

## DOCKETED

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**STATE OF CALIFORNIA**

**Energy Resources Conservation and Development Commission**

In the Matter of:

APPLICATION FOR CERTIFICATION  
FOR THE PALEN SOLAR ENERGY  
GENERATING SYSTEM

DOCKET NO. 09-AFC-7

**INTERVENOR CENTER FOR BIOLOGICAL DIVERSITY**

**Exhibit 3001**

**Testimony of Ileene Anderson**

**Re: Impacts to Sensitive Plants, Wildlife and Ecosystems from the Proposed Palen  
Solar Energy Generating System**

**Docket 09-AFC-7**

**Summary of Testimony**

The proposed project will be harmful to numerous rare species. In some instances the Final Staff Assessment (FSA) fails to identify the presence of rare species and then identify and evaluate impacts. Elsewhere, the FSA accurately identifies affected species but fails to adequately avoid, minimize and mitigate the impacts to these rare species as required under CEQA and other applicable laws.

The proposed project in itself as well as in conjunction with other cumulative projects in the Chuckwalla Valley will further push towards extinction already imperiled species and will result in the need for additional species to be safeguarded under Endangered Species Act protection and preclude the project area from providing critical movement corridors and habitat that can provide recovery opportunities for these rare and declining species.

**Qualifications**

My qualifications are provided on my Resume attached to this Testimony and as discussed below.

I have over 23 years of experience in identifying, surveying for and documenting biological resources in southern California, including the Mojave desert.

I have a Master's of Science in Biology and a Bachelor's of Arts in Biology from the California State University, Northridge. I have continuing education in restoration/revegetation/reclamation of native habitats at the University of California, Riverside.

I have directed and participated in numerous field surveys for federal- and state-listed threatened and endangered species, as well as other rare and common species. I have written results in conformance with the California Environmental Quality Act and the National Environmental Policy Act.

I have written, implemented and monitored a variety of restoration and revegetation plans, primarily implemented as mitigation.

I have published articles on these subjects in peer-reviewed scientific journals and presented papers/posters at scientific meetings.

I have provided expert testimony on plant and animal issues at State Water Resources Control Board, California Public Utilities Commission and the California Energy Commission hearings.

I was a two-term federal appointee to the BLM's California Desert Advisory Council representing renewable resources from 1997-2002, and served one year as chairperson.

I am currently a staff biologist with the Center for Biological Diversity, where I focus on native natural resource issues primarily in southern California, including desert regions of Riverside County.

### **Statement**

After my review of the biological sections of the FSA, I agree that the project as proposed "would have significant impacts to biological resources, impacting all of the Sonoran creosote bush scrub, sand dunes, desert washes and other native plant and wildlife communities within the approximately 3,794-acre site as well as along the natural gas line corridor (3.56 acres) and proposed and approved generation tie-line corridor (100.86 acres)." (FSA at 4.2-1).

These types of industrial-scale projects when sited in undisturbed ecologically-functioning landscapes are essentially large-scale experiments<sup>1</sup>. If such projects move forward, much can and should be learned from them through monitoring and adaptive management. My conclusion is that the FSA fails to adequately identify all of the on-site resources, evaluate the impacts to those resources and propose adequate mitigation or assure adequate monitoring for adaptive management to occur. While this project site has

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<sup>1</sup> Lovich & Ennen 2011

been identified for development since at least 2008, surveys have been done sporadically and unsystematically for on-site biological resources.

Nonetheless, the prior surveys have identified areas of conflict between existing biological resources and the currently proposed development. These survey data sets should be used to design a project that avoids and minimizes harm caused by the development project and reduces the need for mitigation. Unfortunately this has not been done. Often efforts to mitigate harm are far less effective than preventing the harm in the first place. In addition, without fully identifying and recognizing the scope of harm before it occurs, it is difficult to quantify an appropriate amount and type of mitigation.

### **Overarching Issues**

The generalized strategy of 1:1 mitigation for desert tortoise habitat is proposed to possibly mitigate impacts for a multitude of other species – migratory/special status species birds, bats, badger, kit fox, and rare plants. While the Final Staff Assessment (FSA) requires that acquired mitigation lands must be habitat for these impacted species, because any “mitigation” habitat is already inhabited by the same species for which mitigation is sought, this mitigation strategy ensures a *net decrease* in habitat for impacted species. To actually provide mitigation that staunches species’ habitat losses, the ratio must be higher than 1:1<sup>2</sup>. In addition, the proposed project sits wholly within the boundaries of three conservation overlays identified in BLM’s Northern and Eastern Colorado Desert Land Management Plan Amendment. While these conservation overlays are noted in the FSA – “the Palen-Ford WHMA and DWMA Connectivity WHMA, and the Chuckwalla DWMA” (FSA at 4.2-23), the mitigation ratio does not reflect the value of this habitat. I recommend a *minimum* 3:1 mitigation in the WHMAs is more appropriate to assure, that the project impacts are mitigated appropriately for the WHMAs and that the net losses of habitat for rare species are stopped. However, I do not believe that the connectivity WHMA can be mitigated by securing protected habitat elsewhere—it is the location of this habitat that is critical to provide connectivity and this has not been adequately addressed. 5:1 mitigation for the Chuckwalla DWMA is of course the recommendation by the federal and state wildlife agencies and I agree that this ratio is appropriate to help mitigate for development in the DWMA. Adequate mitigation for impacts is essential to prevent future listings under Endangered Species Acts – both state and federal.

Many of the plans that are proposed by staff to adequately minimize or mitigate impacts are either not provided in the FSA or anywhere else or are draft plans that lack specific details in order to evaluate their effectiveness. Key plans that are proposed as part of the mitigation strategy and not included in the FSA include sixteen different plans for biological resources alone:

- Nesting Bird Monitoring and Management Plan (4.2-266)
- American Badger and Kit Fox Management Plan (4.2-268)
- Weed Management Plan (4.2-268)
- Desert Tortoise Relocation/Translocation Plan (4.2-273 & 275)

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<sup>2</sup> Moilen et al. 2008, Norton 2008

- Raven Monitoring, Management, and Control Plan (4.2-283)
- Weed Management Plan (4.2-285)
- Avian Enhancement and Conservation Plan (4.2-289)
- Retrofit Plan (4.2-289)
- Avian Bat Protection Plan/Bird and Bat Conservation Strategy (BBCS) (4.2-292)
- Eagle Protection Plan (4.2-295)
- American Badger and Desert Kit Fox Mitigation and Monitoring Plan (4.2-298)
- Special-Status Plant Mitigation Plan.(4.2-316)
- Habitat Enhancement/Restoration Plan (4.2-324) or a Range-wide Management Plan (4.2-324) for Rare Plants
- Management Plan for acquired Waters of the State (4.2-333)
- Closure and Reclamation Plan (4.2-336)
- Burrowing Owl Mitigation Plan (4.2-305)

Because these plans are not available, it is impossible for me to evaluate or determine the efficacy of proposed minimization and mitigation to actually adequately mitigate impacts. While I recognize that the regulatory agencies have the responsibility of assuring that mitigation meets all the LORS and conditions, I have not always found that to be the case. Studies of mitigation compliance have borne this out as well.<sup>3</sup> Making all of the plans available as part of the public process is important to assure the public that their public resources (public lands, wildlife, and water resources as well as others) are being protected – without public disclosure of these plans during the process there is no way to evaluate whether the Commission has put in place adequate avoidance, minimization and mitigation to prevent degradation of our natural heritage, clean air and water. I recommend that the Commission put in place a public process that enables public input on the plethora of “mitigation” plans that are being proposed as conditions of certification for this (and other) proposed projects.

I discuss additional species specific issues below.

### *Desert Tortoise*

I recognize that in past surveys little recent desert tortoise sign was found on the proposed project site, and desert tortoise, were likely to inhabit the site at very low densities. However, the proposed project is not in compliance with USFWS’ guidance on desert tortoise survey methodology, which states “USFWS considers the results of a pre-project survey to be valid for no more than one year.”<sup>4</sup> While surveys were done on the newly proposed linear parts of the projects, no updated surveys were done on the proposed solar site itself. The project site is located in the Colorado Recovery Unit of the desert tortoise – a recovery unit that generally is in steep decline. Since range-wide monitoring was established in 2001, this recovery unit has steadily declined. From the baseline established between 2001-2005, the desert tortoise population had declined by

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<sup>3</sup> Ibid.;

<sup>4</sup> USFWS 2009a

37% to 58% in the Colorado desert by 2007<sup>5</sup> with densities estimated at 5.0 tortoises/km<sup>2</sup> in the Eastern Colorado Recovery Unit and 4.6 tortoises/km<sup>2</sup> in the Northern Colorado Recovery Unit. In 2011, the USFWS combined the Eastern and Northern Colorado Recovery Units into the Colorado Recovery Unit. The draft analysis from the 2012 Rangewide Monitoring calculates only 2.4 tortoises/km<sup>2</sup> in Colorado Recovery unit<sup>6</sup> – an approximate 50% decrease in the five years since 2007. These significant declines are occurring over twenty years *after* the species was placed under Endangered Species Act protection.

Despite these declines, the proposed project is being sited in the only WHMA established by BLM to provide connectivity from the Chuckwalla DWMA in the southern part of the Colorado River Recovery Unit to the northern part of the Unit, including to the Chemihuevi DWMA. I believe that the CEC made a mistake that threatens the desert tortoise at a population-level by permitting the former proposed project (Palen Solar Power Project) within this key connectivity linkage for desert tortoise and I hope the CEC will not make the same mistake twice. Even with mitigation, this key connectivity area will be lost forever, and it is unclear from the FSA where or even if other connectivity areas between the Chuckwalla DWMA and northern parts of the Colorado Recovery Unit are available as mitigation acquisition.

Also, the proposed Conditions of Certification do not even require that connectivity for desert tortoise be part of the mitigation. Therefore I suggest, at minimum, the following change to COC BIO-12, 1 (a):

**“be within the Colorado Desert Recovery Unit, ~~with potential to contribute to and provide~~ desert tortoise habitat connectivity and build linkages between desert tortoise designated critical habitat, known populations of desert tortoise, and/or other preserve lands. ~~The mitigation lands will be acquired, designated and protected in perpetuity for desert tortoise connectivity;~~”**

The permitted former project relied on “probable” linkages (RSA at C.2-177) to offset the impacts to the Desert Tortoise Connectivity WHMA. The nearest “probable” linkage to the project (RSA at Biological Resources Figure 6) that could have been relied upon to replace the Desert Tortoise Connectivity WHMA at the time of the RSA has now been eliminated due to the construction of the Desert Sunlight PV project. Only by clearly identifying current desert tortoise connectivity areas and requiring acquisition or permanent conservation of these important areas in the COCs can the impacts from the proposed project on the Desert Tortoise Connectivity WHMA truly be mitigated.

If desert tortoise are found on the proposed project site, the proposal is to move any desert tortoise through relocation or translocation. The desert tortoise translocations document<sup>7</sup> an unacceptable 44% confirmed mortality of translocated desert tortoise since the translocation occurred 2008 and the last surveys in 2009. Thirty-five additional tortoises (22%) were “missing” – status unknown. Coupled with that, all translocated

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<sup>5</sup> USFWS 2009b

<sup>6</sup> USFWS 2012

<sup>7</sup> Gowan and Berry 2009.

tortoise had tested negative for deadly diseases prior to being translocated, but post-translocation, 11% tested positive setting up a tragic epidemiological situation. While translocation efforts allow for survival of some desert tortoise, in the case of the proposed project, moving the tortoise out of immediate harms way by moving them nearby (and even perhaps within part of their historic “home range”), will likely still result in long-term demise of the animals because of the industrialization of the site. Therefore, to actually determine the outcome of the translocation over time, I request that the following statement be added to COC BIO-10 as part of the requirement for the Desert Tortoise Translocation Plan:

- Monitoring of all of the translocated tortoises or desert tortoise moved as part of this project will continue annually throughout the life of the Palen Solar Energy Power System.

This request follows the guidance provided by the Independent Science Advisors convened for the Desert Renewable Energy Conservation Plan (DRECP), who produced Recommendations for the DRECP in 2010. In that document they state “Transplantation or translocations should be considered a last recourse for unavoidable impacts, should never be considered full mitigation for the impact, and in all cases must be treated as experiments *subject to long-term monitoring and management*.[Emphasis added] <sup>8</sup>.

If the translocation site is not conserved in perpetuity, moving animals out of harm’s way for one project does not preclude the eventuality of having to move them for a second time when another project is proposed in the area where the translocated animal has eventually settled. Indeed, this situation is occurring for desert tortoise that were moved off-site of the Ivanpah Solar Electric Generating System site, and may now need to be moved a second time if the Stateline Solar project is permitted as currently proposed<sup>9</sup>. I believe the more times an animal is moved out of its existing home range, the less likely it is to survive. Because the proposed project is within the BLM’s Solar Energy Zone it is very possible that any tortoises (or other animals) moved off of the proposed project site may need to be moved a second time if additional projects move forward in the area. Therefore, the translocation areas, or areas where relocated or translocated plant/animals reside should be put off limits to all future development. Therefore, I request a second change in COC BIO-10 as part of the requirement for the Desert Tortoise Translocation Plan:

- Areas where relocated or translocated desert tortoise reside will be conserved in perpetuity to provide a safe refugia for tortoise moved from the project site.

Despite the cumulative impacts analysis for desert tortoise, without the changes to the COCs that I list above and a higher mitigation ratio overall, I fail to see how the proposed conditions of certifications guarantee adequate compensation for the impacts to onsite desert tortoises or the crucial BLM designated desert tortoise connectivity WHMA.

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<sup>8</sup> ISA 2010 at vii

<sup>9</sup> Figure 8 Tortoise Records ISEGS Monitoring Project and Perimeter Recipient Sites.

Recent science indicates that canid predation affects both resident, control and translocated desert tortoises<sup>10</sup>. While the minimization measures that are proposed for reducing some predators on the proposed project site and reconfigured alternatives, the new and best available science needs to be incorporated into the Conditions of Certification for this (and other projects). Ravens, another human subsidized predator in the desert, have also been identified as predators on desert tortoises. The COCs require that payment be made to support the USFWS Regional Raven Management Program (Bio 13(2)). The CEC or CDFW should set up and implement a similar program to address the regional canid management in support of reducing predation of desert tortoises (and other rare animals) and that payment in support of that program also be required as a Condition of Certification.

### *Desert Kit Fox and Badgers*

The desert kit fox and badgers are experiencing unprecedented impacts from development of renewable energy projects in their habitat. For desert kit fox, to date on public lands alone, eighteen solar and transmission project applications covering more over 96,000 acres are currently filed as of January 2013<sup>11</sup>. Fifteen approved solar projects, most of which are currently under construction, cover almost 39,000 acres of desert kit fox habitat<sup>12</sup>. Over 30,000 additional acres of proposed solar projects are actively under going environmental review<sup>13</sup>. As of January 2013, eleven wind projects covering almost 75,000 acres have been approved with many of them in the construction phase<sup>14</sup>. Three additional projects covering 16,611 acres are currently under environmental review<sup>15</sup>. In addition, twenty-eight projects are authorized to do wind testing on almost 270,000 acres<sup>16</sup>. Another forty wind project applications are in development or propose testing, covering an additional 485,000 acres<sup>17</sup>. The potential cumulative development for wind in desert kit fox habitat could cover close to 850,000 acres. In my review of these projects, very few of them evaluate the impacts to desert kit fox populations or require any mitigation other than “passive relocation”. In my opinion, the FSA fails to adequately discuss the desert kit fox in the context of their great site fidelity, challenges of “passive relocation” with this species that generally go to great effort to return to their on-site territories.

The FSA relies on outdated data from 2009 and 2010 on desert kit fox occurrence on the proposed project site with 2013 surveys only on habitat within the newly proposed linears. The FSA appears to have failed to coordinate with CDFW, which is monitoring kit fox on the project site and therefore failed to incorporate the data provided by CDFW

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<sup>10</sup> Esque et al. 2010

<sup>11</sup> BLM 2012. Solar Apps and Auths

<sup>12</sup> Ibid

<sup>13</sup> Ibid

<sup>14</sup> BLM Wind Apps & Auths July 2012 and Kern County wind projects

<sup>15</sup> Kern County wind projects

<sup>16</sup> BLM Wind Apps & Auths July 2012

<sup>17</sup> Ibid



<sup>18</sup> that shows onsite occupancy, successful reproduction as well as use of connectivity under Interstate 10,

The FSA fails to estimate the number of desert kit fox or badgers on the project site, or analyze impacts to them from the proposed project. The most recent Bureau of Land Management Final Environmental Impact Statement for a large scale solar project includes a much more comprehensive evaluation of desert kit fox occupancy on the project site and requires significantly greater avoidance, minimization and mitigation measures<sup>19</sup> than the FSA. Measures include but are not limited to:

- Baseline desert kit fox census and population health survey, by characterizing the demography (e.g., size, structure, and distribution) of the kit fox population on the site and receiving areas, and a testing component in which researchers trap and test a representative subsample of the population for canine distemper, and generally describe animal health on the site and receiving areas.
- Kit fox management plan that incorporates baseline desert kit fox census and health survey findings into a cohesive management strategy that minimizes disease risk to kit fox populations; provides a program for tagging, radio-tracking and monitoring of a subset of displaced kit foxes during the construction phase to understand how displacement affects regional kit fox populations; specifically identifies preconstruction survey methods for kit foxes (and large carnivores e.g., badgers) in the Project area; describes preconstruction and construction-phase relocation methods from the site, including the possibility for passive and active relocation from the site (and outlines identified CDFW permit and MOU requirements for active relocation); coordinates survey findings prior to and during construction to meet the information needs of wildlife health officials in monitoring the health of kit fox populations; and includes contingency measures that would be performed if canine distemper were documented in the Project area or in potential relocation areas, and measures to address potential kit fox reoccupancy of the site
- Implementation of the desert kit fox management plan that includes preconstruction surveys, avoidance of active den complexes and implementation of measures to monitor, minimize and contain any canine distemper outbreaks.

I find it curious that BLM, a federal agency, has greater concerns about the welfare of the desert kit fox which is reflected in greater monitoring, minimization and mitigation requirements than the CEC when the desert kit fox is actually only protected under State law. Therefore, I recommend that the CEC adopt similar strategies in the COCs for evaluating desert kit fox occupancy and health, including first avoiding impacts to den complexes as much as possible by proper project siting and impact minimization. I believe that an approach similar to that described above will help to minimize impacts to this species.

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<sup>18</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200466\\_20130913T104933\\_Kit\\_Fox\\_Den\\_Activity\\_Map\\_September\\_2013.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200466_20130913T104933_Kit_Fox_Den_Activity_Map_September_2013.pdf) and [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200467\\_20130913T104933\\_Email\\_from\\_Jaime\\_Rudd\\_re\\_Palen\\_Updated\\_Map.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200467_20130913T104933_Email_from_Jaime_Rudd_re_Palen_Updated_Map.pdf)

<sup>19</sup>BLM 2012. McCoy PA-FEIS Vol. 1 - Chapter 4

In my opinion the goal stated in BIO-17 “The objective of the plan shall be to avoid direct impacts to the American badger and desert kit fox as a result of site mobilization and construction of the power plant and linear facilities, ...” (FSA at 4.2-299) is desirable, but the FSA does not explain how this would be accomplished and I fail to see how kit fox and badgers can be avoided based on the fact that they occupy the site (FSA at 4.2-43)

In addition to the above requests for inclusion into the COC, I also request that the COC BIO-17 include monitoring of the relocated kit fox and badgers. Monitoring should occur semi-annually for at least five years after relocation to determine, in fact, that relocation is not causing “take”.

BIO\_17 (6) states that “The project owner may opt to participate in the CDFW-led fee-based Monitoring and Mitigation Program if in place prior to start of site mobilization and construction in lieu of implementation of certain items in above 3f, 4b, 4c, 5d, 5f and other items above if included in the program when established.” However no details about this program are included in the FSA, and I am unclear on what this program actually will do. Does it include habitat acquisition and conservation in perpetuity? Does it include local, regional, and range-wide monitoring of desert kit fox and badgers? Will it provide actual mitigation for impacts from this specific project? Based on the lack of clarity on the CDFW-led program, either more information must be provided or this option in the COC should be deleted.

BIO-17(4) would benefit from having “project-related activities” clearly defined, because mortality of sensitive species have occurred at other project sites and were not considered part of or attributed to “project-related activities”. For example, the desert kit fox distemper outbreak on the Genesis project site was not attributed to project related activities such as hazing the animals from the site, blocking their dens to prevent re-entry and deconstructing their dens. In my opinion these stressors to the animals made them more vulnerable to disease, an opinion shared by the California Department of Fish and Wildlife veterinarian.<sup>20</sup>

### *Birds*

#### *General Comments:*

While I certainly support minimizing impacts to all types of avian species, BIO-16a(1) proposes that “the project owner shall, prior to the commencement of commercial operations at the facility, fund the retrofitting of non-compliant utility poles in the vicinity of the project to APLIC (2006) standards or fund the installation of bird diverters in the vicinity of the Project” (FSA at 4.2-289). If non-compliant poles are present and especially if they are causing injury or mortality, the utility whose pole it is, needs to retrofit the pole - not the project proponent. BIO-16a(1) cites the DRECP, but the

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<sup>20</sup> L.A. Times Article 4-18-2012

DRECP is still under development and has yet to have even a draft document out for public review.

The CEC produced “California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development”<sup>21</sup>. Because the power tower technology proposed for this project has somewhat comparable threats to avian species – tall structures (wind turbines vs. 750’ power towers), zone of impact (rotor-swept area vs. flux zone and mirror surfaces), I believe the guidance in this document is useful to minimize impacts to avian species for this proposed project. Therefore I request that the staff look at incorporating the applicable parts of this guidance as COCs for this proposed project.

### *Yuma Clapper Rail*

The FSA recognizes that the Yuma clapper rail (*Rallus longirostris yumanensis*) is a fully protected species (FSA at 4.2-5). Like the golden eagle discussed below, the FSA basically ignores that this very rare species could be impacted by the proposed project. Mortality of a Yuma clapper rail has already occurred at the nearby Desert Sunlight photovoltaic project<sup>22</sup>. The FSA notes that the Yuma clapper rail was observed on the proposed project site (FSA at 4.2-41). The federal agencies are reviewing the species as part of the Biological Opinion for the proposed project. The Yuma clapper rail is listed as a Species of Greatest Conservation Need by the State of Arizona. The no permit for Yuma clapper rail “take” can be provided unless an NCCP is completed, because no NCCP has been developed that would cover the take of Yuma clapper rail, I believe that any permit for an activity that would cause such take would be unlawful.

It is my opinion that the project poses a serious threat to the Yuma clapper rail, which is a secretive critically endangered bird. Recent data on populations near the project site indicate that between 1995 and 2005, survey data have ranged from 217-445 birds along the Lower Colorado River and the Salton Sea data has ranged from 234-523 birds<sup>23</sup>, population numbers well below the Recovery Plan<sup>24</sup> objectives for this unique bird. While little is known about their migration or dispersal patterns, the recent Yuma clapper rail mortality at a nearby solar facility indicates that the birds use the Chuckwalla Valley and indeed may be attracted to solar facilities through mistaking the solar facility as water – the “lake effect”.

I request that an NCCP be developed and implemented for the Yuma clapper rail and other fully-protected species prior to any permit being issued for this proposed project amendment. An NCCP will provide avoidance and minimization measures as well as full mitigation of the impacts for this species that has been under endangered species act protections for decades and is still not recovering. I believe this approach – first

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<sup>21</sup> CEC 2010. California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development.

<sup>22</sup> [http://www.energy.ca.gov/sitingcases/palen/compliance/2013-07-08\\_Record\\_of\\_Conversation-REAT\\_Number\\_10\\_TN-71593.pdf](http://www.energy.ca.gov/sitingcases/palen/compliance/2013-07-08_Record_of_Conversation-REAT_Number_10_TN-71593.pdf)

<sup>23</sup> USFWS 2006

<sup>24</sup> USFWS 1983

ensuring that an adequate conservation plan is in place for imperiled species-- is a reasonable way to provide safeguards for this unique bird.

### *Willow Flycatcher*

The FSA overlooks the presence of the willow flycatcher (*Empidonax trallii*) near the project site. Willow flycatchers have state Endangered Species Act protection as an endangered species. While the willow flycatcher has not been reported on the proposed project site, it has recently been recorded very close to the site at Lake Tamarisk. According to eBird hotspot list, which is reviewed by local experts prior to posting, a willow flycatcher was documented using the resources at Lake Tamarisk on October 5, 2013<sup>25</sup>. The sighting includes a photograph. It is unclear if the bird was the federally protected southwestern willow flycatcher.

Because all willow flycatchers are protected as endangered in California and this bird clearly uses the Chuckwalla Valley, I have significant concerns that this imperiled species will be impacted by the proposed project, either through collision with project infrastructure or by being singed or burned by the concentrated flux. The FSA needs to be revised to include an analysis of the impacts to willow flycatcher. Additionally, a “take” permit under California’s Endangered Species Act would need to be acquired as part of the permitting process.

### *Golden Eagle*

I am very concerned about the impacts to golden eagle in the project area and from the proposed project as amended will have on this declining species especially in the context of other permitted and constructed developments and future development. In general golden eagle populations in the western United States are declining slightly in the southern parts of its range.<sup>26</sup> While the FSA recognizes that “The entire project site is suitable golden eagle foraging habitat year-around” (FSA at 4.2-5) and the proposed project will negatively impact foraging habitat for golden eagles, I disagree with the FSA’s determination that “the project’s impacts to eagles and their foraging habitat would be less than significant with implementation of these required conditions of certification.” (FSA at 4.2-5). The data that the FSA analyze is incomplete, the net loss of foraging habitat could cause territories to be abandoned and eagles (among other avian species) could also be negatively affected by the solar flux. These impacts must also be considered and are not avoided or mitigated under the current proposal.

I also disagree with the FSA that “Because they are fully protected species, any take of bald or golden eagles is prohibited by law. The burden is on the project owner to avoid any such take.” (FSA at 4.2-6). While I agree that avoiding take of golden eagles is the best course of action, I believe it is the CEC, not the project “owner”, that must ensure the project as certified will comply with all LORS and for fully protected species the CEC could provide for “take” of golden eagles under an NCCP. Therefore, in my

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<sup>25</sup> eBird – Lake Tamarisk Hot Spot 10-15-2013

<sup>26</sup> Milsap et al. 2013; Kochert & Steenhoff 2002

opinion, the CEC cannot say that the project complies with all LORS where it may take golden eagles without a permit under an NCCP.

While golden eagles are known from the proposed project site (FSA at 4.2-41), the FSA does not use all of the currently available data on eagles in the project area. Joshua Tree National Park, which is nearby the proposed project site, commissioned a Golden Eagle Survey Report in 2011<sup>27</sup> which documented the following results:

“A total of 22 golden eagle nests were observed comprising 9 territories. Four of the 9 golden eagle territories were active for the 2011 season (Eagle Mountains - West Central, Eagle Mountains – West Northwest, Hexie Mountains - Central, Little San Bernardino - East), the 2 Eagle Mountain territories were the only productive territories and produced a total of at least 3 young.” (at pg.1)

This survey indicates that the Eagle Mountain territories are the only successfully reproducing territories within Joshua Tree National Park in 2011. These territories are also adjacent to the Chuckwalla Valley and the proposed project site and rely upon the resources found there for successful reproduction.

While the FSA mentions the nest survey done for Desert Harvest (at 4.2-65), it fails to clearly identify that two golden eagle nests occur within 5 miles of the proposed project, and that one of those nests occurs within a mile of the proposed project south of Interstate 10<sup>28</sup>.

The Notice to Proceed Request for the Red Bluff Substation Project Distribution Line, which was analyzed in the Desert Sunlight Solar Farm Final Environmental Impact Statement, and is the substation that is currently being constructed and to which the proposed project will be interconnected to the grid, states that “Phase I occupancy surveys conducted in April 2010 detected 13 potentially active nests within a 10 - mile radius of the Project area” and documented only one active nest in 2010.<sup>29</sup> These data also are not reflected in the FSA.

In my opinion the FSA vastly underestimates the potential impact to golden eagles based on these additional data that are either not included or downplayed in FSA. My concerns appear to be echoed in the due diligence request to the company from the BLM which wants to see the actual data from the surveys<sup>30</sup>. Additionally, the USFWS recommended additional data be collected for late season surveys<sup>31</sup>. These data are necessary to evaluate the activity of the golden eagles in the proposed project area and are needed to inform the impact analyses of the proposed project. To the best of my

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<sup>27</sup> WRI 2011

<sup>28</sup> BLM 2012. Desert Harvest DEIS Appendix C.7

<sup>29</sup> SCE 2011.

<sup>30</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200531\\_20130919T112340\\_Notice\\_to\\_Charles\\_TurlinskiPSH\\_LLC\\_re\\_Due\\_Diligence\\_Request\\_for.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200531_20130919T112340_Notice_to_Charles_TurlinskiPSH_LLC_re_Due_Diligence_Request_for.pdf)

<sup>31</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200106\\_20130801T113723\\_USFWS\\_email\\_to\\_Pete\\_Bloom\\_in\\_re\\_Palen\\_Helo\\_GOEA\\_Nest\\_Survey\\_Fli.pdf](http://docketpublic.energy.ca.gov/PublicDocuments/09-AFC-07C/TN200106_20130801T113723_USFWS_email_to_Pete_Bloom_in_re_Palen_Helo_GOEA_Nest_Survey_Fli.pdf)

knowledge BLM's request has not been answered and no report is available at this time to determine if the project proponent followed the USFWS' late season recommendations.

Regarding cumulative impacts from this proposed project and other projects to golden eagles, no analysis regarding the existing threats to eagles including but not limited to wind energy<sup>32</sup>, lead poisoning, collisions and pesticides is provided.

As the CEC is fully aware, mortality from similar power tower technology is occurring on the Ivanpah Solar Electric Generating System, including causing mortality of a peregrine falcon – another fully protected species – from being scorched and singed and having melted feathers and foot trauma.<sup>33</sup> While McCrary et al. documented similar mortality<sup>34</sup>, these new data corroborate that the threat from this type of solar technology is very real and very deadly to avian species.

I request that an NCCP be developed and implemented for the golden eagle and other fully-protected species prior to any certification or permit being issued for this proposed project amendment. An NCCP will provide avoidance and minimization measures as well as full mitigation of the impacts for this declining species. I believe this approach is a reasonable way to provide safeguards for golden eagles.

#### *Bald Eagle*

The FSA notes that the bald eagle was observed on the proposed project site (FSA at 4.2-41). An eagle has also recently been recorded very close to the site at Lake Tamarisk. According to eBird hotspot list, which is reviewed by local experts prior to posting, a bald eagle was documented using the resources at Lake Tamarisk on October 5, 2013<sup>35</sup>.

Because bald eagles in California are “fully protected” under California Endangered Species Act, I request that an NCCP be developed and implemented for the bald eagle and other fully-protected species prior to the permit being issued for this proposed project. An NCCP will provide avoidance and minimization measures as well as full mitigation of the impacts for this species. I believe this approach is a reasonable way to provide safeguards for bald eagles.

#### *Swainson's Hawk*

The FSA notes the presence of Swainson's hawks in the vicinity of the proposed project. It also identifies on BIOLOGICAL RESOURCES - FIGURE 8, Palen Solar Electric Generating System - Special-status Wildlife, three locations of “Swainson's

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<sup>32</sup> Pagel et al. 2013,

<sup>33</sup> [http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN200642\\_20130930T090221\\_Avian\\_Mortality\\_Report\\_912013.xlsx](http://docketpublic.energy.ca.gov/PublicDocuments/07-AFC-05C/TN200642_20130930T090221_Avian_Mortality_Report_912013.xlsx)

<sup>34</sup> McCrary et al. 1986

<sup>35</sup> eBird – Lake Tamarisk Hot Spot 10-15-2013

Hawk (represents multiple individuals)” east, west and north of the proposed project site. In addition, Swainson’s hawk has also been documented at Lake Tamarisk<sup>36</sup>.

I find it concerning that despite being a State listed threatened species, the FSA has no discussion of the impacts that could occur to this increasingly rare species, especially rare in the deserts. I find it curious that the FSA does not utilize appropriate parts of the Swainson’s Hawk Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California that was developed by the CEC<sup>37</sup>. While I recognize that the Antelope Valley harbors the last few pairs of nesting Swainson’s hawks in southern California, I still am concerned about the hawks *getting to* their nesting sites and the potential for mortality at this site if the proposed project is built. I found the guidance in the CEC document useful believe that the monitoring and mitigation measures should be adapted and included in the final COCs.

### *Burrowing Owl*

As the FSA notes, “In the Colorado Desert, western burrowing owls generally occur at low densities in scattered populations“(FSA at 4.2-64). It also states that “Approximately 18 observations of individual owls were made during spring avian surveys of the project site” (FSA at 4.2-7) during the 2013 avian point count surveys.

While burrowing owls are declining in California, the remaining stronghold for burrowing owls in California – the Imperial Valley – has documented decline of 27% in the past<sup>38</sup>, resulting in an even more dire state for burrowing owls in California. Because burrowing owls are in decline throughout California, and now their “stronghold” is documented to be declining severely, it is my opinion that the burrowing owls on this proposed project site (and on other renewable energy projects) become even more important to species conservation efforts. While I support the acquisition of habitat specifically for burrowing owls, it is impossible for me to evaluate the impact of the proposed project primarily because the actual number of breeding pairs of burrowing owls on the proposed project site is not evident. I am also concerned because it appears the most recent burrowing owl survey protocols<sup>39</sup> were only followed on the newly proposed linears. I question how adequate mitigation can actually be determined. While I recognize that the current California Fish and Game Code 3503.3 prohibits active relocation of burrowing owls, it does not prohibit monitoring of passively relocated owls to determine the ultimate fate of the burrowing owls.

I know of no scientific evidence that passively relocating burrowing owls is a successful strategy for long-term survival of burrowing owls. Therefore I am surprised to find that BIO-18 (burrowing owl mitigation requirements) failed to require long-term

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<sup>36</sup> IBID

<sup>37</sup> CEC 2010. Survey Protocols, Impact Avoidance, and Minimization Measures for Renewable Energy Projects in the Antelope Valley of Los Angeles and Kern Counties, California

<sup>38</sup> Manning 2009.

<sup>39</sup> CDFG 2012

monitoring of passively relocated burrowing owls. I request that as part of the Burrowing Owl Mitigation Plan, which is not available for review, that long-term monitoring for the life of the project, be implemented for relocated burrowing owls.

I think the mitigation acquisition of only 78 acres to offset impacts to on-site burrowing owls is woefully inadequate. Mean burrowing owl foraging territories are 242 hectares in size, although foraging territories for owl in heavily cultivated areas is only 35 hectares<sup>40</sup>. Regardless, the acquisition of only 78 acres (31.6 hectares) appears to mitigate for much less than one territory. The FSA fails to identify the number of territories that occur on the proposed project site, although 2 different pairs fledged young in 2009 and in 2010, four “active burrows” were documented (FSA at 4.2-64). Absent the actual number of territories that overlap with the proposed project site, the evaluation of mitigation acquisition is flawed. However, it is my opinion that additional mitigation acreage is likely needs to be required – calculated using the mean foraging territory size times the number of territories, resulting in 1,210 hectares (2,990 acres) of habitat that would need to be acquired. I note that using the average foraging territory size for mitigation calculations may not accurately predict the carrying capacity and may *overestimate* the carrying capacity of the lands selected for mitigation. While the FSA relied on guidance from CDFW from 2012, that guidance still does not fully incorporate current population declines<sup>41</sup> and additional research on the species habitat<sup>42</sup>. Lastly, because the carrying capacity is tied to habitat quality, I recommend that language be included that mitigation lands that are acquired for burrowing owl that can not be avoided be native habitat on undisturbed lands, not cultivated lands, which are subject to the whims of land use changes. I believe the long-term persistence of burrowing owls lie in their ability to utilize natural landscapes, not human-created ones.

The most recent guidance on burrowing owls requires that “Habitat should not be altered or destroyed, and burrowing owls should not be excluded from burrows, until mitigation lands have been legally secured, are managed for the benefit of burrowing owls according to Department-approved management, monitoring and reporting plans, and the endowment or other long-term funding mechanism is in place or security is provided until these measures are completed”.<sup>43</sup>(at pg.12), yet this requirement is not apart of Bio-18. I believe that the CEC should follow the requirement of the CDFW.

### *Insects*

Sand dune habitats are notorious for supporting endemic insects, typically narrow habitat specialists<sup>44</sup>. The FSA notes that the federally endangered Casey’s June beetle (*Dinacoma caseyi*) occurs on the proposed project site (at 4.2-43), although there is no discussion in the text of where and when the species was located on the proposed project site. This is surprising to me because the Casey’s June beetle is only known from a very

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<sup>40</sup> USFWS 2003

<sup>41</sup> Manning 2009

<sup>42</sup> USFWS 2003

<sup>43</sup> CDFG 2012

<sup>44</sup> Dunn 2005



small range near Palm Springs<sup>45</sup>. However, if it is the case that the beetle occurs on the proposed project site, then the FSA needs to be revised and a full analysis of the avoidance, minimization and mitigation of impacts to this species needs to be included. While the Casey's June beetle was not an issue for the previously permitted project, the technology for the currently proposed project has been documented to impact flying insects through flux-related incinerations, as well as collision with infrastructure<sup>46</sup>. While I had brought the issue of insect impacts up in my previous testimony, the FSA brushes off this important issue by primarily addressing impacts to the sand dune community without actually requiring insect surveys. Absent the surveys clearly no evaluation of impacts to rare insects can be analyzed.

### *Special Status Plants*

While I support late-season botanical surveys, these types of surveys should have been done prior to the assessment of impacts from the proposed project. As stated above, failure to conduct sufficient surveys prior to environmental review of the project effectively eliminates the most important function of surveys - using the information from the surveys to avoid and minimize harm caused by the project and reduce the need for mitigation. Often efforts to mitigate harm are far less effective than preventing the harm in the first place.

### **Habitat Loss and Compensatory Mitigation**

For many of the rare wildlife species, "Bio-12" is proposed as the mitigation for impacts. "Bio-12" is focused on compensatory mitigation for desert tortoise through the acquisition and conservation of a variety of number of acres ultimately based the project footprint at buildout and mitigation ratios, many of which I've discussed above as being inadequate to actually mitigate the impacts of the proposed project.

Even with rare species occurring on the mitigation lands, the Commission must still recognize that the proposed project is a net loss of occupied habitat and possibly individuals of these species<sup>47</sup>.

### **Cryptobiotic Soils**

Cryptobiotic soils are an essential component in arid ecosystems to prevent desertification and perform a myriad of ecological functions including soil stability, porosity and water retention<sup>48</sup>. They stabilize soils and prevent erosion, decreasing fugitive dust<sup>49</sup>. They are easily disturbed and slow to regenerate<sup>50</sup>. Despite comments on the previous Staff Assessments and workshops relating to the current project proposal,

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<sup>45</sup> USFWS 2011

<sup>46</sup> Wagner et al. 1983

<sup>47</sup> Moilen et al. 2009, Norton 2009

<sup>48</sup> Belnap 2006,

<sup>49</sup> Belnap 2001

<sup>50</sup> Belnap and Eldridge 2001.

requesting an evaluation of where the cryptobiotics were on the proposed project site and an analysis of the impacts of the project on these important soils, the FSA fails to do so. It is my opinion that the disturbance of these types of soil crusts will greatly increase many factors that will affect the nearby ecological functions including increased amount of PM-10 emissions from the proposed project site, alteration in surface hydrology and water retention among many other aspects. I believe that increased dust emissions from the proposed project site will occur in areas where cryptobiotic soils are disturbed, and request that surveys for cryptobiotic soils be implemented so that impacts from the proposed project can be at least analyzed. A proper analysis would allow for avoidance and minimization measures that could be implemented, as well as mitigation measures, which ultimately would benefit air quality and the health of the local community, both wildlife and humans.

### **Water and Waters of the State**

The FSA notes that “A total of 374.7 acres of state jurisdictional waters, a slight increase from PSPP’s impacts to 312 acres were delineated on the project site” (at 4.2-3). This is actually a **20% increase** in impacts to these precious waters of the arid Colorado desert. While I support a 3:1 mitigation ratio for impacts to these resources, it is unclear if such “waters of the state” are available for acquisition. If indeed they are, these acquired properties should be designated and managed for conservation in perpetuity.

While the FSA states that “Operational groundwater use is stated as 201 AFY, a reduction of nearly 100 AFY” (at 4.2-3), this amount of ground water is much more than the 140 AFY of Groundwater identified for the operational groundwater use of the very similar Hidden Hills Solar Electric Generating System (HHSEGS) in that project’s FSA (at pg. 4.14-26)<sup>51</sup>. It is unclear to me why such a similar project design would require additional groundwater pumping, particularly when water is such a precious resource in the arid Colorado desert.

### **Alternatives**

Because, the FSA failed to consider a biological resources impact-minimization alternative, I submit one (see Exhibit 3036) on behalf of the plants and animals that currently call the proposed project site home. This alternative avoids the Zone 2 and Zone 3 of the Aeolian Sand Zones, which greatly reduces the impact to the sand dependent species, and reduces downstream impacts to the sand transport corridor. Furthermore it pulls the project closer to the existing disturbance corridor along the north side of Interstate 10. I request that the CEC consider this alternative as part of the PMPD due to the reduction in impacts that this alternative provides for biological resources.

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<sup>51</sup> HHSEGS FSA at pg. 4.14-26

## Conclusions

I would like to summarize my conclusions as follows:

Despite some avoidance, minimization, and mitigation for the identified rare species, the project will still result in a net loss of habitat for many rare and common species and crucial connectivity for the desert tortoise. The FSA still fails to evaluate many very important biological issues. Therefore I find the review of impacts and suggested mitigations to be unsatisfactory. Without basic information about the use of the area by a variety of wildlife, plants and the cover of cryptobiotic soils it is impossible to assess the extent of the impacts to species populations in this area from the proposed project or reconfigurations.

The FSA also fails to provide a path for reducing impacts to fully protected species through implementation of an NCCP that would provide a cohesive conservation plan for all of the affected resources including fully protected species, and instead ignores any analysis of impact to these species. While the previously permitted project had no mechanism to acquire a “take” permit for fully protected species, a subsequent change in the law allows for it through the NCCP. I request that the CEC require a completed NCCP to be provided for this project to reduce impacts to these critically imperiled “fully protected” species before it considers issuing any permit or certification.

The FSA seems to indicate that the staff believes that all the potential plant and wildlife impacts can be resolved by simply purchasing land elsewhere suitable for the desert tortoise. While desert tortoise habitat acquisition and protection in other areas is an essential keystone of mitigation for the loss of habitat at the proposed project site, it does not and cannot mitigate for the loss of habitat of other species if their habitat does not occur on the compensation lands and does not address loss of designated connectivity habitat on this site.

I suggest that field studies be initiated on any proposed compensation lands to assure that proper habitat is acquired to help mitigate impacts. Absent any real information in the field, any suggested mitigation or perceived impacts are pure conjecture. I also suggest that the missing field studies be conducted by knowledgeable researchers on the project site to fill in the missing data gaps which are the basis for analyzing impacts.

In summary, I find the document to be lacking as it pertains to biological resources. These deficiencies need to be addressed and remedied in a revision to the FSA or other environmental documentation prior the consideration of project permitting.

**Declaration of Ileene E. Anderson**

**Re: Impacts to Sensitive Plants, Wildlife and Ecosystems from the Proposed Palen Solar Energy Generating System**

**Docket 09-AFC-7**

I, Ileene Anderson, declare as follows:

- 1) I am currently a biologist for the Center for Biological Diversity. I have worked with the organization for eight years.
- 2) My relevant professional qualifications and experience are set forth in the attached resume and the attached testimony and are incorporated herein by reference.
- 3) I prepared the testimony attached hereto and incorporated herein by reference, relating to the impacts of the proposed project on wildlife and plants.
- 4) I prepared the testimony attached hereto and incorporated herein by reference relating to the proposed Palen Solar Electric Generating System in the Chuckwalla Valley in Riverside County.
- 5) It is my professional opinion that the attached testimony is true and accurate with respect to the issues that is addressed.
- 6) I am personally familiar with the facts and conclusions described within the attached testimony and if called as a witness, I could testify competently thereto.

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge and belief.

Dated: October 15, 2013

Signed: 

At: San Luis Obispo, California



# Curriculum Vitae For Ileene Anderson



## Education

- M.S. with Distinction, Biology, California State University, Northridge, 1992
- B.A. Cum Laude, Biology, California State University, Northridge, 1989
- A.S. with Honors, Electronics, Bakersfield College, 1981

## Professional Experience

2005 - present

Biologist and Public Lands Desert Director with the non-profit Center for Biological Diversity. Provide scientific expertise necessary for the conservation of California's internationally recognized unique flora and fauna in a variety of public and private land use arenas. My primary projects focus on central and southern California, including the California deserts, San Joaquin Valley issues, Santa Ana River issues, Santa Clara River issues, southern California forests and numerous projects that occur within their watersheds. I review and provide comments on California Environmental Quality Act and/or National Environmental Policy Act, provide scientific expertise on resource issues including as an expert witness, engage as a stakeholder in HCP/NCCP activities including the Desert Renewable Energy Conservation Plan; do public/media relations (print, radio, & TV). I oversee staff in three states on desert issues and organize staff and volunteers for project implementation on a variety of conservation issues.

1997- 2005

Southern California Regional Botanist for the non-profit California Native Plant Society (CNPS). Provided scientific expertise necessary for the conservation of California's unique vegetation types in a variety of public and private land use plans, including the Four Southern California Forests Updated Land Use Management Plan, the West Mojave Habitat Conservation Plan, the West Riverside Multiple Species Habitat Conservation Plan, the Northern and Eastern Colorado Desert Plan, the Northern and Eastern Mojave Desert Plan, and many other smaller planning efforts. I have commented on hundreds of California Environmental Quality Act and/or National Environmental Policy Act documents, written petitions for plant protection under the federal Endangered Species Act, provided scientific expertise for lawsuit settlement agreements, done public relations in both print and radio, ran CNPS internal consensus building meetings, and organized volunteers for a variety of conservation and fund-raising issues.

1995 - 2005

Consultant on a variety of botanical projects, including rare plant surveys, quantitative and qualitative vegetation community characterization, restoration plans, vegetation monitoring and weed surveys. Project locations comprise a variety of plant communities in southern/central California including riparian, coastal sage scrub, alluvial fan scrub, alkali meadows, chaparral, and a variety of desert scrubs. A full list of projects is available upon request.

1996 - 1999

Part-time instructor at College of the Canyons (community college in Valencia, California). Courses included Introductory Biology for majors (Organismal/Environmental and Cellular/Molecular), Current Topics in Environmental Biology, and Botany. I also developed a course in Economic Botany.

1992 - 1995

Lead Botanist for The Chambers Group (an environmental consulting firm). Projects for which I was responsible included mapping, inventories, and rare plant surveys, which were written in compliance with NEPA and/or CEQA guidelines, including impact analysis and mitigation. This information was typically included in Biological Assessments (BAs), Environmental Assessments (EAs), Environmental Impact Reports (EIRs) or Environmental Impact Statements (EISs). Supervisory duties included coordinating two other botanists. Project management was also part of my duties.

1990 - 1994

Sales Associate at the Theodore Payne Foundation. This part-time job primarily included helping customers select appropriate native plant material for their gardens. Other duties included propagation and transplantation of native plant species.

1990-1992

Herbarium Curatorial Assistant at Rancho Santa Ana Botanic Gardens. Herbarium specimen mounting and curation from international collections was the primary responsibility.

### Professional Courses/Seminars

Methods of Habitat Restoration - University of California, Riverside, Winter 1993

Desert Restoration - SERCAL, October 1993

Habitat Restoration Evaluation - University of California, Riverside, Winter 1994

Basic Wetlands Delineation - Wetland Training Institute, Inc. November 1995

Mycorrhizae in Habitat Restoration - University of California, Riverside, Winter 1995

Soils Workshop - Natural Resources Conservation Service, November 1998

Plant Community Characterization and Series Identification- Native Plant Society, June 1999

Statistical Analysis for the Modified Whittaker Plot - Colorado State University, August 2002

Willow Flycatcher and Yellow-billed Cuckoo Workshops and Training, May and June 2012

San Joaquin Kit Fox Workshop, July 2013

### Professional Affiliations

BLM California Desert Advisory Council - Department of Interior Appointee Representing Renewable Resources (Chairperson 2001) from 1997-2002

California Botanical Society

California Native Plant Society - Conservation Committee; Legal Committee.

Friends of the Santa Clara River - Director at Large

Society for Ecological Restoration - Coastal Sage Scrub Guild Co-coordinator (1995-2001)

Southern California Botanists - Director at Large (1994-2002)

### Expert Witness

State Water Resources Control Board – May 2007 – Testified on Santa Ana River plant and animal issues.

California Public Utilities Commission – March 2008 – Testified on plant/revegetation issues for Sunrise Powerlink Project.

California Energy Commission – 2010-13 – Testified on a number of rare plant and animal issues for a number of solar projects.

### Publications, Posters and Presentations

2011. The Politics of Listing Species. Presentation at the California Native Plant Society Conservation Conference, San Diego, CA, September 2011.

2011. Renewable Energy in Southern California. Presentation at the Wildlife Society- Western Section Conference, Riverside, CA, February 2011.

2010. Moving forward with the DRECP. Presentation at the Stakeholders meeting of the Desert Renewable Energy Conservation Plan, Ontario, CA, September 2010

2010. Considerations for the DRECP. Presentation at the Science Advisors Meeting for the Desert Renewable Energy Conservation Plan, Ontario, CA, April 2010.

2010. Desert Tortoise – Protection and Recovery. Presentation at the 35<sup>th</sup> Annual Symposium of the Desert Tortoise Council, Mesquite, NV. February 2010

2009. Center's Efforts to Protect and Recover the Desert Tortoise. Presentation at the 34<sup>th</sup> Symposium of the Desert Tortoise Council, Las Vegas, NV February 2009.

2009. Global Climate Change and its Effects on Plants and Animals in Southern California. Presentation at the G2 Gallery, Venice, CA. February 2009.

2007. Rethinking Mitigation – Western Riverside MSHCP. Presentation at the California Native Plant Society Conservation Symposium, Sacramento, CA, September 2007.

Dickey, John, Maurice Hall, Mark Madison, Jason Smesrud, Margot Griswold, Quitterie Cotten, Mica Heilmann, Greg Roland, Jim Jordahl, Richard Harasick, Wayne Bamossy, Richard Coles, Lizanne Wheeler, Pat Brown, Kevin Burton, Rick Fornelli, Ileene Anderson, Melissa Riedel-Lehrke, Ron Tiller, and Jim Richards 2005. Managing salt to stabilize the Owens Playa with saltgrass. Presented at the Center for Water Resources, Salinity Conference, Sacramento California.

Rodgers, Jane and Ileene Anderson 2002. A Rare Mint (*Monardella robisonii*) in a Rock-Climbing Mecca. Joshua Tree National Park. April 2002. Pgs 25 + appendices.

Anderson, Ileene, Margot Griswold, Dana Kamada, and Adrian Wolf. 2001. Coyote Canyon Landfill: Native Vegetation Restoration Results in Habitat Creation for a Threatened Species. Poster given at Society for Conservation Biology. July 2001.

Hartman, Steve and Ileene Anderson 1999. California Deserts in Transition: Ecosystem Planning. *Fremontia* 27(2): 13-17.

Anderson, Ileene 1998. Status of Sensitive Plant Populations on Public Grazing Allotments within the California Desert Conservation Area. California Native Plant Society. August 1998 Pgs. 34.