

**Audubon
California**

**San Fernando Valley
Audubon Society**

**San Bernardino
Audubon Society**

**San Diego
Audubon Society**

February 23, 2015

Submitted Online & Via US Mail

California Energy Commission
Dockets Office, MS-4
Docket No. 09-RENEW EO-01
1516 Ninth Street
Sacramento, CA 95814-5512
Email: docket@energy.ca.gov



RE: Comments re the Draft California Desert Renewable Energy Plan and Associated Environmental Impact Statement/Environmental Impact Report (EIS/EIR)

To Whom It May Concern:

These comments are submitted on behalf of Audubon California, the San Fernando Valley Audubon Society, the San Bernardino Audubon Society, and the San Diego Audubon Society (collectively, “Audubon”) and their tens of thousands of members in California regarding the draft Desert Renewable Energy Conservation Plan (DRECP) and the Environmental Impact Statement/Environmental Impact Report (EIS/EIR). We appreciate this opportunity to comment on the plan and its environmental documents.

Audubon is primarily concerned about the impacts of the project on key populations of several sensitive bird species that reside in the DRECP area (“Plan Area”) for some or all of the year. Some of these species include:

- 70% of the California population of burrowing owls resides in Imperial County;
- 50% of the world population of mountain plover winters in California, with 60% of those birds in Imperial County alone;
- nearly all of the California population of Arizona Bell’s vireo breeds in the Colorado River Valley; and
- the California condor is expanding its range into the Tehachapi Mountains.

As such, our comments are focused on several bird species, including burrowing owl, California condor, golden eagle, mountain plover, Swainson’s hawk, and tricolored blackbird. We also provide comments related to Important Bird Areas (IBAs)¹ and the importance of agricultural land conservation in the Plan area.

¹ The Important Bird Areas (IBAs) program was created by BirdLife International in the 1980s and implemented in the U.S. through a partnership with the National Audubon Society and the American Bird Conservancy. In 2000, BirdLife International ask Audubon to identify and approve IBAs in the U.S. At its core, the IBA program is a mechanism for identifying sites known to be important for birds and to mobilize efforts for their preservation and management.

The twenty-two IBAs in the Plan area total 1.874 million acres and host dozens of sensitive species and tens of thousands of shorebirds, waterfowl, passerines, and raptors that have suffered significant habitat losses throughout their ranges. IBAs not only provide remnants of lush habitat that was once abundant in California, they also provide opportunities as habitat strongholds as California's environment continues to change through human activities and climate change.

Audubon understands that renewable energy development is an essential tool in reducing greenhouse gas emissions and that, if unabated, climate change will contribute to the decline of more than half of North America's bird species, including many that occur in and around the Project Area. Audubon supports renewable energy development provided that it is (1) properly sited based on pre-project monitoring and modeling, (2) includes a reasonable projection of local avian and bat mortality that can be adequately mitigated, and (3) is subject to ongoing monitoring and adaptive management measures to address unforeseen impacts.

Audubon also appreciates the value and complexity of long term, large-scale conservation and development planning. Inter-agency and multi-stakeholder cooperation on renewable energy projections and species conservation is necessary if we are to meet California's energy needs and maintain sustainable populations of our native plants, animals, and ecosystems.

That said, Audubon believes there is more work to be done on the DRECP before it can proceed and be counted as a success. In its current form, the DRECP fails to comply with the National Environmental Protection Act (NEPA), the California Environmental Quality Act (CEQA), the Migratory Bird Treaty Act (MBTA), the Bald & Golden Eagle Protection Act (BGEPA), and California's fully protected species provisions of the Fish & Game Code. Our specific concerns with the draft documents' noncompliance with these laws will be addressed more fully below and in our technical attachments.

At their core, Audubon's concerns arise from the conclusion that the DRECP and associated documents do not meet the requirements of the Natural Communities Conservation Planning Act (NCCPA). Specifically, as written, the DRECP is not adequately comprehensive to ensure that covered species will receive a conservation benefit from the project. In all, Audubon is convinced that project activities will have a net negative impact on covered and other species.

Audubon's comments focus primarily on the DRECP's (1) inadequacies in the species accounts for several Covered Species, (2) failure to adequately address impacts to Important Bird Areas and agricultural lands within the Plan Area, and (3) uncertainties regarding impacts, the Biological Goals & Objectives. We address each issue generally below and then more specifically in the technical attachments to this letter.

1. The species accounts for several bird species, including burrowing owl, golden eagle, mountain plover, Swainson's hawk, and tricolored blackbird need to be revised to include more and better information, all of which can better inform the impacts analysis, mitigation measures, and efforts to achieve recovery for the affected species.
2. The take limits for golden eagles are not justified and do not comply with the BGEPA.

3. The DRECP underestimates impacts to Important Bird Areas and should be revised to better reflect the biological values of these IBAs—including their potential roles as strongholds for adaptation as the climate changes—and assess and mitigate impacts to them arising from project activities.
4. The DRECP and EIR/EIS do not adequately acknowledge the uncertainties associated with their impacts analysis.

Overall, the DRECP and EIR/EIS do not set forth adequately-described mitigation measures that will (a) achieve the NCCP goals of contributing to the recovery of affected species and (b) ensure that impacts from projects are fully mitigated. To do so, a final plan will need better-defined and quantifiable Biological Goals and Objectives, a reserve system that is robust and includes species now omitted, and a comprehensive adaptive management framework that ensures that as this large-scale experiment proceeds, new information can feedback into a transparent, accountable system that will improve management to meet the plan's goals and commitments.

Thank you for considering our comments. Audubon California also joins in with the comments provided by Defenders of Wildlife and The Nature Conservancy. If you would like to discuss this matter further, please do not hesitate to contact me at ggeorge@audubon.org, (323) 933-6660.

Respectfully submitted,

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BURROWING OWL

1. The Burrowing Owl Species Occurrence Locations for the Imperial Borrego Valley Ecoregion Subarea are Incomplete.

Figure III.7-17 (Covered and Planning Species Occurrence Locations – Imperial Borrego Valley Ecoregion Subarea) is missing many known occurrences of burrowing owls. As one major example, see Figure 19.1 (Manning 2009) for locations of male burrowing owl territories in the 2007 and 2008 breeding seasons:

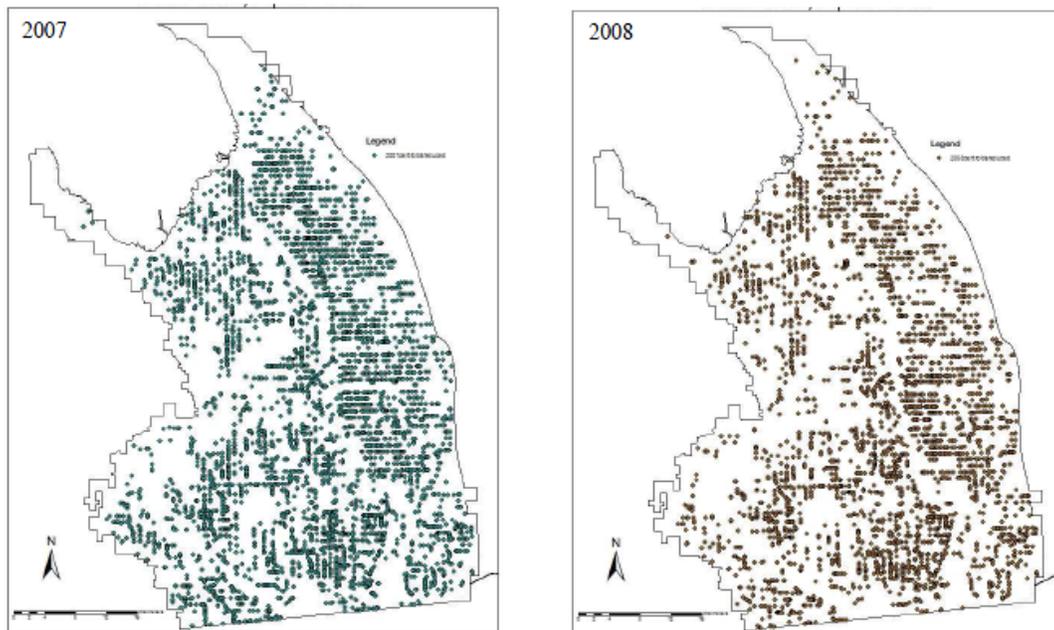


Figure 19.1. Locations of male Burrowing Owl territories in the 2007 and 2008 breeding seasons, determined from 3 point-coordinate capture-recapture survey occasions in the HCP Study Area, Imperial County, California.

Manning, J. A. 2009. Burrowing Owl population size in the Imperial Valley, California: survey and sampling methodologies for estimation. Final report to the Imperial Irrigation District, Imperial, California, USA. April 15, 2009.

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Audubon has created an online map documenting known occurrences of burrowing owl in the Imperial Valley over the past decade: <http://ca.audubon.org/salton-sea>. All known occurrences that are not currently included in the DRECP DEIR should be added to the document.

2. The Federal Status of Burrowing Owl Is Not Correctly Documented in Many DRECP Tables.

The burrowing owl should be listed as “BLM, BCC” under Federal Status in tables such as Table IV.7-98. Its status as a USFWS Bird of Conservation Concern is incorrectly omitted in many similar tables throughout the document (Table II.3-2, Table III.7-33, Tables III.7-36 through III.7-45 being other examples). Its status as such is confirmed both by the DRECP DEIR itself (page III.7-151) and USFWS (Klute et al. 2003).

3. Population Estimates for Burrowing Owls Are Not Clearly Documented.

In Section III.7.5.3, the source for the populations cited for 2007 and 2008 (4,925 and 3,560, respectively) is unclear. We note population estimates of 4,879 and 3,557 for 2007 and 2008, respectively (Manning 2009).

There is also additional, newer information on population trends in the Imperial Valley (AECOM 2012) that we recommend be discussed in the EIR, particularly in the Population Status and Trends section of the Burrowing Owl Species report.

4. Recent Burrowing Owl Population Trends should Be Clearly Stated in the Baseline Biology Report.

The following sentence from the Legal Status section of the full Burrowing Owl Species Report (from Appendix B to Appendix Q) is important and relevant: “Populations in California continue to decline or have been extirpated from rapid loss of farmland, changes in agricultural practices, eradication of ground squirrels, pesticide use, traffic and wind turbine-related mortality, and possibly West Nile virus (Gervais et al. 2008).” As such, this information should be included in the (more accessible and visible) Regulatory Status section of Appendix Q, section 5.2.2.

5. The Imperial Valley Agricultural Matrix Population Target Is too Low.

DRECP Objective BUOW2.1 (Appendix C) suggests maintaining a minimum population of 5,100 pairs of burrowing owls in the Imperial Valley agricultural matrix. The estimated population was greater than 5,100 until very recently (2007). We also know that at that time, the Imperial Valley was home to 71% of the estimated breeding population in California (DeSante et al. 2007) according to Wilkerson & Siegel (2010). Furthermore, the Regulatory Status section of DRECP Appendix Q, section 5.2.2 states that “populations in California continue to decline or have been extirpated.” Given that one of the DRECP’s two primary goals is to contribute to the conservation (recovery) of Covered Species (Section I.0.1), and given the importance of this region to the species, we urge the plan drafters to increase the minimum population target to reflect pre-decline populations, such as the numbers observed before 2007. This approach would be consistent with the stated primary goal of contributing to the conservation (recovery) of Covered Species (DRECP Section I.0.1, underlined here for emphasis). The table below summarizes recent population estimates for the Imperial Valley.

Survey Year(s)	Imperial Valley Population Estimate (pairs)	Source
1991-1993	6,571	(DeSante et al. 2007) according to (Wilkerson & Siegel 2010)

Survey Year(s)	Imperial Valley Population Estimate (pairs)	Source
1992-1993	5,600 (3,405-7,795)	(DeSante et al. 2004)
2006-2007	6,408 ± 2,384	(Wilkerson & Siegel 2010)
2007	4,879	(Manning 2009)
2008	3,557	(Manning 2009)
2011	4,589 - 5,058	(AECOM 2012)
2012	3,776 – 4,133	(AECOM 2012)
DRECP Minimum Goal	5,100	(Anon 2014)

6. The Palo Verde Valley Agricultural Areas Minimum Population Target Is too Low.

DRECP Objective BUOW 3.1 (Appendix C) is to maintain a minimum population of 180 pairs of burrowing owls in the Palo Verde Valley agricultural areas. As recently as 2001-2002, 250 pairs were nesting in this area (Gervais et al. 2008). We encourage the DRECP to consider a higher population goal for this region, given its stated primary goal of contributing to the conservation (recovery) of Covered Species (DRECP Section I.0.1).

7. A Minimum Population Target should Be set for the North Mojave Desert Agricultural/Natural Desert Matrix.

DRECP Objective BUOW 3.3 (Appendix C) is to maintain existing population of burrowing owls in the North Mojave Desert agricultural/natural desert matrix. Surveys have documented 1 pair in the Northern Mojave Desert-eastern Sierra Nevada (Wilkerson & Siegel 2011; Wilkerson & Siegel 2010). We suggest making this the minimum population target, similar to how specific population targets were set for other regions in Objectives BUOW 3.1 and 3.2.

8. A Minimum Population Target Should Be set for the East Mojave Desert Natural Desert Areas.

DRECP Objective BUOW 3.4 (Appendix C) is to maintain existing population of burrowing owls in the East Mojave Desert natural desert areas. Surveys have estimated there to be 32 ± 32 pairs in the Eastern Mojave Desert (Wilkerson & Siegel 2011; Wilkerson & Siegel 2010). We

suggest making this the minimum population target, similar to how specific population targets were set for other regions in Objectives BUOW 3.1 and 3.2. Alternatively, we suggest that the DRECP include a measure for obtaining a more meaningful population estimate with new surveys, along with a guarantee of using the new population estimate as the minimum population target for the region.

9. Step-Down Biological Objectives for Burrowing Owls Do Not Include All Identified Areas of Known Population Concentration.

Step-Down Biological Objective BUOW-B (Appendix C) does not include East Mojave or Palo Verde Valley, even though they are identified as areas of known population concentrations in Objective BUOW 1.1. We suggest they be included.

Step-Down Biological Objective BUOW-C (Appendix C) does not include the North Mojave or East Mojave regions, even though they are identified as areas of known population concentrations in Objective BUOW 1.1. We suggest they be included.

10. Step-Down Biological Objective BUOW-C should Specify Areas Covered within the Imperial Borrego Valley Ecoregion Subarea.

Step-Down Biological Objective BUOW-C (Appendix C) includes long-term conservation for “areas in the Imperial Borrego Valley ecoregion subarea identified through Plan implementation as important to burrowing owl conservation.” There is enough information in the DEIR for these areas to be identified at this time. If they are not identified now, a clear description of how they are to be identified should be included in the DEIR.

11. The Compensation for Impacts of Covered Activities on Burrowing Owls Is too Low.

From Table H-9 (Appendix H), the bird replacement ratio for burrowing owl is 1, along with 1 acre of new nesting habitat equivalents and 1 burrow equivalent. Nearly every other bird species has a compensation ratio greater than 1. It is not clear why the burrowing owl does not, particularly given the high level of estimated impacts, large number of estimated takes, proportion of its population in California within the DRECP region, and its population decline. For comparison, the ratios for other agricultural bird species are included below from Table H-9 (Appendix H):

- Mountain Plover: 1.1
- Swainson’s Hawk: 2.2
- Tricolored Blackbird: 2.0
- Sandhill Crane: 3.1

Table H-10 includes suggests acquiring habitat through purchase or conservation easement and/or agricultural easements in agricultural lands and native habitat lands. How will suitable habitat be identified and conserved?

12. The Estimated Plan-Wide Total Takes of Burrowing Owl Is too High and too Widespread Geographically.

We note that burrowing owl is estimated to have more total takes than any other bird species at 210 Plan-wide total takes [Table IV.7-54]. Specifically, this total breaks down into 60 BLM LUPA lands takes (Table IV.7-70) and 150 GCP total takes (Table IV.7-90). Furthermore, the DRECP states on page IV.7-276, “Based on the location of DFAs and MW distribution, it is expected that take of Covered Species associated with Agricultural habitats would be particularly affected, which would include Covered Species such as burrowing owl...” The impacts to burrowing owls, along with the higher number of estimated takes, greatly concern us given its status as a California Species of Special Concern and its designation as a BLM sensitive species and USFWS Bird of Conservation Concern (Page III.7-151).

Furthermore, Table II.3-32 shows that take of burrowing owl will be allocated in all ecoregion subareas within the DRECP Plan Area. Given concerns over its population decline, and the particular importance of the Imperial Valley to the species, we urge the DRECP to reduce the number of ecoregion subareas for which take is allocated.

Lastly, it is not immediately clear to us how specifically take will be monitored and over what time commitment. We urge that the EIR include this critical information.

13. The 200-meter Setback from Active Burrowing Owl Nesting Sites Is too Small.

Table II.3-8 lists the burrowing owl Setback as being 200 meters (656 ft) from active nesting sites, applicable to solar, wind, and geothermal projects, further described in AM-DFA-AG-3. It is not clear what science is used to support this number. Section III.7.5.3.1 of the DRECP states that about 80% of burrowing owl foraging occurs within about 1,950 feet of the nest burrows. Similarly, Appendix Q section 5.2.2.1 states that “Nocturnal foraging can occur up to several kilometers away from the burrow.” Table 3 of the Burrowing Owl Species Report states that juveniles disperse about 0.25 km (820 ft) from natal burrows after fledging, and adults disperse an average of 3.1 km (over 10,000 ft).

Therefore, Audubon urges that the required setback be increased from 200 m (656 ft) to at least 2,000 feet, based on what we know scientifically about burrowing owl foraging habits from the literature cited in this paragraph. At a minimum, the plan must be revised to provide evidence to support a smaller buffer zone.

14. There is No Maximum Bounding Date for Burrowing Owl Surveys.

Table II.3-7's burrowing owl Survey Requirements include Breeding season surveys (Feb 1 – Aug 31) per Burrowing Owl Guidelines and Clearance surveys (for direct take avoidance) no less than 14 days prior to ground disturbance per Burrowing Owl Guidelines. In addition to the 14-day minimum time frame prior to ground disturbance, we encourage the DRECP to consider a maximum time prior to ground disturbance, as well, since migratory burrowing owls do not always return to the same nest year to year (Poulin et al. 2011). We suggest that the EIR explicitly state that the survey must be completed no less than 14 days prior to ground disturbance *and also within the same breeding season as the proposed ground disturbance.*

15. The Preferred Alternative Will Result in Impacts to Burrowing Owl Habitat nearly Twice as Severe as the No Action Alternative.

According to Table IV.27-4, the Preferred Alternative will nearly double the habitat impacts (in acres) for the burrowing owl that will occur under the No Action Alternative.

The DRECP has two primary goals: 1) to contribute to the conservation (recovery) of Covered Species, habitats, and natural communities, as well as to the physical, visual, cultural, and social resources in the Plan Area, and 2) To streamline future permitting efforts for the development of renewable energy in the Plan Area... (Section I.0.1). It is evident that the DRECP's Preferred Alternative is not contributing to the conservation or recovery of the burrowing owl, based on what is shown in this table. In terms of burrowing owl, it is unclear why this alternative is preferred.

16. The Habitat Maintenance Goals Are Inconsistent and not Well Supported.

Table C-1 (Appendix C), Objective BUOW2.2 includes a goal to maintain approximately 421,000 acres of agricultural matrix habitat in its current state. Similarly, Objective BUOW 3.1 includes a goal to maintain 122,000 acres of agricultural matrix habitat in its current state. It is not clear how these values were obtained. We also suggest that such habitat acreage goals be provided for the other areas where the goal is to maintain the existing burrowing owl populations, such as in Objectives BUOW3.3 and 3.4.

17. Project-Specific Active Translocation Is Not Supported by Scientific Studies.

AM-DFA-AG-5 states: "Project-specific active translocation will be considered... If there is not suitable habitat adjacent to the site, burrowing owls will be translocated to an appropriate habitat if consistent with the MAMP" (*Id.* at II.3-58). The Burrowing Owl Species Report states: "the reintroduction of burrowing owls into vacant ranges has been done with limited success... Because this species shows strong site fidelity to nesting areas, introducing birds to new areas is a challenge" (Burrowing Owl Species Report, at 15).

Consequently, the draft plan is somewhat contradictory on this point and fails to provide evidence that translocation is an effective mitigation measure. At a minimum, it should be redrafted to demonstrate the viability of the management measures and include for monitoring and adaptive management, should translocation fail to have the predicted beneficial outcome.

18. The Amount of Burrowing Owl Habitat in which Long-Term Conservation Will be Established Is too Low.

Step-Down Biological Objective BUOW-C (Appendix C) includes:

Establish long-term conservation to protect, manage, and enhance habitat value for 167,000 acres of burrowing owl habitat that contributes to the DRECP NCCP Reserve Design in and around the following areas: West Mojave and Eastern Slopes ecoregion subarea, Pinto Lucerne Valley and Eastern Slopes ecoregion subarea, Cadiz Valley and Chocolate Mountains ecoregion subarea, and in areas in the Imperial Borrego Valley ecoregion subarea identified through Plan implementation as important to burrowing owl conservation.

(Appendix C)

It is not clear how the conservation goal of 167,000 acres was obtained. We compared it to the total acreage of modeled burrowing owl habitat for reference:

In Reserve Design?	Ecoregion Subarea	Acres of BUOW Modeled Habitat	Source(s)
Yes	Cadiz Valley and Chocolate Mountains	475,000	Table III.7-47
	Imperial Borrego Valley	1,445,000	Table III.7-48
	Pinto Lucerne Valley and Eastern Slopes	789,000	Table III.7-53
	West Mojave and Eastern Slopes	2,636,000	Table III.7-56
	<i>Subtotal</i>	<i>5,345,000</i>	<i>Calculated</i>
No	Kingston and Funeral Mountains	123,000	Table III.7-49
	Mojave and Silurian Valley	510,000	Table III.7-50
	Owens River Valley	160,000	Table III.7-51
	Panamint Death Valley	134,000	Table III.7-52

In Reserve Design?	Ecoregion Subarea	Acres of BUOW Modeled Habitat	Source(s)
	Piute Valley and Sacramento Mountains	13,000	Table III.7-54
	Providence and Bullion Mountains	212,000	Table III.7-55
	<i>Subtotal</i>	<i>1,152,000</i>	<i>Calculated</i>
	<i>TOTAL</i>	<i>6,496,000</i>	<i>Table III.7-46</i>

The goal of conserving 167,000 acres amounts to 2.6% of the total modeled habitat now available, or about 3.1% of the modeled habitat within the ecoregion subareas where the conservation activities will be focused. In this respect, the habitat goals seem underdeveloped.

References

AECOM, 2012. *2012 Burrowing Owl monitoring results, Imperial Irrigation District Rights-of-Way, Imperial County, California,*

Anon, 2014. *Draft DRECP and EIR/EIS: Appendix C. Biological Goals and Objectives,* Available at:
http://www.drecp.org/draftdrecp/files/Appendix_C_Biological_Goals_and_Objectives.pdf.

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DeSante, D.F., Ruhlen, E.D. & Scalf, R., 2007. The distribution and relative abundance of Burrowing Owls in California during 1991-1993: evidence for a declining population and thoughts on its conservation. In *Proceedings of the California Burrowing Owl Symposium, November 2003*. Point Reyes Station, CA: Bird Populations Monographs No. 1, pp. 1–41.

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<https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10405>.

Klute, D.S. et al., 2003. *Status Assessment and Conservation Plan for the Western Burrowing Owl in the United States,* Available at: http://www.fws.gov/mountain-prairie/species/birds/wbo/Western_Burrowing_Owlrev73003a.pdf.

Manning, J.A., 2009. *Burrowing Owl population size in the Imperial Valley, California: Survey and Sampling Methodologies for Estimation,*

Poulin, R. et al., 2011. Burrowing Owl (*Athene cunicularia*), The Birds of North America Online (A. Poole, Ed.).

Wilkerson, R.L. & Siegel, R.B., 2010. Assessing change in the distribution and abundance of Burrowing Owls in California, 1993-2007. *Bird Populations*, 10, pp.1–36.

Wilkerson, R.L. & Siegel, R.B., 2011. Distribution and abundance of western Burrowing Owls (*Athene cunicularia hypugaea*) in southeastern California. *The Southwestern Naturalist*, 56(3), pp.378–384.

CALIFORNIA CONDOR

1. The Biological Goals and Objectives for California Condor Should Be Revised to Include Enforcement of and Outreach Regarding the Lead Ammunition Ban.

Under Objective CACO2.1, the Biological Goals and Objectives for California Condor should also include outreach on and enforcement of AB711 the statewide lead ammunition ban, as well as outreach to the hunting community in the Condor territory in the Plan area over 40 years, and recommendations, if applicable, of the USFWS Condor/Wind Working Group that were submitted to Regional Director, Region 8, in 2014.

3. The Draft Plan Should Review the US Fish & Wildlife Condor/Wind Working Group Threat Matrix.

Threats to condor from wind energy are outlined in the Threat Matrix created by the USFWS Condor/Wind Working Group, and should be included in the threats, along with conservation actions and biological goals and objectives to address those threats. The Threat Matrix is available at http://www.fws.gov/ventura/docs/species/windenergy/ThreatMatrix_terms%20and%20use_final.pdf.

4. Chapter II.3 Preferred Alternative – California Condor

Table II.3-11 includes:

- Setback solar and geothermal projects 1.5 miles from nest sites and out of direct line of site [*sic*] from nest sites.
- Setback wind and transmission projects 5 miles from nest sites.

(EIS/EIR, at II.3-62) Audubon notes that the second use of “site” should be “sight”.

More substantively, the draft lacks justification for the proposed setbacks. The draft should be revised to refer to peer-reviewed scientific analysis or other credible reports that justify these setbacks.

Condors have wide ranging foraging behaviors from nests. Currently there is no wind project within 5 miles of a Condor nest and this requirement may set an unfortunate precedent over the almost twenty years of the Plan.

Audubon recommends that the draft be revised to include an analysis of what part of the Plan Area is or may be within 5 or 10 miles of a condor nest, and a map of critical habitat for California Condor in the Plan Area.

Siting, Design, Pre-construction, and Decommissioning

Current, the draft states the following:

If a condor is identified at a construction site, the Designated Biologist (see Glossary of Terms) will immediately notify the DRECP Coordination Group.

(*Id.*, at II.3-67) As written, this measure would allow for continued construction and other operations while the Designated Biologist contacts the DRECP Coordination Group. This measure should be revised to ensure that (1) all disruptive activity at the site is halted and (2) activity is not resumed until an official determination that disturbance will not occur is made. Until such a determination is made, construction crew should leave the premises.

The draft EIS/EIS also states that it will protect for “*Flight activity....airspace extending to 3,000 feet above condor nest sites.*” Audubon does not understand why this measure is so limited in that it protects only airspace *above* nest sites. Airspace below, beside and behind condor nests should also be protected.

The draft also provides: “AM-DFA-ICS-25: No take of condor will be permitted in the form of kill or injury from operation of Covered Activities.” The draft should be revised to explain the difference between a permit for kill and injury from operation of Covered Activities and authorization for take in a biological opinion, and whether authorization for take in a biological opinion might be available under the DRECP, as at Alta East wind project.

The area in the Tehacapi Mountains identified as Future Assessment Area in the preferred alternative and any other alternative should be removed and labeled as lands of conservation interest for California Condor. This species is expanding its range in this area. (HMNWRC California Condor Recovery Exploratory Flights: 513 03 July 2013 - 08 July 2013).

GOLDEN EAGLE

1. Appendix B should Be Revised to Include Data from the Bureau of Land Management (BLM) and eBird.

Appendix B: Species Profiles states: “There are 625 recent (i.e., since 1990) documented occurrences for golden eagle within the Plan Area (Figure SP-B09) (CDFW 2013; Dudek 2013).” These occurrences may not include the BLM research on golden eagle conducted in 2013 or eBird data. The draft should be revised to confirm that these data were included; if they were not, then the draft should be revised to include the additional information.

2. The Plan-wide Biological Goals & Objectives for Golden Eagle Are Inadequate.

These Plan-wide goals and objectives are not SMART (specific, measurable, achievable, realistic, and timely). They are vague, undefined and unenforceable. There are no citations to scientific studies justifying the Biological Goals & Objectives, nor, it seems, have they been reviewed for comment by the Independent Scientific Advisors or raptor biologists at the USFWS working on golden eagle. There is no baseline analysis or metric from which to measure goals and no metrics over the almost 20 years of the Plan.

There is also no definition of the following vague terms which the Biological Goals & Objectives rely on, including terms such as “robust,” “resilient,” and “changing conditions”. These terms should be better defined so that reviewers understand the BGOs.

The BGOs fail to set a baseline and specific goal for “recovery” or “viable” in maintaining or, as required, increasing the population of eagles in the Plan Area.

Since these Plan-wide BGOs frame and inform the Step-down Goals & Objectives, these need to be SMART and reviewed by the Independent Science Advisors, coordinated with the approach to the Eagle permit, and evaluated by qualified biologists and experts working on golden eagle in the Plan Area.

The population of golden eagles in the Plan Area is clearly declining through impacts from human activities and development, lead and rodenticide poisoning, vehicle collisions, turbine strikes and loss of foraging and pair territory habitat.

Golden eagle populations are believed to be declining throughout their range in the contiguous United States (Harlow and Bloom 1989, Kochert and Steenhof 2002, Kochert et al. 2002, Good et al. 2007, Farmer et al. 2008, Smith et al. 2008, 74 FR 46836-46879). The Service has modeled current data (USFWS 2009, Appendix C), employing Moffat’s equilibrium (Hunt 1998) and Millsap and Allen’s (2006) analysis of anthropogenic demographic removal, and estimated that the floating (non-breeding and surplus) component of the golden eagle population in some areas may be limited at this time. Data from the Western EcoSystems Technology Inc. surveys from 2006 through 2009 suggest

a decline since 2006 in the total golden eagle population within the area covered by the surveys (Neilson et al. 2010, USFWS 2009, Appendix C). Significant golden eagle breeding failures have been reported in some areas of the southwestern United States (WRI 2009), and declines in counts of migrating golden eagles have been reported in most areas in the western United States (Farmer et al. 2008, Smith et al. 2008), although it is unclear if the latter is linked to the general decrease in the number of eagles.

(Pagel, et al, Interim golden eagle Technical Guidance: Inventory and Monitoring Protocols; and other Recommendations in Support of golden eagle Management and Permit Issuance, US Fish & Wildlife Service, 2010).

Step-Down Biological Objective GOEA-A should include Southern Sierras that are in the Plan Area.

3. The Approach to Golden Eagle Take Authorization Must Be Improved (Appendix H).

Audubon has commented previously to U.S. Fish & Wildlife Service on the Eagle Conservation Plan Guidance (National Audubon Society, Defenders of Wildlife, Natural Resources Defense Council, The Wilderness Society, The National Wildlife Federation, The Sierra Club, and 76 Audubon chapters), Advance Notice of Proposed Rulemaking for an Eagle permit (National Audubon Society, NRDC, Defenders of Wildlife, The Wilderness Society, The Sierra Club and 88 Audubon chapters and state offices, July 12, 2012), on the West Butte permit DEIS and on the Shiloh IV eagle permit, and we incorporate those comments by reference here.

Audubon has repeated stated:

There is an urgent need for an overarching national eagle conservation management plan with corresponding regional management plans to guide implementation of the Draft Eagle Conservation Plan Guidance. The lack of clarity in the absence of this guiding framework impedes all stages of site assessment and mitigation planning.

The DRECP has the opportunity to provide this regional management plan, and provide specific data on local and regional population size and management goals in the form of BGOs and CMAs that could serve as a model for future conservation plans, biological goals & objectives, management actions and permitting process for permits, and to inform the authorization of incidental take of golden eagle through the NCCPA, ESA, and the Bald and golden eagle Protection Act (BGEPA) as appropriate.

We thank the USFWS Service in California for their thoughtful work and analysis in their approach to an Eagle permit for the DRECP. We support many of the conclusions and results of their analysis. For example, a one-mile distance from renewable energy projects from Eagle nests is a standard well-supported by science.

However, as drafted, the BGOs and the CMAs for golden eagle, as noted above, are inadequate to maintain, increase or keep the species from being listed as required to meet NCCP standards.

Audubon provides the additional following comments:

1. *The draft document does not define “short term” nor “long term” (Page H-19).*

The draft essentially defers Golden Eagle conservation to some unspecified time in the future in part by failing to define the terms “short term” and “long term” in the document. This failure, among many others, makes the draft DRECP more uncertain and prevents the public from understanding specific impacts and mitigation measures and how their success will be measured.

At its core, the problem appears to be with a lack of a regional conservation plan. Audubon believes that for a 22-million acre Project Area, a regional conservation plan that sets forth short-term and long-term challenges and recovery measures is critical. USFWS has the ability to present a conservation plan with SMART Biological Goals & Objectives, as required by both NCCPA and NEPA. The Service has been working on the Eagle permit since 2009. The USFWS can use its “best available science” to be specific about measures that would need to be taken to conserve eagles, as well as the Service raptor biologists based in the Plan Area, and to mitigate impacts to less than significant in addition rather than using “best available science” only to calculate the amount of take that can be authorized. The obligation of the Service is to go beyond merely providing “take” thresholds in order to issue development permits, to including that take threshold and the methodology of determining that take threshold into a transparent formula within a conservation framework. The Service has created a permit process similar to the ESA permit process but with one big glaring difference” where the ESA process for calculating and authorizing take is done in the context of a recovery plan for the species, this permit lacks a recovery plan.

2. *The draft is confusing as to whether there will be Reserves for Golden Eagles and how they relate to Covered Activities that may affect Golden Eagles.*

The document describes “[c]overed Activities that would occur in areas outside of Reserves,” but there are no Reserves for golden eagle in the document (page H-20). As written, the document does not include Reserves for golden eagles. The document should be revised to address this problem.

3. *The draft fails to set forth a clear baseline of data for Golden Eagles against which impacts and recovery efforts can be measured.*

The document also describes the impact to eagles “*would be authorized up to a sustainable amount that would preserve a healthy, stable eagle population*” but provides no firm baseline data. Instead, it provides one source of occurrence data only for resident eagles and ignores

migratory or “floater” populations. It fails to provide a definition of population level biological goals that would define that “sustainable” amount, or the methodology of how USFWS concluded that the take level would meet the BGEPA regulatory standard.

4. *The draft fails to describe all feasible management measures to reduce impacts.*

In listing “all available management measures”, the document fails to mention avoidance measures such as curtailment of turbines, avoidance technologies such as radar or other detection devices combined with curtailment., biologists in towers combined with curtailment, or moving or not building a project - even though these measures have proven to be successful in practice and operation in limited voluntary implementation by developers. Repowering with newer turbines has also proven to be successful in reducing impacts to eagles and other raptors when older turbines, especially those with lattices, are removed.. Where appropriate, this management measure should be prioritized in and outside the Plan Area.

5. *The golden eagle take cap threshold is too high.*

The draft states that “[t]he USFWS identified take rates of between 1 and 5 percent of the total estimated local-area eagle population as benchmarks, with 5 percent being at the upper end of what might be appropriate under the Eagle Act’s preservation standard.” (Page H-26)

The DRECP has chosen the upper limit of 5% of the local population and would allow a take of 15 eagles in the first year, , with a subsequent annual evaluation of whether to adjust the limit. However, that 5% maximum take threshold was calculated for a five-year permit in the FEA for the golden eagle take permit. A 5-year permit is quite different from the 30-year permit that would be provided under the DRECP. At a minimum, the draft should be revised to explain why the upper threshold is defensible for a 30-year permit when so many uncertainties remain as to impacts from the Project, overall changes in golden eagle population trends, and the effectiveness of mitigation and recovery efforts.

Regional population levels need to be analyzed to determine whether golden eagles are declining due to cumulative effects of disturbances from human expansion through development or recreational activities, loss of nesting and foraging habitat, lead and rodenticide poisoning, vehicle collision, drought, and climate change or other changing conditions. The FEA suggests that 5% may be too high.

USFWS has already concluded that:

[i]n recent sensitivity analyses the Service conducted (incorporating stochastic events and documented normal variability in vital rates), our models showed, at 4% take there would be no potential for growth for a golden eagle population that may be declining, and there would be negative effects to the floater portion of the bald eagle population (using population trend data from Florida) at 6 MSY and even some minor

effects at 5% take. Both the original application of the model and the sensitivity analyses for golden eagles calculated and used a positive growth rate for golden eagles. Incorporation of the new data from Good et al. (2009, pers. Comm.) into calculations for population demographics, yielded a declining growth rate for golden eagles. Floaters, for which monitoring is rarely conducted, serve to buffer populations from decline in times when productivity does not offset mortality, and also serve to provide a buffer for unforeseen effects to populations. Importantly, the models did not factor in the cumulative effects that were discussed in the DEA. Furthermore, the lack of annual monitoring to ensure we are not having a negative affect on populations, particularly when the thresholds we are proposing would be in effect for five years, compels us to adopt the more conservative approach. Some commenters, including eagle experts in various parts of the U.S. believe the DEA's population numbers and survival rates for bald eagles may have been too high for some areas of the country.

(USFWS, FEA for Eagle take permit, at 19, emphasis added)

6. *Take under BGEPA and ESA are regulated differently, and the analysis and permit terms should reflect those differences especially regarding habitat modification and degradation.*

Take permits for golden eagle should include permits for disturbance, loss of foraging habitat, and other impacts in addition to mortality, and should be included in the avoidance, minimization and mitigation measures, and included in the cap, especially on non-federal lands.

The document proposes that:

On federal lands, golden eagle take authorization will be through take permits issued under the Eagle Act to renewable energy project owners that apply and meet the issuance criteria and comply with DRECP. On non-federal lands, golden eagle take authorization will be incorporated into the ESA 10(a)(1)(B) permit process for projects that comply with DRECP.

(H-29) However, again, these processes and regulations differ, and the DRECP document must state these differences and apply these differences in the permitting process. The FEA Eagle Take Permit states:

Although both the ESA and the Eagle Act prohibit take, there are some subtle, but distinct differences in how each Act defines and regulates take. One key distinction is that the ESA includes the term "harm" in its definition of take, which the Service has defined to include habitat modification and degradation, while the Eagle Act does not. Additional points to bear in mind throughout the discussions in this FEA are included in Table 1.

(FEA Eagle Take Permit, p. 14) To meet the standards of the ESA the Plan must also permit habitat modification and degradation.

Moreover, the definition of “take” under ESA is different. “Take” under the ESA means to

harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.” Harass is further defined by the USFWS to include an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Harm is further defined by the USFWS to include an act which actually kills or injures wildlife. Such act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. (50 CFR 17.3).

In contrast, take” under the BGEPA is defined as: “to pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest, or disturb.” (50 CFR 22.3) “Disturb” is defined as “to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. Actions that would significantly disrupt normal behavior patterns are not limited to breeding, feeding, or sheltering behavioral patterns. (FEA, at. 15, Table 1, Comparisons to Approaches to Take under ESA and Eagle Act.)

7. *Advanced Conservation Practices should be certified as soon as possible and should consider the loss of foraging habitat, loss of nesting pair territories, and loss of alternative and active nests from disturbance as well as mortality, and include all forms of Covered Activities in the Adaptive Management Approach.*

In Table H-2, the DRECP document offers an Adaptive Management Approach to eagle mortality. This approach requires considerable investment in developing Advanced Conservation Practices by developers, and considers only mortality. Therefore this approach seems developed exclusively for wind energy. But all Covered Activities, including solar, transmission and perhaps even geothermal, have impacts on golden eagle not only from mortality but also from other impacts covered under ESA and BGEPA.

8. *The DRECP document should broaden the Approach to Compensation to include compensatory mitigation for solar and geothermal as well as wind energy, and emphasize avoidance over minimization and compensatory mitigation in siting.*

The DRECP documents provides a list only of options for compensation and management, and should also provide options for avoidance or minimization. In Table H-34, the DRECP has created a list of options to consider for compensation and management under the eagle permit. Audubon appreciates the thought that has gone into the list of specific actions that need to be take to reduce take, and ask that (1) the Service emphasize avoidance measures as a priority in

this list and (2) include impacts from utility-scale solar and geothermal and transmission as well as wind energy in disturbance of pair territories, disturbance and take of nests, loss of foraging habitat and other impacts.

9. *Scope for Calculation of Take is not based in science or law.*

The 140-mile addition to the Plan Area for purposes of calculating ongoing allocating take (p. H-28) for the permit in order to arrive at a “local area population” number is questionable for several reasons. While it is agreed that natal dispersal distance from nests of juveniles is 140 miles and therefore golden eagle, unlike terrestrial species, from areas outside of the Plan Area can be taken inside the Plan Area, there is some uncertainty in using this metric for the following reasons:

- This extends the “Project” area and does not conform to the description of the “Project” in the documents, and this 140 miles area around the Plan Area has not been analyzed in the documents.
- Other Covered Species including California condor, Swainson’s hawk, mountain plover, Burrowing owl, Bendire’s thrasher, sandhill crane also may come from outside the Plan area and should be treated in the same way in terms of migration or dispersal outside the Plan area. golden eagle cannot be singled out with this treatment;
- This calculation extends the Plan Area into Arizona and Nevada, which are not a signatory to the MOU, and prompts the need for CMAs that are appropriate to those states and conformance with the wildlife laws of those states.
- This calculation gives priority to juvenile eagles in calculating take over adult breeding pairs, migratory eagles, and floaters.
- This calculation provides no management or conservation plans or monitoring of populations within the 140 miles around the Plan Area, nor does the Plan include any Covered Activities in the 140 miles around the Plan Area, offers no distinct data or citations on those populations except one large number for the area with no footnotes or methodology of how this number was derived. Without this further analysis, using a population estimate of golden eagles within the 140 miles around the Plan Area is arbitrary, and seems to only serve to increase the “local area population” from the smaller population in the Plan Area to allow take of eagles for renewable energy in the Plan Area. It seems clear that without this 140 miles around the Plan area the Plan would not be able to provide a golden eagle permit due to limited supply of Eagles in the Plan Area of the desert.
- How will ongoing take be reported and calculated in this 140 mile area around the Plan? How will golden eagle under Nevada and Arizona law be permitted? How can California law be extended to Arizona and Nevada?

Audubon recommends that the plan be revised to calculate take of eagles based only on the Plan Area where the Covered Activities will take place unless the Plan Area can be extended legally, which may require a supplement and may not be feasible.

9. *Audubon supports the concept of Eagle Take Areas and suggest that Step-down Biological Goals be tailored to the three Eagle take Areas as well as local area Conservation plans.*
10. *Permitting pathway.*

Audubon appreciate the thorough presentation and analysis of the options to consider for compensation and management, and suggest that Reduce Existing Threats be included as a Biological Goal & Objectives and in Step-down Goals & Objectives. The two segments of the document do not seem to be integrated, and seem to be presented as two versions of the same permit. All Biological Goals & Objectives, CMAs and other actions and analyses should be conform with the analysis of the Eagle permit in Appendix H. Audubon appreciates the thorough description of the permitting pathway for golden eagle in the DRECP in Appendix H.

4. Preferred Alternative II.3

The Preferred Alternative includes the following:

Preconstruction, Construction and Decommissioning AM-DFA-ICS-27: Loss of Loss of habitat within a 1 to 4 mile radius around active or alternative eagle nests will be limited to less than 20%

(p. II.3-68) This seems to conflict with the Individual Species Setback Requirements found in Table II.3-11 requiring “Setback Covered Activities 1 mile from active or alternative nests within an active territory as described in AM-DFA-ICS-26.” (p. II.3-62 and II.3-68) and is an example of how the document should be checked for consistency regarding all Covered Species.

The draft also includes the following:

AM-DFA-ICS-32: If a permit for golden eagle take is determined to be necessary, the information gathered in AM-DFA-ICS-28, AM-DFA-ICS-29, and AM-DFA-ICS-30 will be submitted together as an application.

The document should be revised to explain who will determine that a permit is necessary. Presumably a project that has impacts on golden eagle in a DFA cannot go forward without a permit. This should be made clarified.

Finally, Table II.3-17 (Covered Species Effectiveness Monitoring Approach and Considerations) should include the same monitoring approach and considerations for a golden eagle permit. (See p. II-3-120) Audubon is concerned that if one approach is perceived as less onerous than another, Developers may be not be adequately incentivized or may be confused about going through the permitting process.

MOUNTAIN PLOVER

1. The Mountain Plover Species Description Is Inaccurate.

There are inaccuracies as well as missing data in several areas of the species description for the mountain plover. Below are our comments on each section.

Distribution and Occurrences - Recent

It is unclear what “61 recent documented occurrences” means in the context of this section. Were there 61 flocks or 61 individual birds? If individual birds, the number is vastly low. Audubon California’s 2012 survey (submitted to USFWS) and report (Audubon 2013) do not appear to have been included in this analysis. Moreover, it’s unclear in what year or years the 61 “documented occurrences” were recorded.

Mountain plovers tend to flock in the winter but individuals can still be observed any time during the winter season, and particularly pre- and post- migration. Therefore, the document should be revised to reflect a reference to date/s on which the observations were made. Moreover, numbers of observations can vary annually as well as within season, so the document should be revised to reflect natural and observed fluctuations in mountain plover numbers.

Habitat Requirements

Mountain plovers do not breed in California. This section is confusing because it includes breeding information interspersed throughout. The document should be revised to omit unnecessary reference to breeding habitat requirements and clarify language for the species’ migratory and over-wintering needs.

Foraging Requirements

This section unnecessarily refers to prairie dog colonies, which involve breeding habitat. Because they have no bearing on California wintering areas, this language merely causes confusion and should be omitted.

Ecological Relationships

The statement about mountain plovers being associated with grazing on the Carrizo Plain is incorrect. Areas on the Carrizo Plain where mountain plovers have been observed in recent winters have not been grazed in more than 10 years – Giant Kangaroo Rats, in their large precincts, maintain the “grazed” and barren conditions preferred by the plovers (S. Butterfield, TNC, personal communication) The statement that they are associated with Giant Kangaroo Rats is correct, but it should be clarified that this is just on the Carrizo Plain and southern San Joaquin Valley and not in other locations in California.

Population Status and Trends

The document erroneously states that the mountain plover population is “increasing,” which contradicts with the sources cited for discussion of mountain plover population status. The IUCN

Redlist lists the mountain plover as “near threatened” and the population trend is listed as “decreasing” (<http://www.iucnredlist.org/details/22693876/0>). IUCN notes:

the population is now estimated at 11,000-14,000 individuals (Plumb et al. 2005). These figures are likely to reflect an increase in counting accuracy rather than a recent population increase”. The IUCN also states “it is continuing to decline as a consequence of habitat loss and degradation resulting from cultivation, urbanization, over-grazing, and changes in native herbivore populations.

(*Id.*)

Natureserve lists mountain plovers in as “Short-term Trend: Relatively stable (=10% change)” and “Long-term Trend: Decline of 30-50%”

(<http://explorer.natureserve.org/servlet/NatureServe?searchName=Charadrius+montanus>).

Nature Serve notes:

In the 1990s, the breeding distribution also was reported to have contracted, with both peripheral populations disappearing and core populations going from widely distributed to only locally present (Knopf 1996)....

However, based on more recent information, USFWS (2003) concluded that declines in local population numbers at specific locations do not reflect statewide estimates throughout the range and that the continental population has not changed significantly in the past decade. Declines evident in BBS data are statistically insignificant (USFWS 2003). And “Long-term Trend Comments: Over the long term, area of occupancy, number of occurrences (subpopulations), population size, and habitat quality have decreased to a significant degree, mainly in the eastern portion of the historical range (USFWS 2003).

Breeding Bird Surveys cannot be accurately used to look at population trends for mountain plovers because of limited coverage and challenges with detectability of this species. Moreover, the numbers of birds based on state-wide surveys in California from 1994 to 2012 have varied between 1235 and 3457 and do not suggest any trend. ; However, we know that birds are now absent from many areas in California where they historically wintered as recently as 1994 (Audubon 2011). This suggests that without further study on wintering status in California, including studies on within-season movement, it is difficult to ascertain the “population” status of birds in the winter and the DRECP region and how this relates to breeding population trends.

Mountain plover was petitioned for federal listing to the USFWS as Federally Threatened in 2010. This request was withdrawn in 2011. USFWS determination does exemplify the fact that the population and range has decreased dramatically from historic numbers but may have leveled off in recent years, but the range of population estimates are not entirely reliable because of detectability issues (<http://www.fws.gov/mountain-prairie/species/birds/mountainplover/76FR27756.pdf>)

Threats and Environmental Stressors

This section would be improved by separating the discussions of threats and stressors on breeding and wintering sites, respectively.

Conservation and Management Activities

The statement “Mountain plover is not the subject of a documented recovery plan, and there do not appear to be any active state or local programs focused on its conservation and management” is incorrect. For example, under a cooperative management agreement between The Nature Conservancy, Bureau of Land Management, and California Department of Fish and Wildlife, mountain plover is a target species that is managed for on the Carrizo Plain National Monument (S. Butterfield, TNC, pers. comm.).

Audubon’s 2012 report suggests the following management activities which should be incorporated into DRECP planning:

1. Maintain alfalfa, cultivated grass, or other suitable habitats in critical mountain plover areas in the Imperial Valley and Antelope Valley. Because alfalfa is a relatively low-value crop with high water demand, there are likely to be increasing incentives for farmers to switch to more valuable crops that require less water. Although this may be necessary for water supply and economic reasons, a complete loss of alfalfa or grass fields to unsuitable alternative crops could have a significant impact on wintering mountain plovers. We recommend identifying those key areas within regions that regularly attract mountain plovers and working to ensure that a significant proportion of areas are maintained in suitable conditions.
2. Promote frequent alfalfa harvest and/or grazing during mid-winter. We recommend encouraging and providing incentives for farmers to cut these fields at least once over winter to maintain vegetation height at levels that will encourage use by mountain plovers.
3. Promote field fallowing and maintaining winter bare dirt habitat or burned fields. Ensuring an abundance of this habitat, particularly in the Imperial Valley, would greatly benefit wintering mountain plovers. We recommend working with farmers to encourage and provide incentives for leaving some fields fallow and controlling weed growth in these fields to maintain suitable vegetation heights. In cases where a winter cover crop is needed or desired, maintaining relatively low vegetation heights should be encouraged.

Data Characterizations

In addition, tailored research on habitat preferences and within season dispersal could improve understanding of how birds are utilizing areas such as Imperial Valley. In 2012, Audubon reported:

We do not know, for instance, how long plovers stay in burned fields. Birds may utilize the resource shortly after it is burned to eat insects, and then move to other fields (K. Molina, pers. comm.), so a pattern of rotation may be appropriate. Timing of rain may also impact where birds are going to appear, and whether they

stay, because of insect hatching. Developing a study that tracks birds through color banding or satellite transmitters in combination with studying precipitation, food availability, and habitat use is probably the only way to fully understand and manage for wintering mountain plovers in California.

(Audubon 2012)

2. The Biological Goals and Objectives Are Not Adequate for Mountain Plover.

Goal MOPL1 (Appendix C) is not adequately addressed in the step-down objectives. The goal states it is to conserve and avoid agricultural habitat in the Antelope Valley. However, the specific objective does not address the goal, nor does it state where and how much habitat would be conserved and/or avoided.

Step-Down Biological Objective MOPL-A states: “Protect and maintain in Existing Conservation Areas (LLPAs and MEMLs) mountain plover habitat in the following areas: Sonny Bono Salton Sea National Wildlife Refuge at the southern edge of the Salton Sea, Antelope Valley.” As currently drafted, the plan allows for protection and maintenance of habitat for mountain plovers in Imperial Valley but excludes almost all the areas in which they have been currently occurring. Very few plovers utilize the Sonny Bono Refuge.

Step-Down Biological Objective MOPL-B lists actions that are temporary. None of these actions address long-term conservation needs of mountain plovers in Imperial Valley.

Goal MOPL2 is also not adequately addressed in the step-down objectives. It states the goal to “[e]liminate or alleviate threats to mountain plovers which could further reduce the size of the population or which constrain recovery of the species’ population in the Plan Area.” Because Development Focus Areas in the Preferred Alternative essentially cover most of the core wintering range for mountain plovers in California, a more specific reserve design needs to be described that would set aside appropriate habitat in Antelope Valley and Imperial Valley. To do this, more research would be needed, including a habitat suitability model, to determine appropriate areas, minimum habitat size and incorporates a range of management scenarios, including rotational management, etc.

3. The Draft’s Conservation Actions Are not Adequate for the Mountain Plover.

In Appendix H, table H-7, it is unclear how these numbers for mountain plovers were derived. Without further study and analysis it will be almost impossible to determine impact of development and loss of individuals within the DRECP on the mountain plover as a wintering and somewhat mobile species. Because the vast majority of the wintering mountain plovers in California spend the winter in Imperial Valley, this will need to be addressed in greater detail and accuracy.

4. The Reserve Design for Mountain Plover Must Be Improved.

There does not appear to be a reserve design for this species. Please see our discussion of agricultural lands and their importance for mountain plover.

5. The Text Regarding the Preferred Alternative Should Be Revised Regarding Trends for Agriculture-dependent Species.

Table 11.3-7 lists no survey requirements for mountain plover. However, on page 11.3-109 the following is stated: “Agriculture-dependent Covered Species monitoring: Monitor population trends and effectiveness monitoring for conservation actions for agriculture dependent Covered Species, including burrowing owl, greater sandhill crane, mountain plover, and Swainson’s hawk.” Furthermore, Table 11.3-17 details specific monitoring. It is not stated, however, how frequently and for how many years monitoring would occur.

REFERENCES

Audubon California. 2011. Mountain Plover Winter Distribution and Habitat Use in California. - Results of the 2011 Statewide Survey. SUMMARY REPORT. Submitted to USFWS.

Audubon California. 2012. 2012 Mountain Plover Winter Survey. Submitted to USFWS.

SWAINSON'S HAWK

1. Section III Is Missing Data regarding Swainson's hawk Occurrences.

Figure III.7-17 (Covered and Planning Species Occurrence Locations – Imperial Borrego Valley Ecoregion Subarea) is missing many known occurrences of Swainson's hawk. Swainson's hawk occurrences can be found on eBird. Swainson's hawks stage annually in Anza Borrego State Park, and this is not represented, along with many other occurrences. In fact, despite the legend, the Figure shows no occurrences of Swainson's hawk despite their yearly migration and their detection on pre-construction surveys of wind and solar projects in Imperial County.

Figure III.7-25 (Covered and Planning Species Occurrence Locations – West Mojave and Eastern Slopes Ecoregion) is missing many occurrences of Swainson's hawk easily available in eBird. Moreover, the California Department of Fish & Wildlife ("CDFW") currently possesses a map of the nesting sites of Swainson's hawk in the plan area. Because of security concerns regarding the locations of the nests, Audubon does not provide this information publicly but the plan authors can obtain the information from Bloom Biological, Inc. or CDFW.

2. The Plan-wide and Step-Down Biological Objectives Are Not Complete for Swainson's Hawk.

The goals and objectives for protocols, avoidance, minimization and mitigation measures for nesting Swainson's hawk in Antelope Valley are based on 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*. (State of California, California Energy Commission and Department of Fish and Game, June 2 2010, available at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=83991>). The draft should include the following recommendations from that document:

- conservation of foraging habitat within 5 miles of a nest for impacts on foraging habitat within 5 miles of a nest;
- clear distinctions between objectives for nesting, foraging, and migratory hawks in all objectives;
- inclusion of nesting and foraging habitat in Antelope Valley in SWHA-C;
- Inclusion of a citation, methodology or analysis of how the DRECP arrived at the figure of 6,000 acres as a total Plan-wide goal, especially in light of the Baseline Biology Report that "there are 1,615,796 acres of modeled suitable habitat for Swainson's hawk in the Plan Area." We note that there are already 6,000 acres of mitigation lands required for solar installations on private lands in the Antelope Valley of Kern and Los Angeles counties alone for the impacts of 4 solar projects, so the Plan-wide objective is clearly low for a plan with impacts on Swainson's hawk in the Antelope Valley as well as other areas.

The biological goals and objectives for the Swainson's hawk are also not adequately specific.. For example, the BGOs should be revised to quantify a number of acres that will be conserved in Antelope Valley to benefit the Swainson's hawk.

Audubon also recommends that C.1.4. be revised to add the following question in developing the Plan-wide as well as the Step-Down Biological objectives for Swainson's hawk and other species of birds

9. *Does a local population of the species have a narrow distribution, or is it wide-ranging?*

3. Appendix H. Conservation and Management Actions Document Is Incomplete.

The list of survey protocols approved by the DRECP Coordination Group are incomplete and do not follow the 2010 document.

We recommend that the Figure H-5 show the 5-mile territory around the nest that is considered foraging habitat for nesting Swainson's hawk in the Antelope Valley and for which loss mitigation has been required by Kern and Los Angeles Counties. The .5 mile "setback" is misleading and should be discarded. Additionally, Figure H-5 fails to show existing conservation in state and local parks and conserved lands by Transition Habitat Conservancy, Antelope Valley Conservancy, Deserts and Mountains Conservancy, Petersen Ranch and other conservation easements or mitigation lands which can easily be obtained from County records, and lands that have been identified as of "conservation interest" by these land trusts and organizations.

Page H-68 is inaccurate because Table H-7 states that Compensatory Restoration Credits for Covered Birds for Swainson's hawk is applicable for "Foraging habitat protection and threat reduction actions only." Protection and creation of suitable nesting habitat is also clearly a conservation and management action, and also a subject of state and federal regulation.

Table H-10 in is incomplete in that it does not include collision with wind turbines or solar power towers as an impact for Swainson's hawk and all other species of birds and bats nor does it provide compensation or management actions.

Page H-69 includes the statement "*Swainson's hawk are not territorial, except to defend the nest, therefore, compensatory restoration of nesting habitat would an inappropriate measure*" is not substantiated by any citation. Contrary to this statement, some sources indicate that Swainson's hawks are territorial. (See California Partners in Flight Riparian Bird Conservation Plan http://www.prbo.org/calpif/htmldocs/species/riparian/swainsons_hawk.htm) (stating that "[d]uring the breeding season, [Swainson's hawks] form[] monogamous pairs (rarely polyandrous: Woodbridge unpub.) that defend large areas against conspecifics.").The document should be revised to better substantiate the rationale for failing to provide compensatory restoration for nesting habitat.

4. The Description of the Antelope Valley n=Nesting Population of Swainson’s hawk Is Incomplete (Appendix Q, Appendix 10b).

The description of Antelope Valley’s nesting population of Swainson’s hawk should be revised to include the following information:

The current land uses in the Antelope Valley area support approximately 10 breeding pairs. This area comprises the southernmost edge of the known breeding range for this species in California. The small number of breeding Swainson’s hawks in the Antelope Valley and the potential isolation from other Swainson’s hawk populations makes the Antelope Valley population particularly susceptible to extirpation. Swainson’s hawks have high nest site fidelity, meaning they return to the same site year after year (Estep 1989, Woodbridge et al. 1995) This may limit exchange of individual birds between distant breeding groups (Hull et al. 2007). Hull et al. (2007) found evidence suggesting that the Central Valley population has had little recent genetic exchange with other populations east of the Sierra Nevada. Due to the geographical isolation of the Antelope Valley Swainson hawk population from other breeding populations, together with the specie’s high site fidelity, it is reasonable to infer that rapid re-colonization of the Antelope Valley would be unlikely if nesting pairs were lost. Given these facts, the California Department of Fish and Game (Department) would consider impacts to breeding pairs to be potentially significant because they may cause the population to become less than self-sustaining.

(State of California, California Energy Commission and Department of Fish & Game, June 2 2010)

Conservation and Management Activities (p.10) Section Is Incomplete.

The document states “There are no active conservation efforts specific to Swainson’s hawks in the DRECP area.” This is not true. Approximately 6,000 acres of conservation easements to compensate for loss of foraging habitat of nesting Swainson’s hawk have already been required in combination with Prime farmland conservation mitigation from 4 solar projects by Kern and Los Angeles counties. (Antelope Valley Solar Ranch, Antelope Valley Solar Project, Silverado Solar Project, Rosamond Solar Project) as per recommendations in the 2010 SWHA CEC/CDFW document. Lands for Swainson’s hawk nesting and foraging habitat have been conserved and are managed by Transition Habitat Conservancy, Antelope Valley Conservancy and Land Veritas on the Petersen Ranch. Additionally, although adjacent but outside the Plan boundary, Swainson’s hawks are conserved at the Tejon Ranch Conservancy.

The document is also inaccurate when restating the protocols to avoid and minimize impacts of renewable energy projects on Swainson’s hawk in the Antelope Valley from CEC and CDFG 2010. The protocols and mitigation standards are very different from those cited in the DRECP document, and the DRECP document should be updated, including but not limited to the requirements to offset foraging habitat with mitigation lands within 5 miles of a nest, not .5 miles.

Additionally, for comparison to guidelines for mitigation for loss of foraging habitat in the Central Valley: Under CDFG draft mitigation guidelines, losses of suitable foraging habitats within 10 miles of a Swainson's hawk nest site must be mitigated by protection or creation of equally suitable foraging habitat elsewhere within the territory's 10-mile radius. The ratio of loss/replaced habitat changes from 1:1 within 1 mile of a nest, to 1:.5 over 5 miles from the nest. These guidelines have been thoroughly reviewed by the Swainson's hawk Technical Advisory Committee (SWTAC), an independent group of agency and private biologists with experience with Swainson's hawks. The SWTAC has pointed out several flaws in the guidelines, and has judged them to be inadequate to conserve or recover the species in the Central valley (Estep, pers. comm.)

Woodbridge, B. 1998. Swainson's hawk (*Buteo swainsoni*). In The Riparian Bird Conservation Plan: a strategy for reversing the decline of riparian-associated birds in California. California Partners in Flight. http://www.prbo.org/calpif/htmldocs/riparian_v-2.html

In addition to Los Angeles Audubon Society, Audubon California, Kern Audubon, Kerncrest Audubon, San Fernando Valley Audubon, Friends of Swainson's hawk, Transition Habitat Conservancy, Tejon Ranch Conservancy, Antelope Valley Conservancy, Deserts and Mountains Conservancy and others have been actively engaged in conservation of Swainson's hawk in the Antelope Valley not only with the City of Lancaster but also with Kern and Los Angeles Counties.

TRICOLORED BLACKBIRD

1. Section III.07 (Biological Resources) Should Be Revised to Reflect the Tricolored Blackbird's Status as Endangered pursuant to the California Endangered Species Act.

The draft should be revised to reflect that the tricolored blackbird is now listed as endangered under the California Endangered Species Act (CESA). (See III.7-157, stating the tricolor is only a "California Species of Special Concern") Likewise, Table III.7-39, Table-III.7-41, Table-III.7-45, Table-III.7-80, and Table-III.7-94 should be revised to reflect its current status.

2. The Tricolored Blackbird Species Report Should Be Revised to Correct Inaccuracies and Omissions.

There are inaccuracies as well as missing data in several areas of the species description for the tricolored blackbird. Below are our comments on each section.

Distribution

This section should be updated to reflect the most recent information regarding the status of the tricolored blackbird. According to Dr. Robert Meese, the tricolor population decline 44% between 2011 and 2014. The current estimated population size is approximately 140,000 birds in California.

Currently, the section states that the geographic range were unchanged "since the mid-1930s (DeHaven et al. 1975b)." (Dudek, Tricolored Blackbird (*Agelaius tricolor*) Draft Species Account (Aug. 2014), at 2) As worded, the section creates the misperception that the species' range has not changed since the 1970s. We recommend that the text be changed as follows:

...concluded that their range and major breeding areas were unchanged from the mid-1930s to the 1970s.

Based in part on these findings, the California Fish & Game Commission approved a petition to list the tricolored blackbird as "endangered" under the California Endangered Species Act (CESA). As of the date of that determination, the tricolor is afforded all protections under CESA.

Distribution and Occurrences - Recent

The species account and plan should be revised to reflect all available data on occurrences of tricolored blackbird within the Plan Area. The 2014 draft acknowledges that there are new data available regarding the occurrence of tricolored blackbirds in the Plan Area, but does not incorporate them all. (Dudek (2014), at 3). Inquiries should be made to Dr. Robert Meese of UC Davis for an update on distribution. There is also additional data available from the Tricolored Blackbird Portal at <http://tricolor.ice.ucdavis.edu/>. Moreover, Audubon has attached a map to this comment that provides more information than is currently in the draft.

The internet database portal *eBird* appears to provide more data on occurrence of tricolors in the Plan Area (see attachments hereto). Audubon suggests the plan authors review the *eBird* data to determine whether additional occurrences of the tricolor within the Plan Area warrants greater mitigation and conservation measures in the Plan.

Habitat Requirements

This section would be improved considerably with reference to the Tricolored Blackbird species account provided by Beedy (2008) as well as more recent work by Dr. Robert Meese.

Audubon CA asserts that the phrase “tricolored blackbirds began exploiting the rich agricultural fields used by the transition to farming” is a mischaracterization. (See Dudek (2014), at 3-4) What is actually happening is that tricolors are finding some of their habitat needs met by triticale because so much of the species’ native habitat has been lost or degraded. “Exploiting” seems to indicate an expansion attributable to a new opportunity, rather than a transition to one—potentially substandard—habitat because its prior habitat has been destroyed.

This section would also be improved by reference to findings in the 2014 survey results, including that 38% of breeding tricolors were observed in silage fields. Likewise, in 2014, only 13.6% of tricolors were observed nesting in bulrush and cattails. Also, the list of other vegetation in which tricolors nest should be expanded to include milk thistle, as was documented in 2014.

Foraging Requirements

The term “artificial habitat” is confusing and could lead the reader to assume that the species does not prefer to forage in “natural habitat.” Tricolors are often observed foraging in grasslands that are not “artificial”, though some may be irrigated.

Ecological Relationships

This section could be improved with additional information regarding the tricolored blackbird’s range – including increasing reports that the species is breeding in rangelands at a higher elevations—and particular dependence on certain insect species during the breeding season.

Population Status and Trends

This section should be revised to reflect the updated information provided in the *Results of the 2014 Tricolored Blackbird Statewide Survey* produced by Dr. Robert Meese, available at <http://tricolor.ice.ucdavis.edu/files/trbl/2014%20Statewide%20Survey%20Final%20Report.pdf>.

Most notably, the 2014 report indicates that the tricolored blackbird population continues to decline and that large colonies are also fewer in number. The species has endured a 44% drop in population size since 2011 and a 64% drop since 2008. The current population estimate is approximately 145,000 tricolored blackbirds.

Threats and Environmental Stressors

While Audubon agrees with the species account's conclusion that habitat loss and degradation poses the most significant threat to the species, it could be improved with a more thorough review of available information regarding stressors and—potentially—solutions.

For example, the species account fails to acknowledge the 2013 study published by Dr. Robert Meese that found that only 5 of 47 (11%) colonies studied from 2006-2011 fledged an average of more 1 or more young per nest. (Meese (2013) at 103) It appears that higher nesting success was associated with a greater abundance of favored insect prey in foraging areas adjacent to the colonies. (*Id.*) The 2013 paper persistently emphasizes the need for quality foraging habitat and that providing more breeding habitat alone will not suffice to recover or conserve the species. (*Id.* at 110)

This section is confusing because information switches back and forth between breeding and wintering sites.

Conservation and Management Activities

This section is incomplete and requires revision. First, the section should include a discussion of the broader understanding that, especially for tricolors, successful conservation of breeding habitat includes both areas that support substrates for nests and adjacent foraging areas. These areas can have considerably different characteristics, but it is increasingly clear that successful tricolored blackbird colonies are rely on a more complex landscape of different habitat types.

Second, the section should be expanded to better address the goals set forth by the Tricolored Blackbird Working Group, which has recognized that restoration is one of the key strategies for conserving the species.

Third, the section on crop purchases by state and federal agencies is incomplete. Crop purchases have continued since the 1990s up and including the 2014 breeding season. The US Department of Agriculture's NRCS program has protected over 125,000 breeding tricolored blackbirds during 2011-2013 alone. We also refer the plan authors to Meese (2013), which reviews the contribution of the conservation of silage colonies to Tricolored Blackbird from 2005-2009 to provide more recent information.

Data Characterizations

An additional statewide survey was conducted in 2014. It was the most comprehensive to date. It demonstrated an additional 44% decline in the species since 2011. (Meese (2014), at 6-7)

Moreover, several additional reports and papers have been developed that are not cited in the species account. These include Meese (2013) and (2014), and Graves (2014).

This section should also make use of the 2008 species account for the California Bird Species of Special Concern by Beedy (2008) and available information at the Tricolored Blackbird Portal (linked above).

Finally, the Department of Fish & Wildlife is developing a recovery plan for the species now that it is considered endangered under CESA. The DRECP should anticipate that any recovery plan for the species should be incorporated into future adaptive management measures that are part of the Plan.

Management and Monitoring Considerations

This section focuses on monitoring consideration from the Tricolored Blackbird Working Group (TBWG) conservation plan, but does not include any of the management recommendations. Moreover, this section provides only a few of the monitoring plan. Audubon recommends that the species account authors review the TBWG plan again and incorporate each of the monitoring and management recommendations set forth therein.

3. The Biological Goals & Objectives for the Tricolored Blackbird Should Be Revised to Be more Specific and to Include Quantitative Goals.

Goal TCBL1, while broad and admirable, is not supported by adequately specific step-down objectives to instill confidence that the goal can be met. TCBL1 states:

Conserve natural and agricultural habitats that support tricolored blackbird at a landscape scale within the Antelope and Owens valleys in order to increase the population size of the species in the Plan Area. Conservation should emphasize areas where tricolored blackbirds are most likely to be adaptive and resilient in response to the effects of changes within their populations, including range shifts, contractions, expansions, local extirpation, and recolonization; additionally, these areas should provide a refuge from environmental changes in climate, temperature, and precipitation.

(Table C-1, DRECP, at C-31) The Objectives address specific geographic regions and avoiding impacts on nesting habitat and nesting colonies. (*Id.*)

First, while the Goal and Objectives specifically callout the need for conservation at a landscape scale in Antelope and Owens Valleys, the Step-down Biological Objectives are silent as to those areas. (*Id.*)

Second, the Step-down Objectives call for establishment of conservation management on BLM and non-BLM lands to benefit tricolored blackbirds, but provides no real specificity as to how this will be accomplished. There is no discussion of actual reserve parcels, durability of the conservation effort, or any funding mechanism.

Third, Audubon is not confident that the DRECP’s monitoring and adaptive planning framework is sufficiently robust to ensure that impacts to tricolored blackbird habitats will be observed and mitigated or redressed in a timely fashion.

3. As Written, the Plan Does Not Provide Adequately Certain Conservation Benefits for Tricolored Blackbird.

Clearly, the fate of the tricolored blackbird depends on factors outside the DRECP Plan Area. However, Audubon is not convinced by the draft Plan that the project will provide a conservation benefit to tricolored blackbirds affected by Plan activities. The Step-down biological objectives require fuller explanation, as well as the Plan’s plan for funding and implementing its adaptive management framework and monitoring components.

REFERENCES

Beedy, E. 2008. *Tricolored Blackbird (Agelaius tricolor)*, in Shuford, W. D., and Gardali, T., editors. 2008. California Bird Species of Special Concern: A ranked assessment of species, subspecies, and distinct populations of birds of immediate conservation concern in California. Studies of Western Birds 1. Western Field Ornithologists, Camarillo, California, and California Department of Fish and Game, Sacramento. Available

at <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=10506>

Graves, E.E. et al. 2013. Understanding the contribution of habitats and regional variation to long-term population trends in tricolored blackbirds. *Ecology and Evolution* 2013; 3(9): 2845–2858

Meese, R.J. 2013. Chronic Low Reproductive Success of the Colonial Tricolored Blackbird from 2006 to 2011. *Western Birds* 44: 98-113.

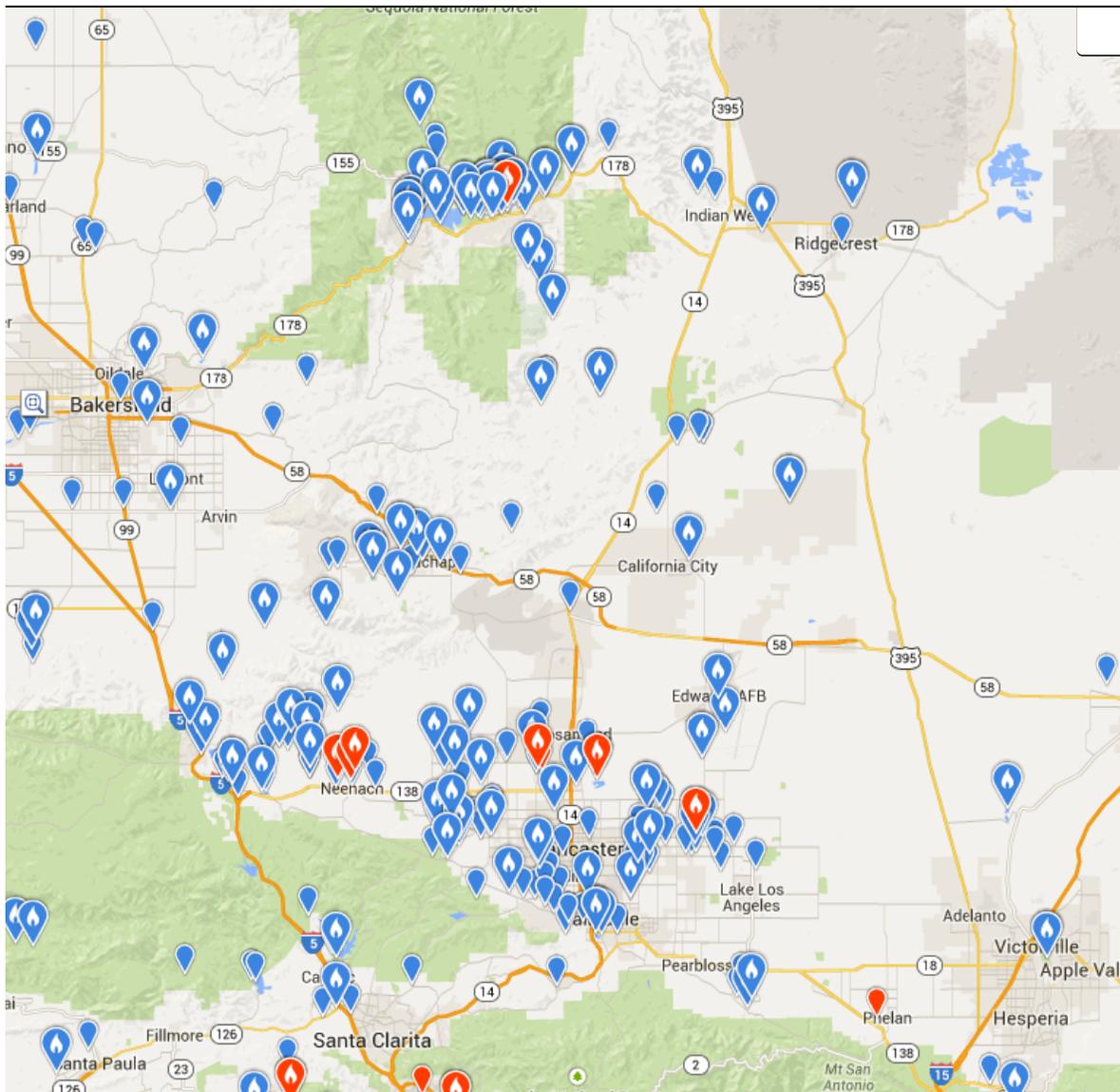
Meese, R. 2014. Results of the 2014 Statewide Tricolored Blackbird Survey. U.C. Davis. July 31, 2014. Available

at <http://tricolor.ice.ucdavis.edu/files/trbl/2014%20Statewide%20Survey%20Final%20Report.pdf>

Species: Tricolored Blackbird

Date: Year-Round, All Years

Location: Enter place name or address...



- Zoom Tool
- Full Species Range
- Terrain
- Street
- Satellite
- Hybrid
- Explore Rich Media
 - Only show locations with photos, audio, or video
- Show Points Sooner
 - Display points at broader scales when possible (2000 points max)



RECENT OLDER (30+ DAYS)

- Birding Hotspot
- Personal Location

TIP Click points to see sightings and checklists at that location



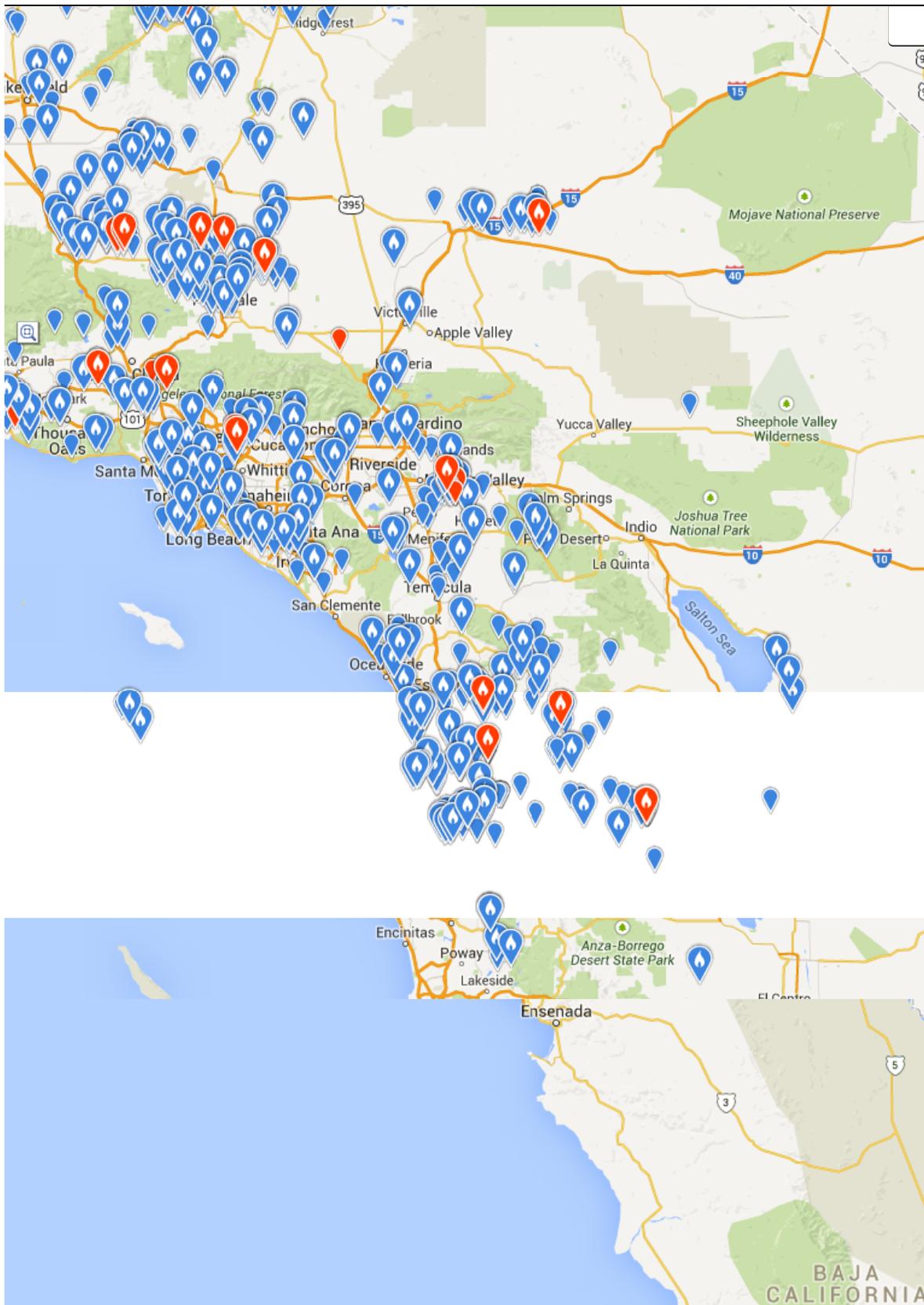
20 km

Map data © Report a map error

Species: Tricolored Blackbird

Date: Year-Round, All Years

Location: Enter place name or address...



- Zoom Tool
- Full Species Range
- Terrain
- Street
- Satellite
- Hybrid
- Explore Rich Media
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RECENT OLDER (30+ DAYS)

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- Personal Location



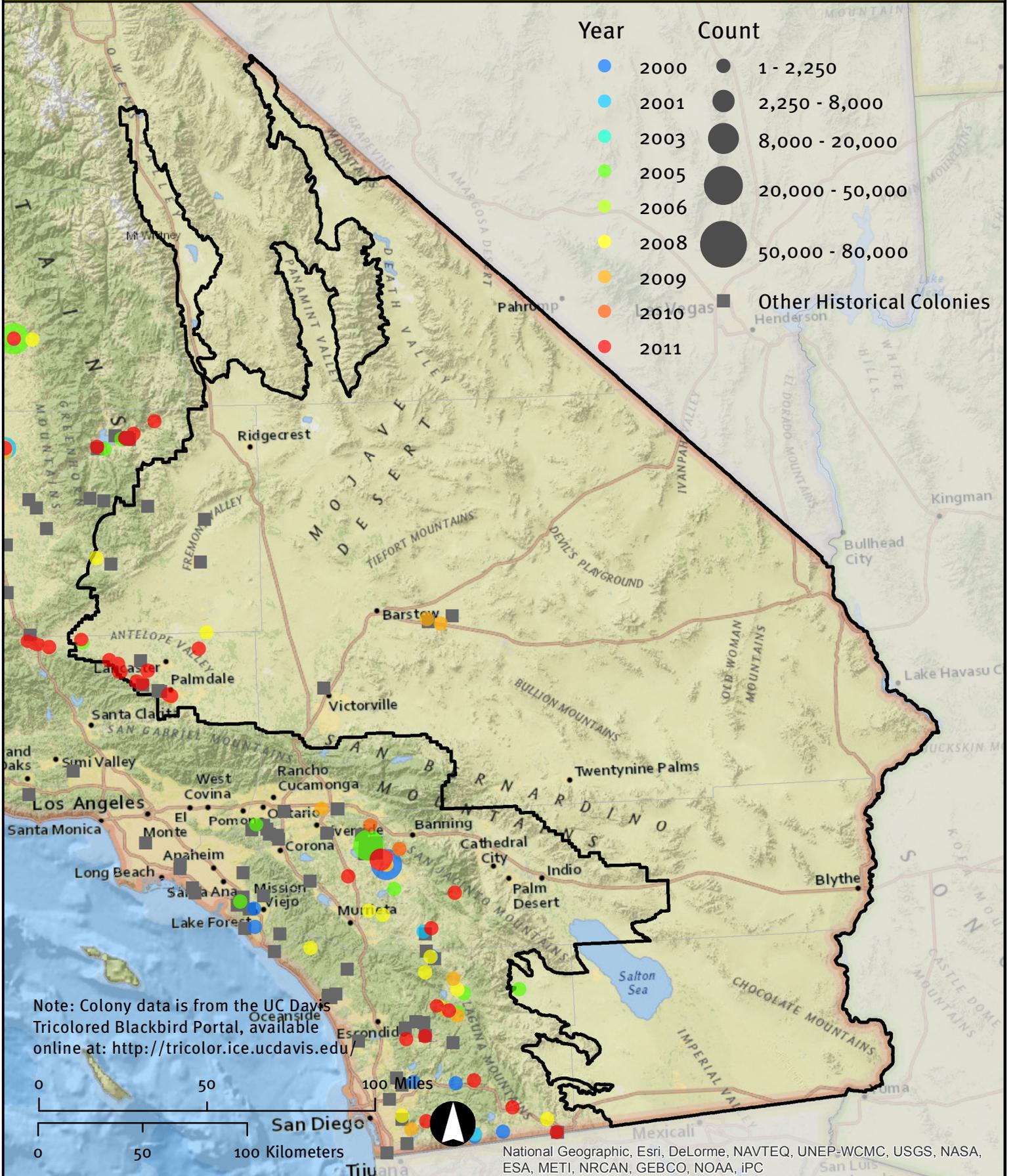
TIP Click points to see sightings and checklists at that location



20 km

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Tricolored Blackbirds Colonies within the DRECP Plan Area



COMMENTS ON IMPORTANT BIRD AREAS

1. The DRECP Preferred Alternative Places Development Focus Areas (DFAs) within Important Bird Areas.

The Imperial Valley Important Bird Area (IBA),¹ the Antelope Valley IBA,² and the Lower Colorado River Valley IBA³ in particular are proposed as DFAs, or are covered in large part by proposed DFAs, in the DRECP's Preferred Alternative. All three are Global IBAs (defined in the subsequent comments), meaning they are of global conservation concern. We are concerned that such large parts of the proposed DFAs in the Preferred Alternative overlap with these Global IBAs, particularly given the fact that DRECP Covered Species triggered the designation of these three IBAs (see table in comment 4 below for details and citations). Specifically, the Imperial Valley IBA is a Global IBA for the Mountain Plover and a Continental IBA for the Burrowing Owl. The Antelope Valley IBA is a Global IBA for the Mountain Plover and the Tricolored Blackbird. The Lower Colorado River Valley IBA is a Global IBA for the Black Rail. Beyond these DRECP Covered Species, the presence of other species also led to the designation of these three IBAs.

Please refer to the comment letter submitted by San Bernardino Valley Audubon Society for more information on this topic. We support their findings and share their concerns.

2. Not all Important Bird Areas within the Plan Area Are Described.

The list of Important Bird Areas (IBAs) within the Plan Area shown in Table III.7-22 is missing the Southern Sierra Desert Canyons IBA, one of the largest IBAs inside of the DRECP boundary. It was approved in 2013. Nearly 86% of its total area lies within the Plan Area

¹ Imperial Valley is designated as an Important Bird Area because it hosts annually more than 10,000 shorebirds, more than 5000 waterfowl, more than 1% of the global populations of Mountain Plover and Long-billed Curlew, more than 10% of the California population of Wood Stork, White-faced Ibis, Gila Woodpecker, and Vermillion Flycatcher, and at least 21 sensitive species, including the endangered Yuma Clapper Rail and Gull-billed tern (Cooper 2004, at 121).

² Antelope Valley is designated as an Important Bird Area because it regularly hosts globally significant numbers of Mountain Plover (up to 176) and Tricolored Blackbird (up to 4000), both of which are DRECP Covered Species. It is also important for the presence of Burrowing Owl and Swainson's Hawk (both DRECP Covered Species), as well as Ferruginous Hawk, Le Conte's Thrasher, Loggerhead Shrike, Long-billed Curlew, Long-eared Owl, Northern Harrier, Short-eared Owl, and Wilson's Phalarope (see Comment 22 below).

³ The Lower Colorado IBA was designated because annually it hosts more than 10,000 shorebirds, more than 5000 waterfowl, more than 1% of the global population of Long-billed Curlew, Yuma Clapper Rail, Southwestern Yellow Flycatcher, and Mountain Plover, nearly the entire CA population of Elf Owl and Arizona Bell's Vireo, and more than 10% of the California population of the Yellow-billed Cuckoo, Gila Woodpecker, Vermilion Flycatcher, Summer Tanager, Least Bittern, Crissal Thrasher, and Lucy's Warbler, and at least 23 sensitive species (Cooper 2004, at 145).

(274,568 acres out of 319,895 acres). Its Audubon Conservation Status is Not Assessed, and the Criteria for Designation is L. This IBA should be included in Tables III.7-22 and III.7-32 and in the design of the DRECP alternatives.

3. The Discussion of Important Bird Areas Does Not Include a Description of Globally Important Bird Areas.

The DRECP defines only “California Important Bird Areas” and does not give the definition of globally Important Bird Areas (global IBAs). Global IBA criteria are defined in the table below (<http://web4.audubon.org/bird/iba/criteria.html>). Global IBA criteria should be included, and Global IBAs should be identified in Table III.7-22.

Global Conservation Concern

Code	Area	Criteria
A1	Global	Site regularly holds significant numbers of a globally threatened species, or other species of global conservation concern
A2	Global	Site holds a significant proportion of a species or assemblage of species (excluding seabirds) whose range is considered restricted (i.e. a world distribution of <50,000 km ²)
A3	Global	Site holds a significant proportion of a species or assemblage of species (excluding seabirds) whose distributions are largely or wholly confined to one biome (world distribution often >50,000 km ²)
A4i	Global	Site regularly supports ≥1% of the North American population of a congregatory waterbird species simultaneously, or ≥5% over a season
A4ii	Global	Site regularly supports ≥1% of the global population of a congregatory seabird or landbird species simultaneously, or ≥5% over a season
A4iii		Site regularly supports ≥20,000 waterbirds or ≥10,000 pairs of seabirds of one or more species <i>(not currently applied in the US)</i>
A4iv	Global	Site represents a 'bottleneck' where ≥5% of the North American population of a migratory waterbird species, or ≥5% of the global population of a migratory seabird or landbird species, regularly passes during the spring and/or autumn migration season

Regional (Continental) IBA criteria are defined in the table below (<http://web4.audubon.org/bird/iba/criteria.html>). Continental IBA criteria should be included, and Continental IBAs should be identified in Table III.7-22.

Regional (Continental) Conservation Concern

Code	Area	Criteria
B1	N. America	Site regularly holds significant numbers of a regionally threatened species, or other species, subspecies, or flyway populations of regional conservation concern
B2		<i>(not applicable at the regional level)</i>
B3	N. America	Site holds a significant component of a species or assemblage of species (excluding seabirds) whose distribution is concentrated in a sub-biome (or BCR)
B4i	N. America	Site regularly supports $\geq 1\%$ of a subspecies or flyway population of a congregatory waterbird species simultaneously, or $\geq 5\%$ over a season
B4ii	N. America	Site regularly supports $\geq 1\%$ of the North American population of a congregatory seabird or landbird species simultaneously, or $\geq 5\%$ over a season
B4iii		<i>(not applicable at the regional level)</i>
B4iv	N. America	Site represents a 'bottleneck' where $\geq 5\%$ of a subspecies or flyway population of a migratory waterbird species, or $\geq 5\%$ of the North American population of a migratory seabird or landbird species, regularly passes during the spring and/or autumn migration season

4. Eight Important Bird Areas in the Plan Area are Globally Important and Include Covered Species.

Eight IBAs in the Plan Area are global IBAs (shown in the table below). Six of these are globally important for DRECP Covered Species, and all eight include DRECP Covered Species, which are bolded and underlined. We also note that the area around Newberry Springs has been proposed as a global IBA because of its value in conserving the state-endangered Tricolored Blackbird.

Global IBA	Criteria	Other Species of Note	Source(s)
Anza-Borrego Riparian	A1 (Bell's Vireo)	Costa's Hummingbird, Ferruginous Hawk, Le Conte's Thrasher, Loggerhead Shrike, Long-eared Owl, Lucy's Warbler, Northern Harrier, Summer Tanager, <u>Swainson's Hawk</u> , Vermillion Flycatcher, Yellow Warbler, Yellow-breasted Chat	http://netapp.audubon.org/iba/Reports/258
East Mojave Peaks	A1 (Pinyon Jay)	<u>Bendire's Thrasher</u> , Crissal Thrasher, Gilded Flicker, <u>Golden Eagle</u> , Gray Vireo, Long-eared Owl, Prairie Falcon, White-throated Swift	http://netapp.audubon.org/iba/Reports/264
Edwards Air Force Base	A1 (<u>Tricolored Blackbird</u>)	<u>Burrowing Owl</u> , Ferruginous Hawk, Le Conte's Thrasher, Loggerhead Shrike, Long-billed Curlew, Long-eared Owl, Northern Harrier, Prairie Falcon, Redhead, Short-eared Owl, Snowy Plover, White-faced Ibis, Yellow-headed Blackbird	http://netapp.audubon.org/iba/Reports/266
Imperial Valley	B1 (<u>Burrowing Owl</u>) A4i (Long-billed Curlew) A1, A4i (<u>Mountain Plover</u>) A4i, B1 (Whimbrel)	Albert's Towhee, <u>Black Rail</u> , Black Tern, Black-tailed Gnatcatcher, Cattle Egret, <u>Clapper Rail (now known as Ridgway's Rail)</u> , Crissal Thrasher, Ferruginous Hawk, Fulvous Whistling-Duck, <u>Gila Woodpecker</u> , Gull-billed Tern, Laughing Gull, Least Bittern, Loggerhead Shrike, Lucy's Warbler, Northern Harrier, Redhead, Ring-billed Gull, Ross's Goose, <u>Sandhill Crane</u> , Short-eared Owl, Snow Goose, Vermilion Flycatcher, White-faced Ibis, Wilson's Warbler, Wood Stork, Yellow-footed Gull, Yellow-headed Blackbird	http://netapp.audubon.org/iba/Reports/269
Antelope Valley	A1 (<u>Mountain Plover</u>) A1 (<u>Tricolored Blackbird</u>)	<u>Burrowing Owl</u> , Ferruginous Hawk, Le Conte's Thrasher, Loggerhead Shrike, Long-billed Curlew, Long-eared Owl, Northern Harrier, Short-eared Owl, <u>Swainson's Hawk</u> , Wilson's Phalarope	http://netapp.audubon.org/iba/Reports/270
Lower Colorado River Valley	A1 (<u>Black Rail</u>)	Albert's Towhee, <u>Bell's Vireo</u> , <u>Burrowing Owl</u> , <u>Clapper Rail (now known as Ridgway's Rail)</u> , Crissal Thrasher, Elf Owl, Ferruginous Hawk, <u>Gila Woodpecker</u> , Gilded Flicker, Harris's Hawk, Least Bittern, Loggerhead Shrike, Long-billed Curlew, Long-eared Owl, Lucy's Warbler, <u>Mountain Plover</u> , Northern Cardinal, Northern Harrier, <u>Sandhill Crane</u> , Summer Tanager, Vermilion Flycatcher, Whimbrel, White-faced Ibis, White-throated Swift, <u>Willow Flycatcher</u> , Yellow Warbler, <u>Yellow-billed Cuckoo</u> , Yellow-breasted Chat, Yellow-	http://netapp.audubon.org/iba/Reports/271

Global IBA	Criteria	Other Species of Note	Source(s)
		headed Blackbird	
Salton Sea	A4i (American Avocet) B1 (Black Skimmer) A4i (Black-necked Stilt) B1 (<u>Clapper Rail, now known as Ridgway's Rail</u>) A4i (Long-billed Dowitcher) A4i, B1 (Marbled Godwit) A4i (Ring-billed Gull) A4i (Ruddy Duck) A4i, B1 (Short-billed Dowitcher) A4i, B1 (Snowy Plover) A4i (Western Sandpiper) B1 (Wilson's Phalarope)	Albert's Towhee, American White Pelican, Black Rail , Black Tern, Brown Pelican, Burrowing Owl , California Gull, Clark's Grebe, Crissal Thrasher, Double-crested Cormorant, Eared Grebe, Fulvous Whistling Duck, Gull-billed Tern, Laughing Gull, Least Bittern, Loggerhead Shrike, Mountain Plover , Northern Harrier, Redhead, Savanna Sparrow, Short-eared Owl, Stilt Sandpiper, Western Grebe, Whimbrel, White-faced Ibis, Wood Stork, Yellow-footed Gull, Yellow-headed Blackbird	http://netapp.audubon.org/iba/Reports/215
Santa Clara River Valley	A1 (<u>Bell's Vireo</u>) A1 (Heermann's Gull) A1 (<u>Tricolored Blackbird</u>)	Cactus Wren, California Thrasher, Costa's Hummingbird, Golden Eagle , Loggerhead Shrike, Long-eared Owl, Nuttall's Woodpecker, Oak Titmouse, Summer Tanager, Swainson's Thrush, White-throated Swift, Willow Flycatcher , Wrentit, Yellow Warbler, Yellow-breasted chat	http://netapp.audubon.org/iba/Reports/251

References

Cooper, D.S., 2004. *Important Bird Areas of California*, Audubon California.

COVERED SPECIES OF BIRDS IN AGRICULTURAL LANDS IN ANTELOPE VALLEY AND IMPERIAL VALLEY

The DRECP has identified Development Focus Areas in the Antelope Valley and Imperial Valley that include 950,000 acres of which have been identified by National Audubon Society as globally significant Important Bird Areas because of the number of sensitive species and the high concentrations of birds, primarily in agricultural lands. Covered Species of birds in these lands include burrowing owl, sandhill crane, Swainson's hawk, tricolored blackbird, most of which use the agricultural fields for foraging, roosting and wintering.

While the DRECP identifies these acres for development, the DRECP makes no effort to identify reserves for Covered Species in these lands as required by the NCCP or an HCP, nor to refine these DFAs for conservation, only for development.

The DRECP provides only minimal Avoidance and Mitigation measures for agricultural areas, and fails to include agriculture in the Reserve Design Envelope.

Audubon recommends that the draft be revised to refine Imperial Valley and Antelope Valley DFAS and the CMAs and DREPC document to include:

1. A spatial Analysis of Prime Farmland and Farmland of Statewide Importance in the DFAs as well as crop types to identify opportunities for conservation of Covered Species and a basis for a reserve design and areas that developers may wish to avoid. Counties require mitigation for the loss of this farmland, as does California's Department of Conservation. Kern County and Los Angeles County have successfully combined mitigation for loss of Prime Farmland and Farmland of Statewide Importance and loss of foraging habitat for Swainson's hawk in the Antelope Valley, and the DRECP could incorporate this mechanism for mitigation. (*see* Mitigation Measures in FEIR for Antelope Valley Solar Project and Rosamond Solar Project, Kern County)
2. A Spatial analysis that identifies conservation investments in Antelope Valley and Imperial Valley in a reserve design for Covered Species in a RAMP (Rapid Advance Mitigation Planning) strategy to identify lands of conservation interest in as well as around agricultural areas. Shape files are available from land trusts and conservancies, and have been submitted to DRECP but have not appeared in the analysis or mapping of the DFAs. These can be acquired from local land trusts such as Transition Habitat Conservancy, Antelope Valley Land Trust, Deserts and Mountains Conservancy, Riverside Conservancy and others.

3. Reauthorization or recreation of legislation similar to SB34 or provide a similar mechanism through DRECP to assist local land trusts in financing gaps for acquiring conservation lands for Covered Species.
4. Re-define Biological Goals & Objectives and CMAs to be specific to Covered Species in agriculture.
5. Provide mitigation compensation for loss of agricultural habitat with conservation of agricultural habitat as well as natural habitat. For example, The DRECP document relies on conservation of native lands to mitigate for impacts to Burrowing Owl in Imperial Valley. The Imperial Valley is a particularly important region for Burrowing Owls, with approximately 70% of the known California population occurring in this region during the summer. (Audubon California (2009))
6. Revise CMAs and Biological Goals & Objectives for agricultural lands to include recommendation from (Audubon California, *Bird Habitat Use and Conservation in the Agricultural Landscape of Imperial Valley*, California, prepared for Imperial Irrigation District, 2009).

As water conservation and other projects are implemented to satisfy Imperial Irrigation District's requirements under the Quantification Settlement Agreement, we recommend that the following conservation measures and monitoring take place to improve bird conservation in the region:

- Maintain flood irrigation in portions of the Valley to provide habitat for waterbirds
 - Prioritize long-term field retirement (fallowing) that includes native habitat restoration
 - Restore field margins and canals to native habitat
 - Implement monthly roadside bird surveys every three years
 - Track changes in agricultural habitat across the Imperial Valley every three years
 - Conduct focused surveys for rare, patchily distributed, or difficult to detect species
 - Examine bird response to alternative irrigation methods and fallowing
 - Conduct more detailed surveys of habitat use by raptors
 - Assess importance of landscape composition to birds using agricultural fields as habitat
7. Include the HCP currently being created for Imperial Irrigation District in analysis of Imperial Valley and Covered Species.
 8. Revise the Reserve Design Envelope to be realistic to meeting the Biological Goals & Objectives of Covered Species in agriculture. The Nature Conservancy, in its

comment letter, provided a methodology for assessing whether the quantitative biological goals and objectives that were identified for each covered species and natural community could be met through implementation of the Reserve Design Envelope. This analysis is presented in the form of a graph that shows to what extent the various elements of the Reserve Design Envelope meet the suggested conservation objectives for each species. This analysis also shows where DFAs, if fully developed, would preclude species from meeting their conservation targets. Please refer to The Nature Conservancy's letter for further explanation of this analysis which addresses Antelope Valley and Imperial Valley agricultural areas.

Section I.3.4.4.1 of the DRECP DEIR/DEIS describes one of the primary purposes of the reserve design development process as being to “identify areas not important for the conservation of Covered Species, natural communities, and associated landscape features and processes where siting renewable energy development would have the least conflicts with biological resources.”

Page I.3-24 says that “Disturbed lands mapping and intactness analyses, from multiple sources, were used to further identify degraded and less ecologically intact areas considered less important for the reserve design.” It goes on to say that “the reserve design process identified disturbed lands as including cultivated croplands...”

Furthermore, according to page I.3-26, the “approach involved creating a composite map of important areas for key Covered Species, natural communities, and processes (i.e., the reserve drivers).” The reserve drivers did not include any avian species, let alone those that depend on agricultural lands or cultivated croplands that are by definition in this document considered “less important for the reserve design” (see previous paragraph).

For this reason, it seems clear that Covered Species that depend on agricultural lands, such as Swainson's hawk, burrowing owl, mountain plover, and tricolored blackbird, are left behind in the reserve design. Their habitat is by definition in this document considered “less important” and they themselves are not considered in the analysis at all, as far as we can determine. For these reasons, we consider the reserve design to be woefully inadequate for agricultural species. We further note that this reserve design is the basis for all Alternatives (page I.3-21: “The reserve design envelope was used to create a DRECP Plan-Wide Reserve Design Envelope for each action alternative.”). This seems especially harmful given that the four species mentioned here are Covered Species under the plan, and given that part of the plan's stated purpose is to contribute to their conservation and recovery.

Adaptive Management Monitoring Recommendations

For adaptive management monitoring in agricultural lands particularly the Imperial Valley Audubon recommends specifically these protocol be incorporated into the DRECP adaptive management monitoring regimes.

1. Implement monthly roadside bird surveys every three years using the methods and transects applied by PRBO in 2007 for Imperial Valley. This limited number of transects (20) should make regular implementation feasible. The same transects and methods should be used so that changes in diversity and abundance of birds can reliably be tracked over time and compared to results from earlier surveys. We also recommend that the changes in methodology proposed by PRBO (2008) be implemented as part of these surveys, including increased efforts to better describe seasonal trends by species.
2. Conduct focused surveys for rare, patchily distributed, or difficult to detect species. Difficult to detect species were likely not well surveyed during the roadside surveys. Such species-specific surveys will improve understanding of how important the Imperial Valley and Antelope Valley are for these species. Greater sandhill cranes are not abundant in the Imperial Valley, but there is some evidence that their numbers may be increasing during the winter. Focused surveys for this species are also needed since they tend to occur in localized flocks (similar to mountain plovers) and distinguishing among greater and lesser sandhill cranes can be challenging.
3. Track changes in agricultural habitat across the Imperial Valley and Antelope Valley every three years. These data would also help track the likely impacts of changes in agriculture due to the implementation of the Transfer Agreement and water adjudications in Imperial and Antelope Valleys.
4. Examine bird response to alternative irrigation methods and fallowing. As water conservation measures are implemented over time, it will be important to understand how species that prefer irrigated agricultural fields respond to changes in irrigation strategies. For example, how do specific bird species respond to sprinkler or drip irrigation relative to standard flood irrigation? Also, if deficit irrigation is implemented, what are the effects of this on the use of these fields by birds?
5. Conduct more detailed surveys of habitat use by raptors. As noted by PRBO (2008), roadside surveys of raptors result in detections on perches along roadways with relatively little information on which fields are being used and how. Focused behavioral surveys on foraging activity would provide valuable information on which fields are providing habitat for raptors. Another option would be to conduct studies of movement and field selection by different raptor species using radio- or satellite transmitters. Such a study would provide the greatest detail on how raptors are using agricultural fields in the Imperial Valley.
6. Assess importance of landscape composition to value of agricultural fields as habitat. Many bird species rely on different habitat elements for roosting, foraging, and

nesting. As a result, the value of particular agricultural fields as habitat will often depend on what other habitat elements are available within a certain distance. This is not well understood for most species. Thus, collecting information on the presence of specific features in the landscape (e.g. open water, riparian woodland or scrub) along with information on use of agricultural fields will improve ability to manage the landscape for the benefit of target bird species.

REFERENCES

Audubon California. 2009. *Bird Habitat Use and Conservation in the Agricultural Landscape of Imperial Valley*, California, prepared for Imperial Irrigation District

PRBO Conservation Science. 2008. Conservation blueprint for birds in the Imperial Valley. Report prepared for Audubon California, September 2008. 76 pages.