

August 4th, 2022

To: Bureau of Land Management Southern Nevada District Office
Attn: Golden Currant Solar Project Variance
4701 N. Torrey Pines Drive
Las Vegas, NV 89130

Email sent to: BLM_NV_SND_EnergyProjects@blm.gov

Re: Comments on the Golden Currant Solar Project Variance Process

To Whom it May Concern,

Basin and Range Watch is a nonprofit working to conserve the Mojave and Great Basin deserts and to educate the public about the diversity of life, culture, and history of the ecosystems and wild lands of the desert.

The mission of **Western Watersheds Project** is to protect and restore western watersheds and wildlife through education, public policy initiatives, and legal advocacy.

Mojave Green combines art and activism to draw attention to issues of environmental injustice and highlights viable solutions.

Wildlands Defense works to inspire and empower the preservation of wild lands, wildlife and biodiversity in the West.

The Desert Tortoise Council is a non-profit organization comprised of hundreds of professionals and laypersons who share a common concern for wild desert tortoises and a commitment to advancing the public's understanding of desert tortoise species. Established in 1975 to promote conservation of tortoises in the deserts of the southwestern United States and Mexico, the Council routinely provides information and other forms of assistance to individuals, organizations, and regulatory agencies on matters potentially affecting desert tortoises within their geographic ranges.

Morongo Basin Conservation Association advocates for the healthy desert environment that nurtures the region's rural character, cultural wealth and economic well-being.

Shoshone Village is situated in the beautiful Death Valley and Amargosa River region of Inyo County California, and is an ecotourism hub.

Desert Survivors is a non-profit organization founded in 1981 with the mission of experiencing, sharing and protecting desert wilderness. We recognize the places we love to explore will not remain wild unless we give others the opportunity to experience them and unless we remain vigilant and active in our efforts to monitor and preserve them.

Together known as 'Conservation Groups.'

The proposed Golden Currant Solar Project is undergoing a Variance Review process and the Bureau of Land Management (BLM) has recently segregated mineral rights for 2 years to consider an application for a 4,300-acre solar project.

Noble Solar, LLC applied for a right-of-way grant for the construction, operation and eventual decommissioning of a proposed 400 megawatt (MW) alternating current solar facility and battery energy storage system on BLM managed public land.

During the Virtual Variance Meeting on July 19th and 20th, 2022, several issues were raised by participants.

These issues include:

1. Desert Tortoise – In 2021, biologists removed nearly 3 times the amount of desert tortoise predicted to be on the adjacent Yellow Pine Solar Project site on a record-breaking drought year, many of which were killed by predators. Eleven additional tortoises were located on the site since the original translocation—one of which was run over by a vehicle (personal communication, July 29, 2022, BLM).
2. Fugitive Dust – Large-scale solar developers can't seem to ever control fugitive dust emissions caused by their projects. This is very difficult in arid regions and the projects develop four to ten square miles of land at a time. In addition to being a visual eyesore, the human health risks stemming from disturbed topsoils/blowing dirt and dust events, is a rising problem. According to numerous studies *Coccidioides immitis* is a fungus found in the soil; clinical infections have a strong association with blowing dust events in the Southwestern United States. Blowing dust events can cause significant morbidity and

mortality in the general population causing acute respiratory failure and exacerbations of chronic respiratory diseases, such as asthma and COPD¹.

3. Old Spanish National Historic Trail – the project would be located about 2 miles away from the Old Spanish Trail. A large industrial project would destroy the historic view-scape of the area as well as cause desecration to this national historic treasure.
4. Important Mojave Desert Habitat – The project would impact high quality Mojave Desert habitat and remove several thousand Mojave yucca plants. It would also impact mesquite woodlands and associated species. The rare Pahrump buckwheat has been found on the project site.
5. Water – the project would need over 1,000 acre-feet of water for construction and 200-acre feet a year for operation for 30 years which is 6,000 acre feet. All basins are over-allocated.
6. Public Land Access – Large areas of public lands (up to 7 square miles) would be blocked off by fences and solar panels.
7. Visual Impacts – The project would be visible for several miles and from wilderness areas in Nevada and California, and even from high elevations in Death Valley National Park.
8. Paleontological Resources – the project possibly contains Plio-Pleistocene megafaunal fossils, such as mammoth.
9. Pahrump Paiute Ethnography – The Golden Currant Site is adjacent to both Stump Springs and Brown’s Spring. The mesquite areas throughout this valley constitute an important part of the Pahrump Paiute’s cultural landscape.

Please pause the Golden Currant Solar Project Variance Review until the Resource Management Plan can be Revised.

The BLM is basing the variance review on an old and outdated Resource Management Plan (RMP) called the Las Vegas Resource Management Plan that was completed in 1997. The plan is 25 years old. In the meantime, the listed population of the desert tortoise has experienced drastic declines (Allison and McLuckie 2018) and the International Union for Conservation of Nature’s (IUCN) Species Survival Commission, Tortoise and Freshwater Turtle Specialist Group, now considers the Mojave desert tortoise to be Critically Endangered (Berry et al. 2021).

The 25-year-old plan has designated most of the project site as a Visual Resource Management Class IV which encourages developments like this, but this was before June 5, 2003, when the Secretary of the Interior assigned joint administrative responsibility for the Old Spanish National Historic Trail to the Bureau of Land Management and the National Park Service.

The 25-year-old plan also predates the Clark County Multi Species Habitat Conservation Plan (MSHCP) which was established in 2000 to conserve a wide variety of species and their habitats throughout the county. The MSHCP has been prepared pursuant to Section 10(a) of the

¹ See for example <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8962906/>

Endangered Species Act of 1973, as amended (Act). The MSHCP identifies those actions necessary to maintain the viability of natural habitats in the county for approximately 232 species residing in those habitats. Some of those species and habitats are present on the Golden Currant Solar Energy project site.

We have learned through personal communication with the BLM that they are planning a Nevada-wide Resource Management Plan revision in 2023. Land use planning can help define the latest values and issues involving these public lands. An RMP revision would require an updated analysis of these values and help the agency better decide the importance of this area. It appears that BLM is using a loophole trying to review this project with an outdated RMP.

We would like to request that all Variance and future NEPA review for this proposed project be paused until the Resource Management Plan can be revised.

The Federal Land Policy and Management Act (FLPMA) requires the BLM to maintain on a continuing basis an inventory of all public lands and their resources and other values (Inventories, Section 201). Planning, per FLPMA Section 202, instructs that the Secretary of the Interior shall, with public involvement and consistent with the terms and conditions of the Act, develop, maintain, and, when appropriate, revise land use plans which provide tracts or areas for the use of the public lands.

The purpose of a Resource Management Plan (RMP) is to:

1. Allocate resources and determine appropriate multiple uses for the public lands;
2. Provide a strategy to manage and protect resources;
3. Establish systems to monitor and evaluate the health of resources and effectiveness of practices.

RMPs are like a public lands version of municipal zoning.

The Bureau of Land Management evaluates and amends or revises its land-use plans in response to changing conditions and demands on the public lands, or when new components are added to the National Conservation Lands that it manages. Keeping a plan up-to-date helps ensure that the BLM manages the public lands in ways that meet the multiple-use and sustained yield goals that Congress has set for these lands.

Examples of situations that may require new or changed land-use plan decisions include:

- New information or scientific knowledge about the environmental health of an area.
- Failure to meet the land health standards set out in the original plan.
- Requests for land uses that were not considered in the original plan. Many older land-use plans, for example, did not consider the possible land-use needs of emerging renewable energy resources.

The Las Vegas RMP is 25 years old, and in that timeframe, values, visitation and use of the area have changed.

Old Spanish National Historic Trail

The project would be located within the 5-mile trail corridor that both NPS and BLM consider important to protect.

The jurisdiction of the Old Spanish National Historic Trail is now shared by both the BLM and National Park Service, and this happened 6 years after the Las Vegas Resource Management Plan was established.

After the feasibility study was completed and submitted, Congress passed a bill creating the Old Spanish National Historic Trail and sent it to the White House on November 15, 2002. President George W. Bush signed the bill into law

Both the BLM and NPS prepared the Old Spanish National Historic Trail Comprehensive Administrative Strategy (OSNHTCAS) in 2003. In the strategy, they outline the purpose of the Old Spanish National Historic Trail. ²

In 2015, the BLM started to revise the Southern Nevada Resource Management Plan, but would later cancel the review for unknown reasons. In the revision for all alternatives, BLM's objectives were to reduce and consider threats to the cultural and visual resources.

“Nature and Purpose of the Old Spanish National Historic Trail –

Many of the more than 2,700 miles of the Old Spanish Trail are characterized by stark landscapes that recall those described by early users of the trail. The trail corridor is informally considered by the NPS to lie five miles on either side of the centerline of the trail alignment to include the nearest elements of the view shed, parts of the cultural landscapes, landmarks, and traditional cultural properties near the trail. The BLM follows direction from their trail administration manual to establish a trail corridor.

Administrative responsibilities include overall trail-wide leadership, such as coordination, planning, and signing; resource preservation and protection (such as protection of high potential sites and segments); review of trail site and segment development; trail-wide resource inventories and mapping (including developing and maintaining geographic information systems); certification, interpretation, and visitor use cooperative/ interagency agreements; and limited financial assistance to other government agencies, landowners, interest groups, and individuals.”

Was the National Park Service present for the Variance meetings for this project? It appeared that only the BLM was there running the show.

² <https://oldspanishtrail.org/wp-content/uploads/2019/01/Comprehensive-Management-Strategy-2017.pdf>

Under Section 5(e)(1) of the National Trails System Act, it is the responsibility of the administering agencies to identify high potential sites and segments as part of the comprehensive planning process for a national historic trail.

High potential sites are those historic sites related to the route or sites in close proximity, which provide opportunity to interpret the historic significance of the trail during the period of its major use. Criteria for consideration as high potential sites include historic significance, presence of visible historic remnants, scenic quality, and relative freedom from intrusion.

High potential segments are those segments of a trail that afford high-quality recreation experiences along a portion of the route having greater-than-average scenic values or affording an opportunity to share vicariously the experience of the original users of a historic route.

Stump Spring, about 2 miles from the site, was identified as a High Potential Segment.

Cultural landscapes are identified as “a geographic area (including both cultural and natural resources and the wildlife or domestic animals therein) associated with a historic event, activity, or person or exhibiting other cultural or aesthetic values” (Department of the Interior 1996).

The National Park Service defines a cultural landscape as a geographic area, including both cultural and natural resources and the wildlife or domestic animals therein, associated with a historic event, activity, or person, or exhibiting other cultural or aesthetic values.

According to the Old Spanish National Historic Trail Comprehensive Administrative Strategy in 2003:

“Four main types of cultural landscapes have been defined: historic designed landscape, ethnographic landscape, historic site, and historic vernacular landscape (note: these four types are not mutually exclusive). The Old Spanish Trail is essentially a linear cultural landscape significant for its “association with a historic event, activity, or person” (ibid.), and comprised of numerous historic sites and defining features. An outstanding characteristic of the Old Spanish National Historic Trail is the presence of extensive cultural landscape elements that still retain integrity. For the Old Spanish National Historic Trail, cultural landscapes are intricately related to the essential nature of the trail. Trail administration considers them essential for trail administration and management”

“The Old Spanish National Historic Trail, characterized by open stretches of western terrain somewhat free of modern intrusions, offers exceptional opportunities for the public to enjoy and appreciate both the natural and cultural environment. In general, few physical traces remain that can be directly linked to the period of significance identified in the legislation. In other places, the original traces have been superseded by wagon roads, cattle drive traces, and other later uses. However, the natural landmarks that guided travelers still can be seen today.”

The OSNHTCAS strategies for protecting the cultural resources of the trail include:

- agree and systematically address the importance of protecting these landscapes in order to reach some degree of consensus,
- protect the visual characteristics of a landscape and other sensory components that make important contributions to their historic significance and help us make sense and value of what we see.

Upgrading the VRM Class With a Resource Management Plan Revision

The majority of the landscape of the proposed Golden Currant Solar Project was designated as Visual Resource Management (VRM) Class IV during the last revision of the RMP. This did not consider the future designation of the Old Spanish National Historic Trail and the NPS involvement. This was 6 years before the Interior Department designated co-management with BLM and NPS.

The BLM has developed a Visual Resource Inventory (VRI)³. VRI is a systematic process for:

- *Assessing and rating the intrinsic scenic quality of a particular tract of land, through the Scenic Quality Rating process;*
- *Measuring the public concern for the scenic quality of the tract, through the Sensitivity Level Analysis; and*
- *Classifying the distance from which the landscape is most commonly viewed, through delineation of Distance Zones.*

Scenic Quality Rating

Within the VRI process, public lands are evaluated with regard to their scenic quality, defined as the visual appeal of a particular tract of land. Scenic quality is determined systematically by

1. *dividing the landscape into Scenic Quality Rating Units (SORUs) based on conspicuous changes in physiography or land use, and*
2. *ranking scenic quality within each SORU based on the assessment of seven key factors: landform, vegetation, water, color, adjacent scenery, scarcity, and cultural modifications.*

The ratings are made in the field by trained observers who evaluate the landscape view from inventory observation points, which are either important viewpoints or points with views that are representative of the SORU. Based on the outcome of this assessment, lands within each SORU are assigned a scenic value rating of A (high scenic value), B (moderate scenic value), or C (low scenic value). Generally, those areas with the most variety and most harmonious composition have the highest scenic value ratings, while areas with less variety and greater levels of disturbance from human activities have the lowest scenic value ratings.

Sensitivity Level Analysis:

³ [Bureau of Land Management Visual Resource Management Classes \(anl.gov\)](http://anl.gov)

Visual sensitivity is defined as a measure of public concern for scenic quality. Sensitivity is determined by evaluating the types and numbers of potential viewers of a specified area (this area is referred to as a Sensitivity Level Rating Unit or SLRU), the level of public interest in the SLRU, adjacent land uses, and the presence of special areas. The Sensitivity Level Analysis (SLA) is completed in two steps:

- 1. delineation of SLRUs, and*
- 2. rating visual sensitivity within each SLRU. Public sensitivity is determined through analyzing various indicators including user types, amount of use, public interest, adjacent land uses, special areas and other factors unique to the SLRU.*

Distance Zone Delineation

Within the VRI process, distance zones are assigned based on the distance of lands from places where people are known to be present on a regular basis, such as highways, waterways, trails, or other key locations. They include the following:

- **Foreground-middle ground** – This zone includes visible areas from 0 to 5 mi.*
- **Background** – This zone includes visible areas from 5 to 15 mi.*
- **Seldom seen** – This zone includes lands visible beyond 15 mi or lands hidden from view from key locations.*

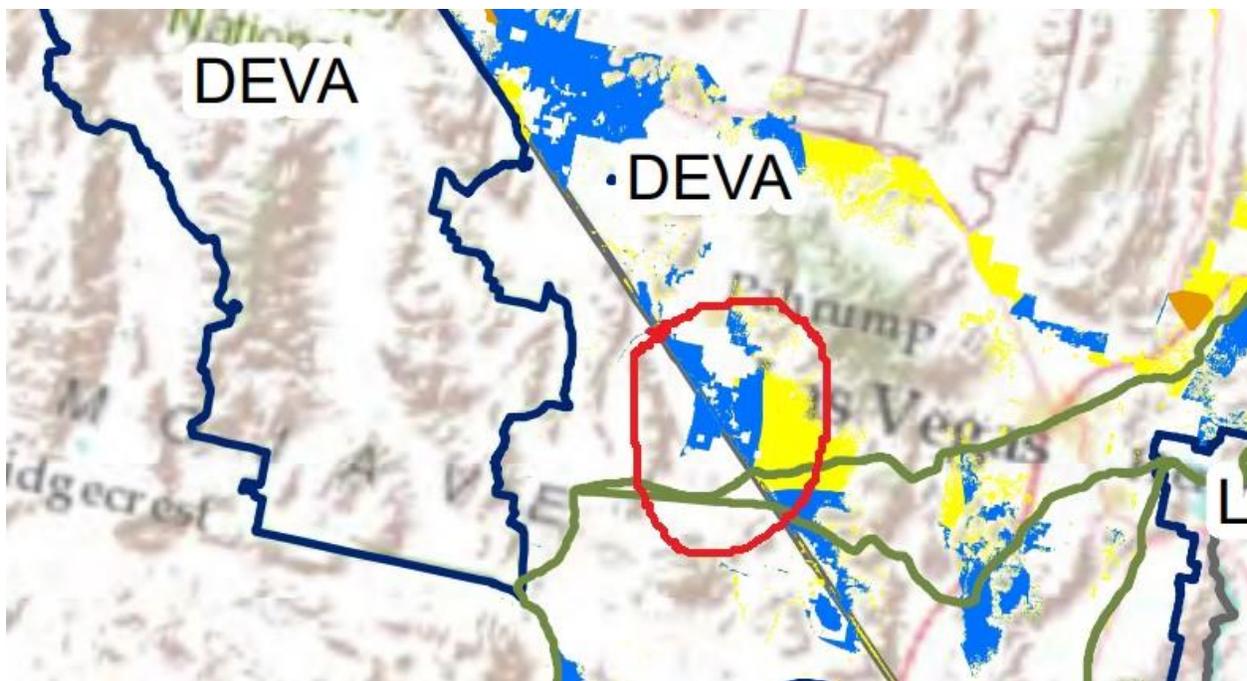
The VRM classes set VRM objectives for lands in each class, as well as the level of visual change in the landscape character that is allowed as a result of proposed management activities. The objectives and allowed levels of change for each of the four VRM classes are as follows:

- **VRM Class I Objective:** To preserve the existing character of the landscape. Allowed Level of Change: This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be very low and must not attract attention.*
- **VRM Class II Objective:** To retain the existing character of the landscape. Allowed Level of Change: The level of change to the characteristic landscape should be low. Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.*
- **VRM Class III Objective:** To partially retain the existing character of the landscape. Allowed Level of Change: The level of change to the characteristic landscape should be moderate. Management activities may attract attention, but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.*
- **VRM Class IV Objective:** To provide for management activities which require major modification of the existing character of the landscape. Allowed Level of Change: The level of change to the characteristic landscape can be high. Management activities may dominate the view and may be the major focus of viewer attention. However, the impact*

of these activities should be minimized through careful siting, minimal disturbance, and repeating the basic elements of form, line, color, and texture within the existing setting.

For unknown reasons, BLM designated most of the Golden Currant Project site as VRM Class IV. A new Resource Management Plan could potentially protect the view-scape associated with the Old Spanish National Historic Trail.

In 2012, the Western Solar Plan was established for 6 western states and certain areas near national parks were designated High Conflict Areas. In the case of the Golden Currant Solar Project, BLM has stated that 2,000 acres of the 4,300-acre application fall into a “High Conflict Area” as determined by the Solar Programmatic Environmental Impact Statement.⁴ The PEIS was approved 15 years after the last revision of the RMP.



^Red circle shows High Conflict area described in the solar PEIS.

There are two ways to change an RMP:

- **Plan revisions:** Plan revisions involve a complete or near-complete rewrite of an existing land-use plan. A plan revision always requires a full Environmental Impact Statement.

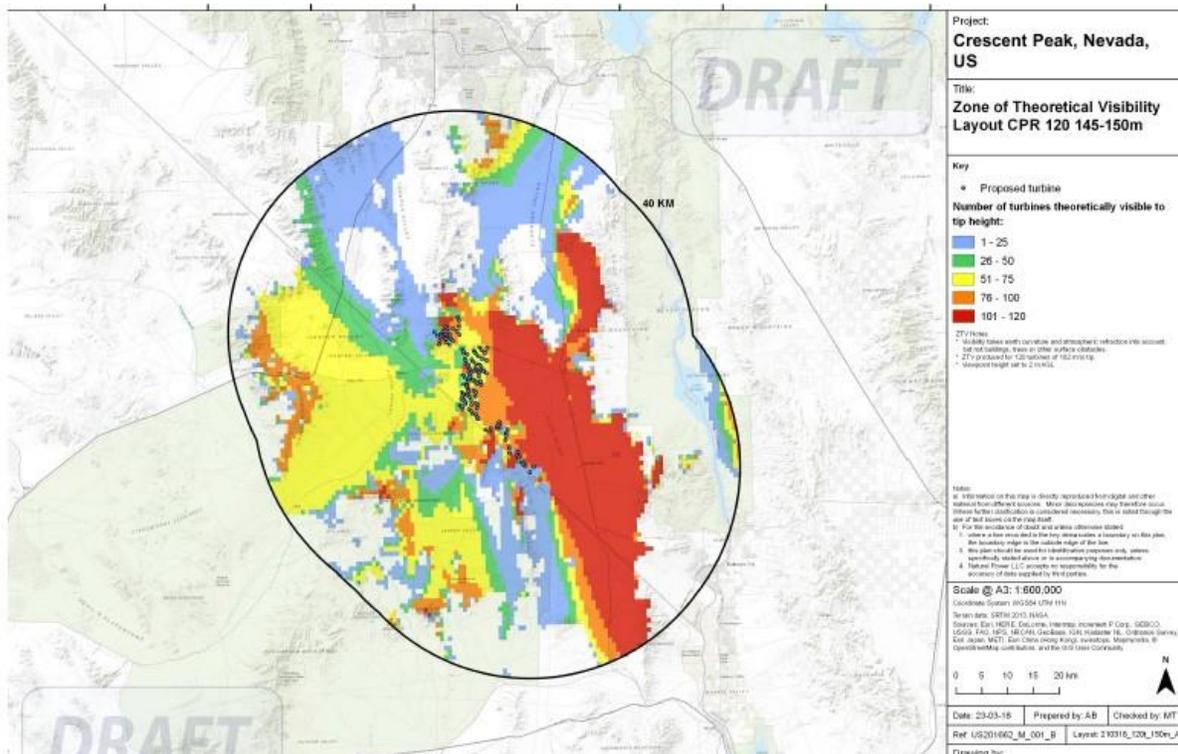
⁴ [NPS Identified Areas of High Potential for Resource Conflict Regional.pdf \(anl.gov\)](#)

- **Plan amendments:** Plan amendments modify one or more parts of an existing land-use plan, for example, allowing the development of wind energy resources where they had not previously been considered. Depending on how wide-ranging the effects of an amendment would be, the BLM will prepare either an Environmental Assessment or a full Environmental Impact Statement to accompany a plan amendment.

The BLM is planning on amending the Las Vegas RMP to approve two other solar applications near the Golden Currant proposal. These two projects are called Rough Hat Clark County at 2,400 acres and Copper Rays Solar at 5,100 acres. Both are in the Pahrump Valley northeast of Golden Currant. The reason for the amendment is that the projects are being proposed for VRM Class III lands. The BLM knows that large-scale solar does not conform to the VRM Class III objectives.

If the BLM reevaluates the Golden Currant site and factors in the more recent designations such as the Old Spanish National Historic Trail, the Golden Currant site or parts of it could even be upgraded to VRM Class II.

The landscape is characterized by sweeping vistas, scenic, eroded badlands and is visible from wilderness and national park service areas. The Tecopa Road has seen increased traffic and visitation since the 1997 RMP was released. The Sensitivity level has increased at this time.



^A viewshed analysis should be created and distributed for the Golden Currant Solar Project like this one created for the proposed and now cancelled Crescent Peak Wind Project in Southern Nevada.

The BLM also issued a Medium Priority status letter (see attached) for this project under the *Code of Federal Regulations 2804.35 - How will the BLM prioritize my solar or wind energy application?*

The BLM will prioritize a solar application by placing it into one of three categories – Low Priority, Medium Priority or High Priority and may re-categorize the application based on new information received through surveys, public meetings, or other data collection, or after any changes to the application. The BLM will generally prioritize the processing of leases awarded under subpart 2809 before applications submitted under subpart 2804. For applications submitted under subpart 2804, the BLM will categorize an application as High Priority based on the following screening criteria: (a) High-priority applications are given processing priority over medium- and low-priority applications and may include lands that meet the following criteria:

If the RMP were amended, the project could potentially fall into the Low Priority category

Low-priority applications may not be feasible to authorize. These applications may include lands that meet the following criteria:

(1) Lands near or adjacent to lands designated by Congress, the President, or the Secretary for the protection of sensitive viewsheds, resources, and values (e.g., units of the National Park System, Fish and Wildlife Service Refuge System, some National Forest System units, and the BLM National Landscape Conservation System), which may be adversely affected by development;

(2) Lands near or adjacent to Wild, Scenic, and Recreational Rivers and river segments determined suitable for Wild or Scenic River status, if project development may have significant adverse effects on sensitive viewsheds, resources, and values;

(3) Designated critical habitat for federally threatened or endangered species, if project development may result in the destruction or adverse modification of that critical habitat;

(4) Lands currently designated as Visual Resource Management Class I or Class II;

(5) Right-of-way exclusion areas; or

(6) Lands currently designated as no surface occupancy for oil and gas development in BLM land use plans.

Area of Critical Environmental Concern

An RMP revision could designate the Golden Currant proposed project site as an Area of Critical Environmental Concern. Ideally, this could be an expansion of the Stump Spring ACEC.

The resources on the site that could potentially qualify for an ACEC would be:

1. Close proximity to the Old Spanish National Historic Trail
2. Desert tortoise habitat
3. Habitat for mesquite and associated species (like the phainopepla)
4. Fossils of Plio-Pleistocene megafauna and other paleontological resources located in badlands topography.

As the BLM states: “*Areas of Critical Environmental Concern or “ACEC” designations highlight areas where special management attention is needed to protect important historical, cultural, and scenic values, or fish and wildlife or other natural resources. ACECs can also be designated to protect human life and safety from natural hazards. ACECs can only be designated during the land-use planning process.*”⁵

An ACEC can be nominated by anyone. It would be evaluated through land use planning using the best available information and public outreach.

BLM states:

*If a nominated area meets the criteria, an interdisciplinary planning team develops potential management options and incorporates the proposed ACEC into a draft land use plan. Members of the public have the opportunity to review and comment on proposed ACEC and the associated management options during a 90-day public comment period.*⁶

The point is, using a resource management plan that is outdated by 25 years eliminates much of the opportunity for the public and stakeholders to be involved. Resource Management Planning should not be viewed as an obstacle by the BLM but rather a tool to make the most informed decisions managing our public lands.

Other Impacts

Significant cumulative impacts are not avoidable if the BLM maintains plans to permit 18,000 acres of solar projects in the area. At this point BLM has approved the 3,000-acre Yellow Pine Solar Project and is considering Rough Hat Clark at 2,400 acres, Rough Hat Nye at 3,500 acres, Copper Rays at 5,100 acres and Mosey Solar at 3,500 acres. BLM has approved the Trout Canyon substation with the intention of developing the area and sacrificing the resources in the area.

A grassroots effort is underway to nominate an Amargosa National Monument in California, which would encompass the Shoshone, Death Valley Junction, and Tecopa region, the Wild and Scenic Amargosa River and other reaches, as well as the unique wildlands and open desert spaces from Amargosa Valley, the California portion of Pahrump Valley, to the Kingston Range and Shadow Valley. The diverse history and ecology of the region has attracted many visitors seeking soft recreational opportunities. Developing industrial energy-sprawl projects adjacent to

⁵ [ACEC | Bureau of Land Management \(blm.gov\)](https://www.blm.gov)

⁶ [ACEC | Bureau of Land Management \(blm.gov\)](https://www.blm.gov)

the proposed monument would ruin the views and historic character of the region. The Golden Currant Solar Project is proposed to be built right along Tecopa Road, which would be a main entrance road and scenic route to enter the proposed National Monument.

Desert Tortoise

We have not seen any results from the April desert tortoise surveys for the Golden Currant Solar Project, but data from surveys from the 4 other sites (Rough Hat Clark, Rough Hat Nye, Copper Rays and Yellow Pine) predicted that all 4 of the sites had a low density of desert tortoises at 3.04 per square mile. As BLM is aware, the tortoise numbers were undercounted and nearly 3 times the predicted number of desert tortoises were located and moved on the Yellow Pine Solar site during the Spring 2021 desert tortoise clearance. It is also quite possible that the biologists did not locate all the adult tortoises because the clearance was conducted on a record-breaking drought year.

The numbers of desert tortoises found on the Yellow Pine site exceeded the predicted total by both the Bureau of Land Management and the U.S. Fish and Wildlife Service. The Final Environmental Impact Statement for the Yellow Pine Solar Project predicted that based on population estimates, approximately 53 adult desert tortoises, 276 subadults or juveniles, and 69 hatchlings are anticipated to be displaced by project-related construction activities via translocation.⁷

The Biological Opinion predicted that the Phase I Tortoise Clearance Area would enclose an area of 3,233.5 acres from which an estimated 39 adults (95% CI = 27 to 59) would need to be translocated from the Yellow Pine Solar Project, and 1 adult (95% CI = 0 to 2) would be translocated by GLW. In addition to adult tortoises, it was estimated that many more juvenile tortoises would also require translocation.

Starting in April of 2021, Boulevard Associates LLC hired tortoise biologists to clear the Yellow Pine site of every tortoise they could find. In spite of record-breaking dry conditions, biologists found and moved 139 desert tortoises from the site. In a personal communication with the BLM, the final numbers were reported as:

Adults = 85 (33 Females, 52 Males)

Juveniles 110-179 mm = 30

Juveniles 110 mm = 24

This is over double the predicted number of adults that were found. In fact, biologists for Candela Renewables, applicants for the two Rough Hat projects, recently stated in a public meeting that the desert tortoise density for the Yellow Pine Solar Project site is now believed to be 11 per square mile.

We also found out through personal communication with federal agencies that 26 to 30 of the relocated adults were killed by predators – mostly badgers. That is about a 30 percent mortality for the adults found. On Page 88, the Biological Opinion for Yellow Pine Solar states “we

⁷ [Yellow Pine Solar Project Final Environmental Impact Statement, Volume I: Chapters 1-4 \(blm.gov\)](#)

anticipate that survival rates of adult desert tortoises moved from the project sites will not significantly differ from that of animals that have not been moved. We expect that desert tortoises would be at greatest risk during the time they are spending more time aboveground than resident animals. We cannot precisely predict the level of risk that will occur after moving desert tortoises *because regional factors that we cannot control or predict (e.g., drought, predation related to a decreased prey base during drought, etc.) would likely exert the strongest influence on the mortality rates”.*

This record-breaking drought year may have been the cause of the high mortality and there is no evidence that the resident tortoises experienced the same mortality as the relocated ones killed by predators.

The Mojave Population of the Agassiz’s desert tortoise was listed as Threatened by the US Fish and Wildlife Service (USFWS) in 1990 followed by the designation of critical habitat in 1994. In 2000, the USFWS began systematically surveying tortoise populations in critical habitat and recovery unit areas to determine population trends. Based on their findings (USFWS 2015), which are briefly summarized in the chart, we convinced that the Mojave Population of the Agassiz’s desert tortoise should be federally listed as Endangered rather than Threatened.

Recovery Unit: Designated Critical Habitat Unit/Tortoise Conservation Area	Surveyed area (km ²)	% of total habitat area in Recovery Unit & CHU/TCA	2014 density/km ² (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, CA	2,447	9.53	2.3 (0.9)	-56.05 decline
<i>Upper Virgin River</i>	<i>115</i>	<i>0.45</i>	<i>15.3 (6.0)</i>	<i>-26.57 decline</i>
<i>Red Cliffs Desert</i>	<i>115</i>	<i>0.45</i>	<i>15.3 (6.0)</i>	<i>-26.57 decline</i>
Range-wide Area of CHUs - TCAs/Range-wide Change in Population Status	25,678	100.00		-32.18 decline

The 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. Populations below the viable 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.



^One of the translocated desert tortoises killed by badgers in 2021 for the Yellow Pine Solar Project. (photo from BLM Freedom of Information Act Request)

An Analysis of Storm Water should be made

The applicant should develop a detailed erosion and sedimentation control plan, and a flood risk control plan now for public review. Proposed project sites are often located on an alluvial fan that acts as an "active stormwater conveyance" between mountains and valleys. Widespread bajada flooding events and sheetwash deposition occurs. The consequences of allowing flooding through the project would be too great. How does the project propose to maintain the solar fields if floodwaters jump the banks of the washes? In addition, alluvial fans often have shifting flow channels and pathways, so there is no guarantee that washes will not shift over 30 years.

Fugitive Dust

Nevada's large-scale solar projects have recently had a poor record in violating air quality controls, as we have recorded in photographs such as at the 800-acre Sunshine Valley Solar Project in Amargosa Valley. This mowed-vegetation project repeatedly had fine particulate whirlwinds, and dust clouds emerging from disturbed desert surfaces in construction zones. Despite water trucks attempting to water-down loose dirt, the solar project was too large to control all dust. Construction continued on windy days, yet even on mild breezy days we saw wind-blown dust and clouds of fine particulates from disturbed ground in the construction site. Construction, especially on windy days, would create huge dust black-outs and greatly impact visibility. Removal of stabilized soils and biological soil crust creates a destructive cycle of airborne particulates and erosion. As more stabilized soils are removed, blowing particulates from recently eroded areas act as abrasive catalysts that erode the remaining crusts, thus resulting in more airborne particulates.

The Golden Currant site is nearly 40 percent clay-based badlands topography and will create a very big dust issue if it is crushed for this kind of development.

We are concerned that industrial construction in the region will compromise the air quality to the point where not only visual resources, but public health will be impacted. Epidemiologists

investigated an outbreak of valley fever that had sickened 28 workers at two large solar power construction sites in San Luis Obispo County⁸



^Photo of the fugitive dust caused by the Sunshine Valley Solar Project, Amargosa Valley, Nevada in summer of 2019.

Avian impacts

Placing up to 30 square miles of solar panels in this area from 5 projects will have avian impacts. The avian impacts are documented in several solar projects. It is thought that the projects mimic water and cause birds to hit the solar panels. Data from 7 solar projects in California has revealed 3,545 bird kills from 183 species from 2012 to 2016. This can be referenced from the 2016 Multi-Agency Avian Solar Working Group conference from 2016.⁹

The area is close to the Stump Spring wetland and only about 30 miles from the Tecopa/Shoshone Amargosa River area. It is quite possible this project could cause avian mortality.

Other Wildlife and Plants

The project will impact:

Burrowing owls

American badgers

Kit foxes

Pahrump buckwheat -- Pahrump Valley buckwheat (*Eriogonum bifurcatum*), a BLM Sensitive Species. Alkaline sand flats and slopes, within saltbush communities at elevations of 1,969–2,700 feet. Associated with Corncreek-Badland-Pahrump soils due to its salinity and association

⁸ <https://www.latimes.com/archives/la-xpm-2013-may-01-lame-ln-valley-fever-solar-sites-20130501-story.html>

⁹ http://blmsolar.anl.gov/program/avian-solar/docs/Avian_Solar_CWG_May_2016_Workshop_Slides.pdf

with relict lakebeds and lake terraces. **Pahrump Valley buckwheat has been observed on this project site.** We request that the project be completely moved off this soil type to avoid potential for destroying populations of this species that did not flower during 2018 and 2019. Pahrump Valley buckwheat is a BLM Sensitive species, meaning population or distribution of the wildlife is in a significant decline, the population is threatened as a result of disease or predation or ecological or human causes, and/or the primary habitat of the wildlife is deteriorating.

Other rare plants possibly impacted:

Aven Nelson Phacelia (*Phacelia anelsonii*)

Rosy Twotone Beardtongue (*Penstemon bicolor ssp. roseus*)

Yellow Twotone Beardtongue (*Penstemon bicolor ssp. bicolor*) (deserving of ESA protection)

White-Margined Beardtongue (*Penstemon albomarginatus*) (deserving of ESA protection)

Death Valley Ephedra (*Ephedra funerea*)

New York Mountains Catseye (*Cryptantha tumulosa*)

Spring Mountains Milk-Vetch (*Astragalus remotus*)

Nye Milk-Vetch (*Astragalus nyensis*)

Mojave Milk-Vetch (*Astragalus mohavensis* var. *mohavensis*)

White Bear Poppy (*Arctomecon merriamii*)

Cacti and Yucca are considered Forest Products under 43 CFR 5420.0-6. Even with a site plan that avoids washes, the majority of these plants would be destroyed.

Possible mule deer and bighorn sheep.

And a host of other species. Construction will kill millions of living organisms.

Sensitive Birds Will Be Impacted Bendire's thrasher (*Toxostoma bendirei*) may occur. Joshua trees are present in areas near the project, and Mojave yuccas are abundant. Therefore, the project may impact suitable breeding or foraging habitat for this species. Targeted surveys should be undertaken for this species. Le Conte's thrasher (*Toxostoma lecontei*) is also present.

The project may impact suitable breeding or foraging habitat for this species Phainopepla (*Phainopepla nitens*) which inhabits Stump Spring. There are stands of mesquite located within the project area; therefore, the project will impact suitable breeding or foraging habitat for this species. Scott's oriole (*Icterus parisorum*) was recorded by Nevada Division of Wildlife (NDOW) within 10 miles of the project area. The project may impact suitable breeding or foraging habitat for this species.

Large Mammal Habitat Will Be Fragmented

A Mountain lion was recorded within the analysis area from NDOW records. We have seen mule deer in Mojave yucca and creosote scrub on alluvial fans within a few miles of the project site in Pahrump Valley.

Bats May Be Impacted A diversity of bats may feed in the project area, migrate through, and roost in yuccas: Allen's big-eared bat (*Idionycteris phyletism*), Big brown bat (*Eptesicus fuscus*), Big free-tailed bat (*Nyctinomops macrotis*), Brazilian free-tailed bat (*Tadarida 30 brasiliensis*), Brazilian free-tailed bat (*Tadarida brasiliensis*), Canyon bat (formerly western pipistrelle) (*Parastrellus hesperus*), Fringed myotis (*Myotis thysanodes*), Hoary bat (*Lasiurus cinereus*), Long-eared myotis (*Myotis evotis*), Long-legged myotis (*Myotis volans*), Pallid bat (*Antrozous pallidus*), Silver-haired bat (*Lasionycteris noctivagans*), Spotted bat (*Euderma maculatum*), Townsend's big-eared bat (*Corynorhinus townsendii*), Western red bat (*Lasiurus blossevillii*), Western small-footed myotis (*Myotis ciliolabrum*), and Yuma myotis (*Myotis yumanensis*). Night-lighting installed for safety purposes may create light pollution in bat foraging areas, which may disorient foraging bats.

Soils and Biological Soil Crusts Will Be Significantly Impacted

Biotic soils and desert pavement commonly occur as a mosaic on the project site. Desert pavements are a matrix of rock fragments that form smooth, pavement-like surfaces. Biotic soils are living surface features comprised of soil particles enmeshed in a complex web of cyanobacteria, mosses, lichens, bacteria, algae, and fungi that send roots and filaments deep into the soil, helping to sequester Carbon. Both desert pavements and biotic soils provide a protective soil covering that reduces wind and water erosion potential and further impact soil moisture dynamics. Disruption of fragile biotic soils or removal of desert pavements generally increase wind and water erosion potential.

Cultural Resources

BLM needs to undertake full consultation with the Pahrump Paiute, Timbisha Shoshone, and other tribal entities with interest in the area.

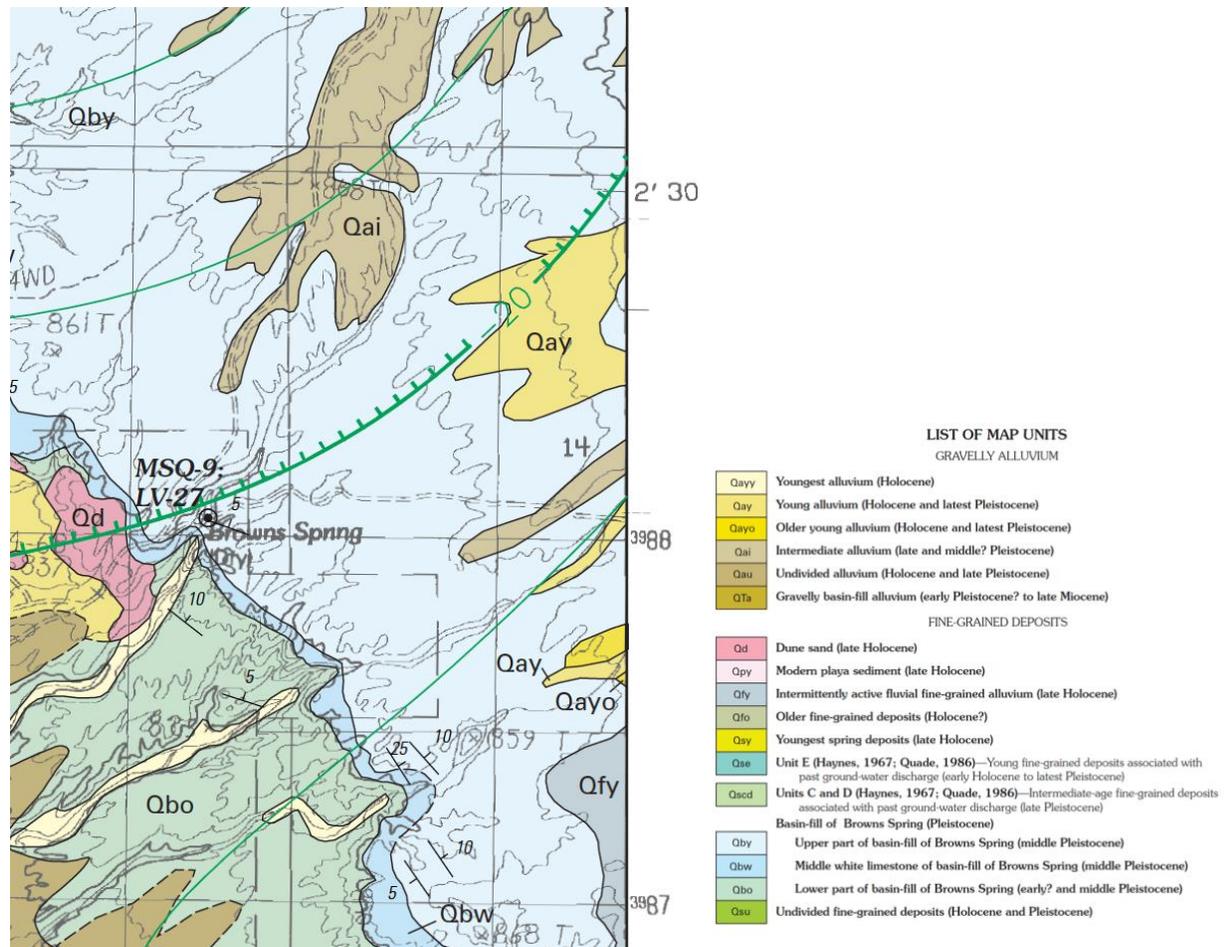
The area was conceived as a Cultural Landscape during the California Energy Commission Evidentiary Hearing in Shoshone CA for the proposed Hidden Hills Solar Electric Generating System in March 2013¹⁰. Southern Paiute and Chemehuevi elders described the Salt Song Trail area passing through this region. This needs further analysis.

Paleontological Resources

The clay-based badlands on the site could potentially contain fossils. The badlands are Quaternary basin fill formed as groundwater discharge deposits at the base of the alluvial fan. The site could contain fossils of Plio-Pleistocene megafauna. How many paleontological resources would be damaged by the project? Is there an inventory of any large mammal fossils on the site?

¹⁰ <http://basinandrangewatch.org/HiddenHills-hearing.html>

The following geologic map of the Mound Spring Quadrangle, Nye and Clark Counties, Nevada, shows a portion of the proposed solar project site on top of mid and early Pleistocene Brown's Spring basin fill which could hold fossils. Brown's Spring is at the end of the Front Site Road.



From: <https://pubs.usgs.gov/mf/2002/mf-2339/mf-2339.pdf>

These sites are protected by the Paleontological Resources Preservation Act of 2009 (PRPA) (16 U.S.C. § 470aaa 1-11). This law was established 12 years after the last revision of the RMP.

The primary legislation pertaining to fossils from NPS and other federal lands is the Paleontological Resources Preservation Act of 2009 (PRPA) (16 U.S.C. § 470aaa 1- 11) which was enacted on March 30, 2009 within the Omnibus Public Land Management Act of 2009. PRPA directs the Department of Agriculture (U.S. Forest Service) and the Department of the Interior (National Park Service, Bureau of Land Management, Bureau of Reclamation, and Fish and Wildlife Service) to manage and protect paleontological resources on Federal land using scientific principles and expertise. The Secretary shall develop appropriate plans for inventory, monitoring, and the scientific and educational use of paleontological resources, in accordance with applicable agency laws, regulations, and policies. These plans shall emphasize interagency

coordination and collaborative efforts where possible with non-Federal partners, the scientific community, and the general public. (see [Paleontological Resources Preservation Act.pdf \(blm.gov\)](#))

A diverse assemblage of fossil megafauna was recovered from the Las Vegas Valley in southern Nevada, providing opportunities for paleontologists to study the paleoecology of these deposits. Vetter (2007) undertook isotopic reconstruction of diet in extinct large herbivores: *Mammuthus*, *Equus*, *Bison*, and *Camelops* from the Late Pleistocene assemblage of megaherbivore teeth recovered from the Gilcrease spring mound.

The Tule Springs fauna was recovered from the northwestern Las Vegas Valley and provides the most complete Pleistocene faunal record for the area. The Tule Springs excavation in the 1960s yielded fossil material of invertebrates (primarily molluscs), amphibians, reptiles, birds, small mammals, and large carnivores and herbivores.

The formations are similar to those located in the Tule Springs Fossil Beds National Monument. The Bureau of Land Management needs to coordinate with the National Park Service to ensure that Best Management Practices are used to protect any fossil on the Golden Currant Site.

Indeed, *Mammuthus columbi* fossils have been found in Pahrump Valley, NV. Conin et al (1998) found two mammoth tooth fragments in Pahrump Valley, held in the author's collection.

Paleontological surveys need to be undertaken in these deposits before any solar project is approved here.

Western Honey Mesquite

There are Western Honey Mesquite (*Prosopis glandulosa*) located on the project site. These trees have been impacted by water drawdown but still are a unique ecological part of this desert that should be avoided. They provide habitat to several BLM Sensitive and Special Status Species¹¹

Mesquite trees furnish shade and wildlife habitat where other trees will not grow. They will often be found in alkaline soils near water holes.

Although a single flower of the blossom is only a few millimeters long, they are clustered into a yellow creamy blossom attracting many different types of pollinators.

At the Golden Currant virtual meeting, the BLM stated that not all mesquite habitat would be avoided.

Topography

About 40 percent of the site is composed of badlands cut by canyons with vertical walls. The area would have to be leveled to build a solar project. Much of the site is steeper than the 5 percent or under slope required for solar on public lands in the Western Solar Plan:

¹¹ [2017 Final BLM NV Sensitive and Special Species Status List .pdf](#)

*“The geographic boundaries for exclusion categories 13, 14, 28, 29, 31, and 32 are explicitly defined through the Solar PEIS ROD and its associated maps, and these boundaries will not be updated in the future. **The geographic boundaries for exclusion category 1 (lands with slope greater than 5%) and exclusion category 2 (lands with solar insolation levels less than 6.5 kWh/m²) will not be updated in the future; they may, however, be refined at the individual project level as necessary based on site-specific information.**”¹²*



^Eroded badlands topography on the site, early to mid Pleistocene in age.

Public Access/Multiple Use

The project would surround the Front Site Road and be built close to scenic Cathedral Canyon. The project would potentially close off over 7 square miles of public lands with barbed wire fences. This directly conflicts with BLM’s mission of Multiple Use. No other uses could be compatible in this area.

“Congress tasked the BLM with a mandate of managing public lands for a variety of uses such as energy development, livestock grazing, recreation, and timber harvesting while ensuring natural, cultural, and historic resources are maintained for present and future use.”¹³

¹² [Exclusion Areas under the BLM Solar Energy Program \(anl.gov\)](#)

¹³ [Our Mission | Bureau of Land Management \(blm.gov\)](#)

Clark County Multi-Species Conservation Plan

BLM should give the history of the Wheeler Wash Allotment that overlaps the solar project proposal, and give the reason that the allotment is no longer active. Was the allotment designated as non-active in order to protect desert tortoise, phainopepla, and other species covered in the Clark County Multi-Species Habitat Conservation Plan¹⁴?

Reasonable Alternatives to this Project: Distributed Energy

In 2020, the nation of Vietnam installed 9 GW of solar energy on rooftops¹⁵. They simply don't have volumes of land to sacrifice for large-scale solar projects, so they utilized their built environment, proving that significant amounts of solar energy can be generated from rooftops and other built structures.

Researchers from Vibrant Clean Energy found the cheapest way to reduce emissions actually involves building 247 gigawatts of rooftop and local solar power (equal to about one-fifth of the country's entire generating capacity today). In this scenario, consumers would save \$473 billion, relative to what electricity would otherwise cost.¹⁶

In September 2016, Dr. Rebecca Hernandez of University of California, Davis published a study, Solar Energy Potential on the Largest Rooftops in the United States. This study was conducted on the rooftops of 5,418 elementary schools in Korea to determine the feasibility of achieving net-zero energy solar buildings through rooftop PV systems (Hernandez et al. 2013)

Conclusion

If the Golden Currant Solar Project is approved, it will result in the destruction of many irreplaceable resources located on public lands managed by the BLM including wildlife, plants, cultural sites and public access. The project is being reviewed through a BLM Resource Management Plan that has not been updated for 25 years. Many changes have occurred including the designation of the Old Spanish National Historic Trail. We believe this is a very inappropriate location for a solar energy project and request that the BLM not only reject the application but pause the entire review until the Southern Nevada Resource Management Plan can be revised. A revision would allow both the public and the BLM provide better management that would protect this valuable site for future generations.

Sincerely.

(Groups/Organizations)

14

<https://files.clarkcountynv.gov/clarknv/Environmental%20Sustainability/Desert%20Conservation/MSHCP/ccfeis.pdf>

¹⁵ [Scaling up Rooftop Solar in Vietnam – More than 9GW installed in 2020 – pv magazine International \(pv-magazine.com\)](https://www.pv-magazine.com)

¹⁶ https://www.vibrantcleanenergy.com/wp-content/uploads/2020/12/WhyDERs_ES_Final.pdf

Kevin Emmerich
Co-Founder
Basin and Range Watch
P.O. Box 70
Beatty, NV 89003

Laura Cunningham
California Director
Western Watersheds Project
PO Box 70
Beatty NV 89003

Shannon Salter
Mojave Green
9325 W. Desert Inn, 216
Las Vegas, NV 89117

Katie Fite
Public Lands Director
Wildlands Defense
PO Box 125
Boise, ID 8370

Edward L. LaRue, Jr., M.S.
Desert Tortoise Council
Ecosystems Advisory Committee, Chairperson
3807 Sierra Highway #6-4514
Acton, CA 93510

Steve Bardwell
President, Morongo Basin Conservation Association
PO Box 24
Joshua Tree, CA 92252

Susan Sorrells
Shoshone Village
Old State Highway 127
Shoshone, CA 92384

Michelle Bashin, President
Desert Survivors
P.O. Box 20991
Oakland, CA 94620-0091

(Individuals)

Dustin Mulvaney, Professor of Environmental Studies at San José State University, Basin and Range Watch Advisory Board

Richard Spotts, Retired 15-year BLM employee

Michael J. Connor, Ph.D, Reseda, California, Basin and Range Watch Board Member

Ruth M. Nolan, M.F.A., M.A.
Professor of English, Creative Writing & Mojave Desert Literary Studies
College of the Desert, Palm Desert CA, Basin and Range Watch Board Member

Terry Frewin, Basin and Range Watch Board Member

Pat Flanagan, Basin and Range Watch Board Member

Judy Bundorf, Henderson, NV, Basin and Range Watch Board Member

Elisabeth Robson

Heather Gang
Pahrump, NV

Sharon Minsch, Tortoise Guardian, Pahrump, Nevada
Timothy Minsch, Tortoise Guardian, Pahrump, Nevada

Jacqueline Donovan-Eadie

Sheila Bowers, Pioneertown, CA 92268

Marilyn McMillan, Pahrump NV

Craig Deutsche, Los Angeles, CA

Karen Beyers, Pahrump, Nevada

Teresa Skye and David Ward

Chris Bell, Reno, NV

Ramona Gutierrez

Juanita Bellis

Ellen Ross, Compass Reality and Management, Las Vegas, NV

Tony Britton, Pahrump, Nevada

Erik Ven, Charleston View, CA

Janet Devera, Charleston View, CA

Kenneth Buff, Charleston View, CA

Jequetta Buff, Charleston View, CA

John Buff, Charleston View, CA

Michael Garabedian, Council for 245 Million Acres

N Ron Safran
Member of the Boards of Directors of
Friends of Sloan Canyon and
Friends of Walking Box Ranch

Melissa K. Giovanni, Ph.D
Professor, Environmental Science

John Kriebel

Daniel R. Patterson, Ecologist
US Department of Interior -BLM (ret.)
Boulder City NV

Jim Earp, MFA
Las Vegas, Nevada

Kent Houser

Pahrump, Nevada

Craig Bakerjian

Las Vegas NV resident and conservation activist

References:

Connin, S. L., J. Betancourt, and J. Quade. 1998. Late Pleistocene C₄ Plant Dominance and Summer Rainfall in the Southwestern United States from Isotopic Study of Herbivore Teeth. *Quaternary Research* 50: 179-193.

Hernandez, R., M. Hoffacker, and C. Field. 2013. Land-Use Efficiency of Big Solar. *Environmental Science & Technology*, December 2013.

Allison, L.J. and A.M. McLuckie. 2018. Population trends in Mojave desert tortoises (*Gopherus agassizii*). *Herpetological Conservation and Biology* 13(2):433–452.

Averill-Murray, R.C., Esque, T.C., Allison, L.J., Bassett, S., Carter, S.K., Dutcher, K.E., Hromada, S.J., Nussear, K.E., and Shoemaker, K. 2021. Connectivity of Mojave Desert tortoise populations—Management implications for maintaining a viable recovery network: U.S. Geological Survey Open-File Report 2021–1033, 23 p., <https://doi.org/10.3133/ofr20211033>

Berry, K.H., L.J. Allison, A.M. McLuckie, M. Vaughn, and R.W. Murphy. 2021. *Gopherus agassizii*. The IUCN Red List of Threatened Species 2021: e.T97246272A3150871. <https://dx.doi.org/10.2305/IUCN.UK.2021-2.RLTS.T97246272A3150871.en>

Vetter, Lael. 2007. Paleoecology of Pleistocene megafauna in southern Nevada, Usa: Isotopic evidence for browsing on halophytic plants. UNLV Retrospective Theses & Dissertations. 2140. <http://dx.doi.org/10.25669/qool-92dw>

cc: Jon Raby, State Director, Bureau of Land Management, Nevada

Tracy Stone-Manning, Director, Bureau of Land Management

Deb Haaland, Interior Secretary

Clark County Commissioner Justin Jones

Senator Jacky Rosen

Senator Catherine Cortez-Masto

Nevada State Senator Pete Goicoechea

Nevada State Assemblyman Gregory Hafen