association is pleased to provide substantive comments on some of the many issues that must be considered in the preparation of the Draft Environmental Impact Report for the Soda Mountain Solar Project (SMSP).

### Aesthetics



The construction of this massive industrial renewable energy development adjacent to the Mojave National Preserve will adversely affect the scenic quality of the desert environment. The Mojave Desert is a world class tourist destination treasured for its vast open space and unbroken vistas. The industrial incursion of 4,179 acres (6.5 sq. miles) of solar panels adjacent to the I-15 will affect its scenic qualities.

In the National Geographic 2013 special publication titled *The World's Most beautiful places*, the Mojave Desert was named as one of 100 unforgettable destinations. The Mojave National Preserve – one of the world's 100 best kept secret journeys and hidden adventures.

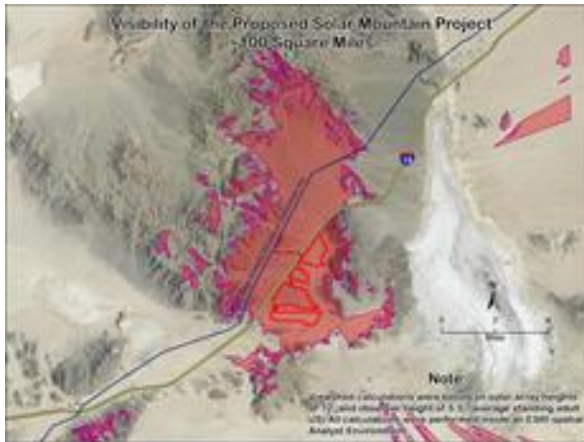
Why do visitors come to the Mojave Desert?

Visitor Surveys at Joshua Tree National Park by the University of Idaho give us the answer.

Views without development	90%	Clean Air	89%
Natural quiet, sounds of nature	87%	Desert Plants/Wildlife	83%
Native Wildlife	81%	Solitude	73%
Dark Starry night skies	65%		

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The “Heart of the Mojave” is accessed from all compass points on routes grading down from Interstates to state and county paved highways to dirt roads. Linking the three desert national parks is the two lane Twentynine Palms – to Shoshone Scenic Byway (Hwy 127), the most remote and scenic route east of the Sierra Nevada Range. The I-15 ties the coast to the inland deserts, meeting up with the Scenic Byway at Soda Lake and the town of Baker. Travelers on the I-15 are fast and maybe unconcerned as they trace the northern boundary of the Mojave National Preserve on its way to the Nevada border. None-the-less it matters esthetically that the

interstate first touches the Preserve (MNP) at the location of the proposed industrial 6.8 square mile SMSP. It leaves the Preserve 51 miles later in the glare of the Ivanpah towers. This is not a nice way to treat one of world’s best kept secret journeys and it is bad for business.

### Socioeconomics

Visitor spending resulting from visits to the national parks and other scenic public lands is a prime economic engine supporting residents, businesses, and jobs in Mojave Desert communities. This economic relationship is significant but only ongoing if the conditions which invite visitors are ongoing. Please refer back to the ‘Why do visitors come?’ above. Businesses dependent on tourism understand that visitors can decide to go elsewhere -- to the national parks and conservation lands in Nevada, Arizona, Utah, or New Mexico – if conditions no longer offer the amenities they crave. The tourism-based communities are geographically isolated, and individuals have few alternative job choices. Tourism dollars enrich communities because they stay in the communities. Visitor spending effects in 2021 Joshua Tree National Park communities was \$170 million and the effect in the Mojave National Preserve area was \$56.4 million.<sup>1</sup>

- MBCA requests an analysis in the DEIR of the possible effects of the SMSP on the economies of the desert gateway communities to the National Parks. This is an Environmental Justice issue.
- MBCA requests that recreational activities enjoyed on the Mojave Desert public lands be included in the analysis.

### Air-Quality

The 6.5 sq. mile Project is strung along the east side of the I-15 for approximately 3.4 miles. The journey passes between mountain draped with sand sheets deposited by the eastward blowing winds. Currently the dunes are vegetated and stabilized with creosote, white bursage, desert buckwheat and mesquite. The Rositas soil series consists of very deep, somewhat excessively drained soils formed in sandy eolian material. Rositas soils are on

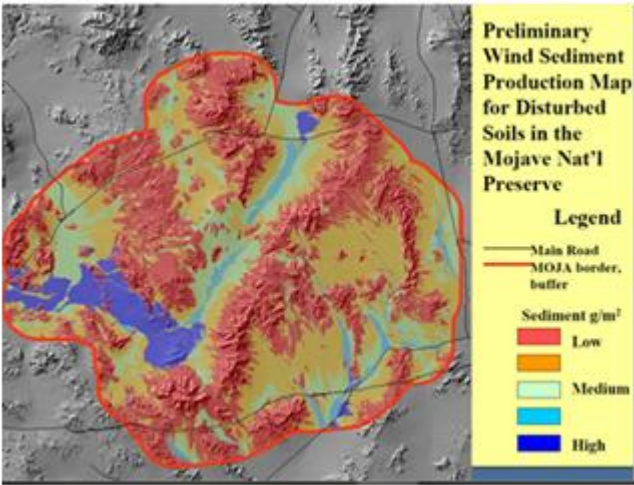


Red soil = Rositas-Carrizo (s-1137)

<sup>1</sup> <https://www.nps.gov/subjects/socialscience/vse.htm>

dunes and sand sheets. Somewhat excessively drained they have negligible to low runoff and rapid permeability.<sup>2</sup>

With removal of the vegetation the dust will blow whenever the winds reach the threshold friction velocity (TFV speed at which particles move).



USGS scientists studied the susceptibility of soil surfaces to wind erosion in the southwest and, fortunately for the SMSP, they focused locally. The map shows the wind sediment production for disturbed soils in the Mojave National Preserve, including the project area. The table below pulls data from the report's monthly maps that show the % of time during a month that the TFV is exceeded. Notice that the SMSP area has a medium (g/m<sup>2</sup>) sediment load, while the area immediately south and to the east is high, meaning finer particles. The southwest winds can transport these fine sediments on to the project site throughout the year.

% Time per month that a Threshold Friction Velocity (TFV)\* is exceeded on MNP border, buffer

Month	SMSP site**	South of site***	Month	SMSP site	South of site
January	30-40%	50-60%	July	60-70%	70-80%
February	40-50%	60-70%	August	50-60%	70-80%
March	60-70%	70-80%	September	50-60%	70-80%
April	60-70%	70-80%	October	40-50%	60-70%
May	70-80%	80-90%	November	30-40%	60-70%
June	70-80%	80-90%	December	30-40%	50-60%

\*TFV is the wind speed at which particles move.

The EIR for the original project did not adequately address fugitive dust and water quantities needed for suppression. The Mojave Desert Air Quality Management District (MDAQMD) is the regulator of air quality in the Mojave Desert Air Basin. However, there are no ambient air monitors east of Victorville although they have installed Purple Air monitors<sup>3</sup> in Zzyzx Desert Study Center and Primm, near the Nevada border<sup>4</sup>. While readings from these sensors currently can't be used for official pollution statistics/data, they provide a general idea of the PM readings in the area near the community sensor. How effective they are at distance when the air flow bounces off the mountain ranges is unknown to this reviewer. The developer will have to apply for a Fugitive Dust Permit (403) that require a plan to suppress PM10 and PM2.5. The usual requirement is frequent watering but those living downwind know this does not work. Importantly, the Rositas soil rapidly drinks the water (clay content is 0-10%) – it does not work to prevent dust blowing.

Dust can obscure visibility for miles and makes for dangerous traveling

<sup>2</sup> [https://soilseries.sc.egov.usda.gov/OSD\\_Docs/R/ROSITAS.html](https://soilseries.sc.egov.usda.gov/OSD_Docs/R/ROSITAS.html)

<sup>3</sup> <https://www2.purpleair.com/products/purpleair-pa-ii?variant=40067691708513>

<sup>4</sup> <https://map.purpleair.com/1/mPM25/a10/p604800/cC0?select=169533#8.34/35.291/-116.232>

This SMSP area is immediately adjacent to the I-15, located in a basin bracketed by mountains that funnel winds eastward. Baker residents and businesses, as well as interstate travelers are at risk (visibility and health problems) if dust is not adequately controlled. Dust control over a 6.4 square mile area would be necessary and continuous for most of the year. That's a lot of water, especially if the wind is drying the ground as fast as it is wetted down. Desert utility solar projects have also found a need to wash mirrors more than twice a year so maintenance quantities should also be refigured. In the Morongo Basin, adjacent to Joshua Tree Nation Park, a 100-acre solar project on similar soils eventually required 10 X the estimated water use during construction. A possible 10X increase is staggering but based on water use by actual solar projects it must not be ignored.

- Since the water will not be local the number of water carrying trucks must also be projected and the carbon emissions calculated in the DEIR.
- To protect drivers on the I-15, MBCA requests the Developer be required to install an ambient air monitor with readings available in real time to MDAQMD, CARB, and State/Federal EPA.
- MBCA requests a DEIR analysis of each of the possible palliatives used to control fugitive dust including the immediate and long-lasting effects on the flora, fauna, groundwater, storm surface water personation, and human health.
- MBCA requests that the applicant provides a water "will-Interfere substantia" letter from a water purveyor guaranteeing water supply for the life of the project from construction to decommissioning and site restoration. This is consistent with Water supply assessments, required under SB610 to determine water supply sufficiency for a 20-year projection for commercial developers of more than 250,000 square feet (5.7 acres).

### **Biological Resources**

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

### **Migratory and resident birds along the I-15 corridor**

The following information informs us of the bird species that will encounter the SMSP, if constructed. It also shows the popularity of the area for birders. Birders are excellent tourists in that they tend to stay at local lodging, eat at local restaurants, and buy gas and souvenirs. They are a good proxy for the value of the recreation element not investigated fully in the 2016 EIR

The seasonal occurrence and movement of over 200 bird species in the Mojave Desert area discussed here is recorded on [www.eBird.org](http://www.eBird.org), an online resource coordinated by Cornell Laboratory of Ornithology and the National Audubon Society. The balloons on the map are areas where birds are seen, recorded, and reported. The following table provides the location and Species/Counts. Species includes the number of species that have been recorded at that site and Counts is the number of separate occasions that the site has been visited and the birds seen uploaded to the eBird site. My comments on the first SMSP was in 2014. To make my point I have uploaded 2023 data to demonstrate the continued activity around these sites.

Other information not provided here, such as the seasonal occurrence and number of years the site has been monitored is available online.

In 2014 I spoke with Jacob Overson, the General Manager of the Baker CSD, and he told me the birders are a visible attraction themselves during migration. In that small town there are three sites with over 100 bird species recorded in each one.



	Location	Species/Counts 3/2014	Species/Counts 2/2023
1	Chet Huffman Park	118/155	175/761
2	Baker-behind Denny's	107/82	143/160
3	Baker Sewage Ponds	176/230	242/956
4	Zzyzx Desert Studies	224/384	252/1344
5	East Cronese Lake		46/5
6	Afton Canyon	78/18	152/138
7	I-15 Kane Rest Area		49/29
8	Fort Cady Riparian Reserve	53/7	109/38
9	Piute Road Dairy		125/135
10	Newberry Springs Vicinity		172/121
11	Daggett Evaporation Ponds	117/197	150/291
12	Tees & Trees Barstow Ponds	124/108	158/226
13	Barstow WTP	115/44	165/196
14	Barstow Community College		127/334



The three balloons in the upper right are the locations in Baker. Chet Huffman Park is a small green island on the edge of downtown. The 100 species recorded and those counting them have greatly increased.

In case you are not convinced SMSP will have serious dust problems, look more closely at the map and the sandy eolian material draped across the basins and ranges

### The Lake Effect

The Lake Effect has the black-throated sparrow wondering.

The SMSP would be a 6.5 sq. mile lake promising rest and food. Night light will also reflect off the panels which are stored face up. Most migratory songbirds migrate at night.

Cascade Solar in Joshua Tree CA is shown in the picture to the right and below. It is 159 acres or 0.2 square miles. Imagine the look of the basin if it were 6.5 sq. miles.



### Migratory birds, avian mortality, and monitoring

Essentially, the following quote from the 2014 SMSP EIR says it all.

*While this measure would help describe the extent of the magnitude of the potential impact to common and special-status avian species, it would not fully reduce the impacts of proposed facilities to individual birds because **avian mortality risks would remain.*** (Bold by the author)

The usual Mitigation measures are, for the most part, only monitoring measures. At this time there is little that can be done to eliminate the attractiveness of a body of water (reflective panels) to a hot, tired, and exhausted bird in need of rest and refreshment. We should, however, record what we are

doing. Three years will not be sufficient data: birds have been following routes between water sources for millennia. Some of the eBird sites listed in the tables have posted data back to 1900. Research is just getting started on how to evaluate the effects of utility solar projects of the migratory bird population.

- MBCA requests that Zglobal, as the cost of doing business, actively contribute dead bird specimens found on the site to the USGS The Renewables – Wildlife Solutions Initiative (RWSI). The RWSI is designed to provide timely, data-intensive science to assist streamlining of renewable energy development by rapidly assessing relative vulnerability of potentially affected wildlife populations. They assess relative vulnerability by: (1) developing frameworks and infrastructure for collection, archiving, and analysis of biological samples (fur, feathers, organs) from wildlife killed at renewables; (2) using those samples to biochemically assess the “catchment area” from which those fatalities are drawn; and (3) developing scientific tools to integrate catchment area data with demographic models to understand cumulative and population-level consequences of fatalities to wildlife.<sup>5 6</sup>
- MBCA requests that as an active contributor to the RWSI, Zglobal commit to collecting bird specimens from the site for the life of the project.

### **Dangers to Wildlife**

The ecosystem known as the Devil’s Playground north of the project is rich in wildlife species, including bighorn sheep, desert tortoise, badgers, bobcats, and fox. The National Park Conservation Association (NPCA) has been working for years with Brightline West and their proposal to build a high-speed electric rail linking Southern California to Las Vegas down the center of the I-15. Three wildlife crossings in the area of the newly awakened SMSP are essential to preventing genetic isolation and massive roadkill of wildlife crossing the I-15 into the Devil’s Playground.<sup>7</sup>

- MBCA requests that the NPCA comments on SMSP be incorporated into our comments.

### **The Bigger Picture**

The effect of the destruction of an intact functioning eco-system must be fully studied and evaluated against the generation of electricity to be utilized far from the site. The planet is in the midst of a catastrophic extinction event and the value of species other than humans must not be undervalued. Protecting and encouraging species diversity provides the foundation for all life on the planet. For too long the approach of ‘it’s only just a few animals that will be harmed’ has been the rationale for destructive use of intact lands. The potential for disruption of wildlife corridors and the consequent loss of genetic variety must be fully studied in the DEIR. The proposed project must be evaluated in relation to the cumulative effects of the proposed high-speed rail project currently planned.

### **Cultural Resources**

The spiritual and cultural value of this land to the indigenous tribes must be fully studied and respected in the DEIR.

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<sup>5</sup> [https://www.usgs.gov/mission-areas/ecosystems/news/fridays-findings-august-26-2022#:~:text=The%20Renewables%20Wildlife%20Solutions%20Initiative%20\(RWSI\)%20is%20designed%20to,of%20potentially%20affected%20wildlife%20populations.](https://www.usgs.gov/mission-areas/ecosystems/news/fridays-findings-august-26-2022#:~:text=The%20Renewables%20Wildlife%20Solutions%20Initiative%20(RWSI)%20is%20designed%20to,of%20potentially%20affected%20wildlife%20populations.)

<sup>6</sup> [https://www.usgs.gov/mission-areas/ecosystems/news/fridays-findings-august-26-2022#:~:text=The%20Renewables%20Wildlife%20Solutions%20Initiative%20\(RWSI\)%20is%20designed%20to,of%20potentially%20affected%20wildlife%20populations.](https://www.usgs.gov/mission-areas/ecosystems/news/fridays-findings-august-26-2022#:~:text=The%20Renewables%20Wildlife%20Solutions%20Initiative%20(RWSI)%20is%20designed%20to,of%20potentially%20affected%20wildlife%20populations.)

<sup>7</sup> <https://www.latimes.com/environment/story/2023-02-06/mojave-desert-solar-energy-project-angers-conservationists>

## **Geology and Soils**

See above re: air quality and the potential for severe dust events should this land be cleared of all native vegetation. The site must be evaluated in the DEIR for the presence of caliche, a material that contains carbon that would be released when disturbed or removed.

## **Greenhouse Gas Emissions**

While the need to break our dependence on fossil fuels is clear, it must not be at the expense of the intact ecosystem. An alternative to this project that places renewable energy resources in the built environment must be evaluated.

The DEIR must evaluate the effect of the destruction of an existing system that currently sequesters carbon within the plants on the site. Given that this project will destroy the future ability of the site to sequester carbon for a time span that far exceeds the life of the project, this calculation must be considered.

- MBCA requests that the DEIR analyze the greenhouse gas emissions from trucking water into the SMSP for construction, operation, and decommissioning.

## **Noise**

The DEIR must evaluate any noise sources within the proposed development. The potential cumulative effects of this project along with the proposed high speed rail line and the existing I-15 freeway must be studied and considered as far as effects on wildlife.

## **Recreation**

The potential deleterious effect on the recreational areas adjacent to the project must be considered. See above re: potential dust.

## **Wildfire**

The potential for wildfire due to the long-distance transmission of electricity generated by the project must be fully studied and evaluated. An Alternative that places renewably generated electricity in the built environment should be considered. Such an alternative would support the resilience of the intact ecosystem while at the same time providing needed resilience within the built environment through the use of community micro-grids. Southern California is overdue for the 'Big One' and a distributed electrical system would support the resiliency that will be needed in the aftermath.

The project site has consistently been misrepresented as a "disturbed site". This, however, is simply not the case, and the significant and unique resource values found on this undeveloped site have been well-documented in Department of the Interior's own environmental documents, and by partner agencies and the independent scientific community. The fact that the area of solar array development is currently undisturbed – free of transmission lines, pipelines, and a high-speed rail corridor that Bureau of Land Management (BLM) misrepresents as existing there – has been confirmed by former Assistant Secretary Janice Schneider, who toured the site on foot in 2015, and by BLM's own FEIS ROD maps.

The escalating conflict surrounding the Soda Mountain Solar project and the important resources in the region is unfortunate and avoidable. This site is inappropriate for development. This statement was echoed by the San Bernardino County Board of Supervisors, who denied CEQA certification for BLM's Soda Mountain Solar FEIS/FEIR because of the project's "significant and unavoidable" adverse impacts to locally and nationally significant resources.



To closes and recap our requests:

- MBCA requests that the NPCA comments on SMSP be incorporated into our comments.
- MBCA requests the DEIR reference and reflect the decision that was made these nearly 8 years ago.
- MBCA requests an analysis in the DEIR of the possible effects of the SMSP on the economies of the desert gateway communities to the National Parks. This is an Environmental Justice issue.
- MBCA also requests that recreational activities enjoyed on the Mojave Desert public lands be included in the DEIR analysis.
- To protect drivers on the I-15, MBCA requests the Developer be required to install an ambient air monitor with readings available in real time to MDAQMD, CARB, and State/Federal EPA.
- MBCA requests a DEIR analysis of each of the possible palliatives used to control fugitive dust including the immediate and long-lasting effects on the flora, fauna, groundwater, storm surface water personation, and human health.
- MBCA requests that Zglobal provides a water “will-Interfere substantia” letter from a water purveyor guaranteeing water supply for the life of the project from construction to decommissioning and site restoration.
- MBCA requests an analysis of the Lake Effect on migratory birds.
- MBCA request the DEIR analyze the potential for disruption of wildlife corridors and the consequent loss of genetic variety. The proposed project must be evaluated in relation to the cumulative effects of the proposed high-speed rail project currently planned
- MBCA requests that Zglobal, as the cost of doing business, actively contribute dead bird specimens found on the site to the USGS The Renewables – Wildlife Solutions Initiative (RWSI).
- MBCA requests that as an active contributor to the RWSI, Zglobal commit to collecting bird specimens from the site for the life of the project.
- MBCA requests a DEIR analysis for the presence of caliche, a material that contains carbon that would be released when disturbed or removed.
- MBCA requests a DEIR evaluation the effect of the destruction of an existing vegetative system that currently sequesters carbon within the plants on the site. Given that this project will destroy the future ability of the site to sequester carbon for a time span that far exceeds the life of the project, this calculation must be considered.
- MBCA requests that the DEIR analyze the greenhouse gas emissions from trucking water into the SMSP for construction, operation, and decommissioning.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steve Bardwell". The signature is fluid and cursive, with a large, stylized "S" and "B".

Steve Bardwell, President  
Morongo Basin Conservation Association