



## Basin and Range Watch

February 19<sup>th</sup>, 2015

To:

**Subject:** Comments on the Draft Environmental Impact Statement for the Desert Renewable Energy Conservation Plan (DRECP)

Basin and Range Watch is a group of volunteers who live in the deserts of Nevada and California, working to stop the destruction of our desert homeland. Industrial renewable energy companies are seeking to develop millions of acres of unspoiled habitat in our region. Our goal is to identify the problems of energy sprawl and find solutions that will preserve our natural ecosystems and open spaces.

### **Introduction:**

While the conservation proposals in the preferred alternative are encouraging, the document fails to fully define the management options for new ACEC's and National Conservation Areas and does not fully commit to protecting these areas. Equally, the document fails to adequately describe the Development Focus Areas (DFA's) in an organized way.

The Programmatic Environmental Impact Statement for Solar Energy Development in Six Southwestern States (Solar PEIS) came out a couple of years ago. While the document lacked complete information, it was organized far better than the DRECP. The Solar Energy Zones are the PEIS equivalent to the DFA's in DRECP. Each Solar Energy Zone is clearly named and the list of environmental consequences are quite easy to find. In contrast, one must comb through 8,000 pages to piece together information about one DFA. The DRECP should name or label the Development Focus Area. Furthermore, the DRECP Gateway Search Engine does not seem to recognize many of the known geographic location in the DFA that covers the Charleston View, Sandy Valley, Mesquite Valley and Mesquite Dry Lake area. These regions

are named on USGS maps from decades ago. But the DRECP preferred alternative selects this area for renewable energy sacrifice. The link for the PEIS is here: <http://solareis.anl.gov/>

We would like to request that a Supplemental Environmental Impact Statement (SEIS) be prepared for this plan. We would like the SEIS to have a 160 day public comment period.

#### **Inadequate Amount of Public Meetings and Connected Actions over State lines:**

The DRECP is very dense and quite difficult for the public to comprehend. Although there were a few public meetings held, entire regions were missed. There are 80 people living on the California side of Sandy Valley and 2,000 people on the Nevada side, right over the border. Fugitive dust, groundwater depletion, wildlife impacts, habitat removal, visual degradation, and cultural resource visual landscapes do not end at or even recognize state lines. Some of the people in Sandy Valley, Nevada are not aware of the DRECP, but would be impacted by any renewable energy sprawl that is built on the California side.

In Nevada, the comment deadline for the Bureau of Land Management Southern Nevada Resource Management Plan is March 9<sup>th</sup>, 2015. The plan's Preferred Alternative designates a good portion of the Sandy Valley as "appropriate for Wind Energy". The two plans must work together to build large-scale energy in the region. Any new energy sprawl built in the region would potentially require transmission spanning both states.

*Under NEPA: "In preparing an EIS, agencies must notify and involve the public—using the techniques described in 40 C.F.R. 1506.6—by providing, at a minimum, a 45-day public review and comment period for a Draft EIS and a 30-day wait period for the Final EIS (40 C.F.R. §1506.10(c) and (b)(2)). The Federal agency may declare the 30-day wait period to be a public comment period (40 C.F.R. §1503.1(b)). Those periods begin following the EPA publication of the Notice of Availability in the Federal Register.*

We do not believe that the DRECP met this requirement. Public meetings should have been held to accommodate the communities of Tecopa, Shoshone, Sandy Valley, Nevada, Sandy Valley, California and Charleston View, California. Since the DRECP plan is so related to the Southern Nevada Resource Management Plan, we also believe a meeting would have been useful in the community of Pahrump, Nevada.

Under both NEPA and CEQA, any large-scale power projects built on stateliness should be viewed as a "Connected Action" and all environmental consequences that occur over state lines should be fully evaluated by any EIS or EIR. The DRECP has failed to do this for the Sandy Valley/Charleston View Development Focus Area.

#### **National Conservation Areas and ACEC's:**

The plan is not clear enough on how new National Conservation Areas and ACEC's would be managed for the long term. Many of these areas are open to future transmission projects. Some only allow one percent or a half percent of development, but that would be enough run a power line through a new conservation area. The plan also indicates that locations of new transmission in conservation areas would be based on the need of developers. The plan indicates that new transmission would be "stream lined" through new conservation areas. How would that take place? Would NEPA and CEQA review be expedited? Will shorter Environmental Assessments be used over Environmental Impact Statements?

Will programmatic Take permits be used? The plan is not clear about these details. No new conservation areas should be open to new transmission lines.

#### **Streamlining Permitting in Development Focus Areas:**

How will this be implemented? Through programmatic Take permits? Will projects on public lands only be reviewed with shorter Environmental Assessments? No NEPA or CEQA review should ever be streamlined.

**The West Mojave Plan:** The Bureau of Land Management has said that the West Mojave Plan Supplemental EIS would be released before the comment deadline has expired for the DRECP and that has not happened yet. The WMP has been described as a travel management plan and the BLM does not believe that the two plans are related. But the BLM has told us they are worried that the DRECP would close these routes. The DRECP is obviously a big plan and any new conservation or Development Focus designations will be affected by the plan. Large Land Use Plans need to work together, The DRECP comment period should be extended to meet the public participation requirements of the West Mojave Plan.

#### **Alternatives:**

We request that a new alternative be considered for the Desert Renewable Energy Conservation Plan (DRECP). A supplemental EIS should monitor the Purpose and Need Statement so the CEESP Alternative can be considered. The current DRECP includes no alternative that accurately reflects existing California state energy priorities that require rooftop solar and energy efficiency be fully implemented prior to developing large-scale, remote solar and wind projects. The California Energy Efficiency Strategic Plan (CEESP) already exists as state law and we request it be fully implemented now. The letter can be seen here: [http://www.drecp.org/draftdrecp/comments/LCunningham\\_KEmmerich\\_BPowers\\_SBowers\\_comments\\_2015-01-30.pdf](http://www.drecp.org/draftdrecp/comments/LCunningham_KEmmerich_BPowers_SBowers_comments_2015-01-30.pdf)

The CEESP can be referenced here:

<http://www.cpuc.ca.gov/PUC/energy/Energy+Efficiency/eesp/>)

The Purpose and Need Statement should include the following statement: "The BLM must protect sensitive resources, public values and multiple use mandates by incorporating the California Energy Efficiency Strategic Plan (CEESP). is described as the highest priority, holding "energy efficiency to its role as the highest priority resource in meeting California's energy needs." The CEESP presents a "single roadmap to achieve maximum energy savings across all major groups and sectors in California," by implementing rooftop solar, and bold appliance and building efficiency standards. "

Since the DRECP plan is a multi-agency blue print for renewable energy in the California Desert, the Objectives and Purpose and Need Statement must be changed to accommodate this new alternative.

The National Environmental Policy Act directs the BLM to *“study, develop, and describe appropriate alternatives to recommended courses of action in any proposal that involves unresolved conflicts concerning alternative uses of available resources;...”* (NEPA Sec102(2)(E)).

and

*“Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.”*

In order to consider a new alternative, a new element must be added to the Purpose and Need Statement in the DRECP. The BLM’s Purpose and Need Statement overlooks the recent data concerning the direct and cumulative impacts of recently approved and constructed large renewable energy projects on both public and private lands.

A new Purpose and Need Statement would also help meet the first goal of the Fish and Wildlife Service. It would help USFWS contributed to

*“designing alternatives for a renewable energy program and conservation strategy for all public trust resources, including natural communities, wildlife, and special-status species consistent with the conservation objectives under the ESA, NEPA, Migratory Bird Treaty Act, Eagle Act, and other applicable federal laws, regulations, and policies. USFWS also worked with interested parties to determine an environmentally sustainable proportion of the state’s renewable energy portfolio to be met in the California deserts.”*

It would also eliminate the need for the second role of USFWS which is:

*“prepare the EIS element of the Plan that considers the USFWS’s proposed action under NEPA (i.e., to consider the issuance of Section 10[a][1][B] permits for the incidental take of Covered Species on nonfederal lands within the GCP Permit Area and the issuance of take permits under the Eagle Act on both federal and nonfederal lands within the Plan Area). The USFWS is also responsible for consulting under Section 7(a)(2) of the ESA at the request of other federal action agencies, such as BLM, if the agency’s action may affect federally listed species or designated critical habitat, as described earlier in Section I.1.2.1.2, Federal Endangered Species Act.”*

The CEESP Alternative would eliminate the need for any Take permits or other modifications that would otherwise compromise the Endangered Species Act.

A new Purpose and Need Statement would also better meet the requirements of the California Environmental Quality Act (CEQA) which are: *“An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range*

*of potentially feasible alternatives that will foster informed decision making and public participation. An EIR is not required to consider alternatives which are infeasible.”*

[http://resources.ca.gov/ceqa/docs/2010\\_CEQA\\_Statutes\\_and\\_Guidelines.pdf](http://resources.ca.gov/ceqa/docs/2010_CEQA_Statutes_and_Guidelines.pdf)

A new Purpose and Need Statement would also help the DRECP better meet the conservation objectives of the California Energy Commission, California Department of Fish and Wildlife, and California State Lands Commission which are:

*“Reduce the biological and other environmental impacts of future utility-scale renewable energy developments in the Plan Area by designating appropriate areas for renewable energy development within the context of a landscape-scale conservation plan that are sufficient to accommodate the foreseeable demand for renewable energy in the DRECP through 2040. “*

*“Provide for the long-term conservation and management of Covered Species within the Plan Area and preserve, restore, and enhance natural communities and ecosystems in which those species are found by focusing renewable energy development away from areas of greatest biological importance or sensitivity; coordinating and standardizing biological avoidance, minimization, mitigation, compensation, conservation, and management requirements for Covered Activities within the Plan Area; and taking other actions to meet conservation planning requirements in state and federal law. “*

If the DRECP follows public opinion and includes more environmental protection in the Purpose and Need Statement, it will utilize an alternative that is not only popular, but economically and technologically more feasible than the DRECP preferred alternative.

***Most of the below comments are for the Sandy Valley/Charleston View areas which are part of a Development Focus Area.***

**Groundwater:**

The area is part of the Death Valley Regional Aquifer Large-scale energy projects can use up to two thousand acre feet and more for construction. These projects can draw down aquifers The Death Valley Regional Aquifer is poorly understood. Over use of groundwater could lead to cumulative impacts to local mesquite phreatophyte communities at places like Stump Springs and the Mesquite Dry Lake in Sandy Valley and the Mesquite Valley. Overuse could impact the Pahrump Valley groundwater basin which has already been impacted by over pumping in both California and Nevada.

Over pumping will threaten the wells of residents to Charleston View, Shoshone, Tecopa, and Sandy Valley in both Nevada and California.

Over pumping cone of depression will potentially have long term impacts to Devil’s Hole, Ash Meadows, Amargosa Canyon, Grimshaw Lake and Saratoga Springs.

Would the draw-down of the aquifer impact Federally and State protected wetlands species like the Yuma clapper rail, the Shoshone Pupfish, the Devils's Hole pupfish and the Amargosa vole? The Yuma clapper rail is believed to be down to about 1,000 individuals. The Amargosa vole is critically endangered and may have less than 50 individuals left. We should not be gambling like this with water dependent species.

Large solar and wind developers often underestimate the amount of water needed for these projects. We know that the Topaz Project in San Luis Obispo County used so much water, that local residents are reporting increased salinity in their wells. The Desert Sunlight Project in Riverside County, California requested to use an additional 50 acre feet of water after making their own wells run dry. The BLM granted this request. As it turns out, they have depleted a non-rechargeable fossil water aquifer. The United States Geological Survey conducted a groundwater study for the Chuckwalla Valley region in 2012 including the area around Desert Center. The conclusion was that no tritium was detected in the water supply. Most of the rechargeable aquifers in the desert southwest are slightly contaminated with tritium due to past nuclear tests and it can be detected in modern groundwater tests. If an aquifer is tritium free, it indicates that no recharge has taken place in 50 years (prior to nuke tests). The USGS Groundwater Ambient Monitoring Analyzing can be referenced here: <http://pubs.usgs.gov/ds/659/>

#### **Biological Resources:**

Sandy Valley has several relatively pristine ecosystems including (but not limited to):

1. playa,
2. sandy playa edge that may contain rare plants,
3. basin honey mesquite (*Prosopis glandulosa*) groves,
4. alkali sacaton (*Sporobolus airoides*) and saltbush (*Atriplex* spp.),
5. alluvial fans with mixed succulent Mojave desert scrub with creosote (*Larrea tridentata*), bursage (*Ambrosia dumosa*), Mojave yucca (*Yucca schidigera*), and buckhorn cholla (*Cylindropuntia acanthocarpa*). Shrub diversity increases into the surrounding limestone hills, and these would be impacted by any transmission projects required to carry power out of this Development Focus Area..

These are largely undisturbed and without large stands of invasive weeds, yet the potential for weedy invasive species is high if these habitats are fragmented and bulldozed for large-scale renewable energy projects and transmission. Russian thistle (*Salsola tragus*) and introduced mustard (*Brassica* sp.) are present on the more disturbed Nevada side of the border in the area, and these could spread with increased industrial development.

Small water sources such as Stump Springs north of Sandy Valley/Mesquite Dr Lake act as migrant hot spots for passerines and other birds, and movement corridors of birds should be studied.

Swainson's hawks may be nesting in fields and cottonwood groves north of the area in Pahrump Valley, and we have seen a Swainson's hawk at Stump Springs in mesquite. This rare raptor may be impacted by solar power towers and photovoltaic fields.



^Juvenile Swainson's hawk (*Buteo swainsoni*), Stump Spring, Nevada, 2012

### **Bighorn Sheep:**

Bighorn sheep do not "accidentally" use habitat, sheep have reasons for occupying an area and the Charleston View/Sandy Valley DFA may be connectivity habitat between the Spring Range, the Kingston Range, the Mesquite Mountains, the Clark Mountains, the Bird Springs Range and the Nopah Range. This occurrence should not be looked at as an anomaly, but as part of the normal range of the bighorn sheep here. These metapopulations need to maintain connectivity for genetic health, and landscape-level obstacles and barriers will hinder movement across valleys and alluvial valley sides. No mitigation can replace this function of habitat and regional geographic movement corridors. Some lower areas, fans, and valley floors are only used on rainy years when vegetation provides forage, making these habitats even more important to protect. Wherever an animal is found is its habitat.

The goal of conservation biology is not to protect individual animals, but to protect populations in a landscape, as well as the ecological processes that occur at the landscape level. This must include all habitat areas including those with irregular use such as valley floors.

In order to understand and possibly be able to mitigate bighorn movement corridors in the area that may be impacted by the project, a study and monitoring plan should be undertaken. This plan should seek to understand population connectivity in this landscape, and could use such methods as least-cost modeling of dispersal costs for each habitat type in Pahrump Valley and surrounding mountain ranges, and dispersal paths between metapopulations based on genetic studies and expert opinions. The plan should include a GIS map of migration rates for bighorn sheep and connectivity models. After this modeling has been completed and a reasonable hypothesis of gene flow predicted for the area, a conservation strategy can then be developed for the bighorn in the local area (see Optimizing dispersal and corridor models using landscape genetics. 2007. Epps, C. W., Wehausen, J. D., Bleich, V. C., Torres, S. G. and Brashares, J. S. *Journal of Applied Ecology* 44: 714–724).

**Kit fox (*Vulpes macrotis*) and American badger (*Taxidea taxus*):**

Because of the number of outbreaks of canine distemper in Desert kit foxes along the I-10 corridor in Riverside County, possibly associated with passive relocation and hazing of the kit foxes from their home territories on large-scale solar project construction areas and associated transmission lines, we request a Regional Kit Fox Monitoring Plan in the Pahrump Valley. There is a possibility the disease could spread to Inyo County, or a new outbreak occur, and monitoring must be undertaken to ensure the Desert kit fox does not decline in population.

Because of the potential declines observed over much of the range of the kit fox (see Meaney et al. 2006) the kit fox should be treated as a potential sensitive species or species of special concern. It is a fully protected fur-bearing mammal in California Department of Fish and Wildlife code.

The American badger should also be included in a monitoring plan, in addition to kit fox.

Reference: Meaney, C.A., M. Reed-Eckert, and G.P. Beauvais. (2006, August 21). Kit Fox (*Vulpes macrotis*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/kitfox.pdf> [date of access].

**Desert Tortoise:** Suitable desert tortoise habitat is located on the bajadas and flat lands of the Sandy Valley/Charleston View DFA. The alluvial fans of the Mesquite Mountains, Kingston Range, Bird Springs Range, Nopah Range, Resting Springs Range and Clark Mountains all have healthy populations of desert tortoise. Fragmenting these areas in “development focus” will disrupt connectivity, cause stress to populations, potentially spread disease and cause mortality from translocation and relocation. An entire spectrum of desert tortoise surveys should be conducted in this DFA, preferably not on dry years, to determine what the current population trends are before the region is sacrificed for development.

There is connectivity that links the Ivanpah Valley to the Mesquite Valley over Stateline Pass. That connectivity has already been compromised by both the Ivanpah and Stateline Solar Projects. More development would only continue to fragment these populations.

**Rare Plants:**

Below is the list of rare plants we have that could occur in the Charleston View area which is a DFA in the preferred alternative. Large, 5 square mile energy projects can potentially eliminate populations of some plants or severely impact them.

*Aliciella humillima*

*Aliciella triodon*

*Arctomecon merriamii*

*Asclepias nyctaginifolia*

*Astragalus geyeri* var. *geyeri*

*Astragalus mohavensis* var. *hemigyris*

*Astragalus nyensis*  
*Astragalus preussii* var. *preussii*  
*Astragalus sabulonum*  
*Astragalus tidestromii*  
*Atriplex longitrichoma*  
*Bouteloua trifida*  
*Camissonia boothii* ssp. *alyssoides*  
*Camissonia boothii* ssp. *boothii*  
*Chaetadelpha wheeleri*  
*Chamaesyce parryi*  
*Cryptantha costata*  
*Cryptantha insolita*  
*Coryphantha chlorantha*  
*Cordylanthus parviflorus*  
*Cymopterus gilmanii*  
*Cymopterus multinervatus*  
*Enceliopsis covillei*  
*Enceliopsis nudicaulis* var. *corrugata*  
*Eriogonum bifurcatum*  
*Eriogonum contiguum*  
*Eriogonum hoffmannii* var. *robustius*  
*Gilmania luteola*  
*Iva acerosa*  
*Loeseliastrum depressum*  
*Mentzelia leucophylla*  
*Mentzelia polita*  
*Mortonia utahensis*  
*Oenothera cavernae*  
*Pediomelum castoreum*

*Penstemon bicolor ssp. bicolor*  
*Penstemon bicolor ssp. roseus*  
*Penstemon fruticiformis ssp. amargosae*  
*Penstemon stephensii*  
*Penstemon utahensis*  
*Perityle intricata*  
*Petalonyx thurberi ssp. gilmanii*  
*Phacelia coerulea*  
*Phacelia filiae*  
*Phacelia parishii*  
*Phacelia pulchella var. gooddingii*  
*Physalis lobata*  
*Polygala heterorhyncha*  
*Sclerocactus johnstonii*  
*Sibara deserti*  
*Sphaeralcea rusbyi var. eremicola*  
*Stipa arida*  
*Tripterocalyx micranthus*

#### **Avian Mortality:**

Large solar projects are creating a polarized glare or lake effect and are causing birds and insects to be deceived and collide with solar panels or simply dehydrate. The avian impacts are not fully understood, but everyone seems to agree that this problem was underestimated during the initial boom to fast track big solar on both public and private lands in the Southwestern US. The polarized “lake effect” is now well known from the Genesis, Desert Sunlight and Ivanpah Projects, all in California. Bird species that have collided (or dehydrated) with solar panels and heliostats include the Endangered Yuma clapper rail, peregrine falcon, American kestrel and a host of water birds. As far as we know, very few focused surveys are occurring in the state of Nevada. The Crescent Dunes power tower will have these surveys take place after the project goes on line this winter, but that is all we know about.

The Charleston View/Sandy Valley DFA is near the Amargosa River Watershed. Hundreds of species of birds have been documented on the Amargosa River Watershed. Spring migration usually occurs during

April and May, and fall migration from mid-August through September. Water birds are abundant on the marshes in the winter. The area represents an important flyway for birds between the Soda Springs complex, Grimshaw Lake, Saratoga Springs, Amargosa Canyon, and the Oasis Valley, Nevada. Ash Meadows is part of the Pacific Flyway for birds and is linked to Walker Lake, Mono Lake, the Sierra Nevada, Owens Valley, the Spring Mountains, the Colorado River and the Salton Sea. The list of birds for Ash Meadows includes the Federally Endangered Yuma clapper rail and the rare yellow billed cuckoo. It is very possible that this project will kill an Endangered Species.

[http://www.fws.gov/uploadedFiles/Region\\_8/NWRS/Zone\\_1/Desert\\_Complex/Ash\\_Meadows/Sections/Brochures/Ash%20Meadows%20Bird%20Checklist\\_web.pdf](http://www.fws.gov/uploadedFiles/Region_8/NWRS/Zone_1/Desert_Complex/Ash_Meadows/Sections/Brochures/Ash%20Meadows%20Bird%20Checklist_web.pdf)

In 2008, there was a very strong localized rain storm that filled up Silver Lake, located in the Silurian Valley, California for about 2 months. We do have a photo of the temporary lake below. We also saw white pelicans on the lake but do not have a photo of the birds.



^Silver Lake just north of Baker, California and adjacent to the project site after strong rains in 2008.



^Lake effect from the Copper Mountain Solar facility south of Boulder City, Nevada. The actual dry lake is in the foreground. The false lake that resembles water is actually solar panels.

If a real, ephemeral lake can attract white pelicans to the Silurian Valley, then there should be concern that an artificial lake would attract birds to areas adjacent to the Amargosa Watershed.

Recently, the US Fish and Wildlife Service released a report called "Avian Mortality at Solar Energy Facilities in Southern California: A Preliminary Analysis" Rebecca A. Kagan, Tabitha C. Viner, Pepper W. Trail, and Edgard O. Espinoza National Fish and Wildlife Forensics Laboratory

The report has enough information to tell us that incidental reporting of bird mortality from solar projects does not really give the complete numbers. The report finds that "Trauma was the leading cause of death documented for remains at the Desert Sunlight (First Solar project) and Genesis sites."

The report also states "These solar facilities appear to represent "equal-opportunity" hazards for the bird species that encounter them. The remains of 71 species were identified, representing a broad range of ecological types. In body size, these ranged from hummingbirds to pelicans; in ecological type from strictly aerial feeders (swallows) to strictly aquatic feeders (grebes) to ground feeders (roadrunners) to raptors (hawks and owls). The species identified were equally divided among resident and non-resident species, and nocturnal as well as diurnal species were represented."

The two main identified cause of mortality from photovoltaic projects are trauma and predation.

The report details the mortality at the 4,500 acre Desert Sunlight photovoltaic site which was built by First Solar;

"Sixty-one birds from 33 separate species were represented from Desert Sunlight. Due to desiccation and scavenging, a definitive cause of death could not be established for 22 of the 61 birds.

Blunt force impact trauma was determined to have been the cause of death for 19 Desert Sunlight birds including two Western Grebes (*Aechmophorus occidentalis*) and one each of 16 other species. Impact (blunt force) trauma is diagnosed by the presence of fractures and internal and/or external contusions. In particular, bruising around the legs, wings and chest are consistent with crash-landings while fractures of the head and/or neck are consistent with high-velocity, frontal impact (such as may result from impacting a mirror).

Predation was the immediate cause of death for 15 birds. Lesions supporting the finding of predation included decapitation or missing parts of the body with associated hemorrhage (9/15), and lacerations of the skin and pectoral muscles. Eight of the predated birds from Desert Sunlight were grebes, which are unable to easily take off from land. This suggests a link between predation and stranding and/or impact resulting from confusion of the solar panels with water."

Challenges to data collection included rapid degradation of carcass quality hindering cause of death and species determination; large facilities which are difficult to efficiently search for carcasses; vegetation and panels obscuring ground visibility; carcass loss due to scavenging; and inconsistent documentation of carcass history. Searcher efficiency has been shown to have varying influences on carcass recovery with anywhere from 30% to 90% detection of small birds achieved in studies done at wind plants (Erickson et al., 2005). Scavengers may also remove substantial numbers of carcasses. In studies done on agricultural fields, up to 90% of small bird carcasses were lost within 24 hours (Balcomb, 1986; Wobeser

and Wobeser, 1992). OLE staff observed apparently resident ravens at the Ivanpah power tower. Ravens are efficient scavengers, and could remove large numbers of small bird carcasses from the tower vicinity. (Erickson, W. P., G. D. Johnson, and D. P. Young, Jr., 2005, A summary and comparison of bird mortality from anthropogenic causes with an emphasis on collisions: U S Forest Service General Technical Report PSW, v. 191, p. 1029-1042; Balcomb, R., 1986, Songbird carcasses disappear rapidly from agricultural fields: Auk, v. 103, p. 817-820; Wobeser, G., and A. G. Wobeser, 1992, Carcass disappearance and estimation of mortality in a simulated die-off of small birds: Journal of Wildlife Diseases, v. 28, p. 548- 554.) “

The report concludes:

“Given these variables it is difficult to know the true scope of avian mortality at these facilities. The numbers of dead birds are likely underrepresented, perhaps vastly so. Observational and statistical studies to account for carcass loss may help us to gain a better sense of how many birds are being killed.”

And the photovoltaic projects have insect impacts: “Light and noise pollution associated with electrical power plants can be problematic for wildlife. Polarized light pollution from PV panels can attract aquatic insects and other species that mistake the panels for bodies of water, potentially leading to population decline or even local extinction of some organisms (Horvath et al. 2010). Nighttime lighting for security or other reasons may negatively impact a variety of Mojave Desert species, many of which have developed nocturnal behavior to escape the daytime heat of the desert. (Mojave Desert Ecoregional Assessment September 2010, The Nature Conservancy of California 201 Mission Street, 4th Floor San Francisco, CA 94105) p. 50”

Organized surveys for avian mortality are taking place at the Ivanpah Solar Project with only a 20 percent coverage. They have now discovered 3 kit fox dens in the project site as well as active raven nests. It is likely that scavengers are removing birds before they can be counted. The rest of the finds are simply incidental which may indicate that mortality numbers are far greater than being reported.

The approved Blythe Solar Power Project will eventually be a 4,000 acre PV facility near the Colorado River near Blythe, California also built by First Solar.

At a hearing for the California Energy Commission, there were interveners. LABORERS' INTERNATIONAL UNION OF NORTH AMERICA had biologist Shawn Smallwood estimate a number of birds that would be killed for one of the Interveners to the project. He estimated that over 2,100 birds would be killed per year by the 4,000 acre Blythe Solar Power Project. The estimate can be viewed here:

[http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152\\_20131108T155000\\_Testimony\\_of\\_K\\_Shawn\\_Smallwood\\_PhD.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-06C/TN201152_20131108T155000_Testimony_of_K_Shawn_Smallwood_PhD.pdf)

We would like to request that the agencies recommend or even require avian monitoring on this project and mitigation. Single axis units can be potentially designed to be turned upside down which could be helpful in the migration times.

We would like to see a more proactive approach to protecting wildlife than a simple “after the fact” report that we are getting from a few of the big solar projects now.

The US Fish and Wildlife Avian Mortality Report makes the following recommendations for these big projects:

- For at least two years (and in addition to planned monitoring protocol), conduct daily surveys for birds (at all three facilities) - Use dogs for monitoring surveys to detect dead and injured birds that have hidden themselves in the brush, both inside and outside the perimeter of the facility - To decrease removal of carcasses, implement appropriate raven deterrent actions - Retrofit visual cues to existing panels at all three facilities and incorporate into new panel design. These cues should include UV-reflective or solid, contrasting bands spaced no further than 28 cm from each other.

The Kingston Range, the Clark Range and the Spring Range support montane sky-island fir forests believed to be refugial habitats from wetter climatic periods. These ranges attract birds that generally are not associated with the Mojave Desert and can be considered rare and even endemic to these habitats.

Sky island montane endemic birds and neo-tropical migrants may use the surrounding mountain ranges such as Clark Mountain, the Kingston Range, and the Spring Range for nesting and migration. We have seen some of these, such as gray vireos (*Vireo vicinior*), migrate through low-lying creosote habitats in the basins, as they access higher mountain ranges. These could be impacted by hitting solar panels and mirrors, and harmed by solar power tower flux energy fields. Other montane sky island endemic in the region are Mexican whippoorwill (*Antrostomus arizonae*), painted redstart (*Myioborus pictus*), and hepatic tanager (*Piranga lava*).

The Southern Nevada Resource Management Plan preferred alternative makes wind energy appropriate for the Nevada side of this region. Southeast of Clark Mountain is the Ivanpah Solar Project and the soon to be complete Stateline and Silver State Solar Projects. In total, about 10,000 acres have been converted to solar energy farms. The Ivanpah Project is estimated to kill 20,000 birds per year. The potential cumulative impacts of more big energy projects could reduce some populations of birds more so than has already taken place. Before the DRECP is approved, a complete study of all birds that use the region, including sky-island species, should be conducted.

**Burrowing Owls:** The DFA supports several burrowing owl populations. It is well known that large solar projects remove habitat for burrowing owls. It is also well known that wind energy projects kill burrowing owls through trauma:

Burrowing Owl Mortality in the Altamont Pass Wind Resource Area, SMALLWOOD, THELANDER, MORRISON, RUGGE, [www.biologicaldiversity.org/.../Burrowing\\_Owl\\_Fatalities\\_APWRA.pdf](http://www.biologicaldiversity.org/.../Burrowing_Owl_Fatalities_APWRA.pdf)

The Nevada BLM plans to designate the area appropriate for wind energy plus the large avian impacts of the Ivanpah Project make this DFA a cumulative threat to burrowing owls.

The Crescent Dunes Power Tower located north of Tonopah, Nevada recently reported an incident where 130 birds were incinerated in 6 hours in solar flux. The reports can be viewed here: <http://www.basinandrangewatch.org/CrescentDune.html#birdkill>

And here: <http://www.kcet.org/news/redo/rewire/solar/concentrating-solar/scores-of-birds-killed-during-test-of-solar-project-in-nevada.html>

**Air Quality:**

Fugitive dust will be kicked up by construction activity from large scale energy projects. It is very difficult to control dust in arid regions, especially in warm months when water evaporates. This is further complicated by the fact that more and more water is usually required to control dust in these regions. The water resources in the region are in over-draft.

Dust control in hot, arid climates is very problematic. The removal of established vegetation communities, biological soil crusts and centuries old desert pavement creates opportunities for dust to be airborne every time the wind blows. Not only does fugitive dust create problems for visual and biological resources, it creates issues for public health as well.

We are seeing this problem with several of the recently approved, prioritized large energy projects.

The community of Pahrump, Nevada reported cases of Coccidioidomycosis (Valley Fever) in 2004. Valley fever is spread when spores in soil are transported by blowing dust. Disturbances of soil on a large scale can be the cause of this.

This is documented on the web site for the Pahrump, Nevada Town Board:

<http://www.pahrumpnv.org/pahrump-nevada/documents/agendas-minutes/june-22-2004/#minutes>

“Sally Devlin stated that dust is a federal law and state law. Ms. Devlin said one of the most important thing to know about dust is there are diseases from dust. Pahrump is now invaded with valley fever which is the fungus in dust.”

We are worried 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.

These situations usually require more water sometimes in over-drafted aquifers to control the large disturbances they have created.

Construction should not be permitted during days of high winds. Wind speeds of 15 MPH and higher should be determining factors that limit construction. Construction should also be limited during the hottest months of the year. Evaporation rates will be greatest during the months of June, July and August.

There have been 368 cases of Valley Fever confirmed in Clark County, Nevada from 1992 to 2003: <http://www.lasvegassun.com/news/2003/aug/11/valley-fever-hidden-threat-in-wind/>

In San Luis Obispo County, 28 workers were sent home with Valley fever: Epidemiologists are investigating an outbreak of valley fever that has sickened 28 workers at two large solar-power construction sites in San Luis Obispo County: <http://articles.latimes.com/2013/may/01/local/la-me-ln-valley-fever-solar-sites-20130501>

### **Visual Resources:**

All large-scale development in these DFA's will be visible from existing wilderness areas and Clark Mountain from the Mojave National Preserve. The Nopah Wilderness, Resting Springs Range Wilderness, Kingston Wilderness, North Mesquite Mountains Wilderness are all in visible range of glaring PV facilities and CSP plants would also be highly visible from these areas. The wilderness integrity of any new ACEC's or conservation areas.

From 1991 to 2002, Kevin Emmerich was employed as a park ranger with the National Park Service in Death Valley National Park, California. Visitors would often make requests for information about The Old Spanish Trail and would often choose to travel from Death Valley to Las Vegas via the Old Spanish Trail Highway. Their goal was to take a scenic route to Las Vegas, stop at China Ranch and see the actual site of the Old Spanish Trail site. They were looking to see the area in its historic nature, not partially as an industrial power plant. Proposed projects and transmission lines will degrade the visitor experience and ultimately hurt any future potential tourism economy. Desert recreationists are seeking the wide open vistas, natural landscapes, wildlife viewing, and wild feel of the American Southwest. Any industrial development would only create a boom of construction jobs. The average photovoltaic farm only creates about 15 full time jobs. This is an economic dead end.

**Conclusion:**

The DRECP is simply too large to allow the public to submit enough meaningful comments in just a 4 month comment period. We have decided to focus these particular comments on just one region, not because we are not interested in the whole California Desert, but because you have not allowed us enough time to evaluate a plan that covers 22 million acres. You have received requests to extend this comment period from individuals, environmental groups and the solar and wind industry. We feel that we are being given an unreasonable time to decide which parts of the desert are worth saving and which are sacrificial. Such a choice will require more time than 4 months. If this plan can consider and evaluate private land for large-scale energy development, than we want the plan to consider rooftops, parking lots and the built environment private land.

Thanks,

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