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Solar Energy PEIS Scoping
Bureau of Land Management
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Submitted online:
https://eplanning.blm.gov/eplanning-ui/project/2022371/510

RE: December 8, 2022 Notice of Preparation of a Programmatic Environmental Impact Statement (PEIS) for a revision (Revision) of the Bureau of Land Management (BLM) Western Solar Plan (2012 PEIS).

Dear Jeremy:

Thank you for initiating a revision (Revision) of the 2012 BLM Solar Programmatic Environmental Impact Statement (Solar PEIS). The current Revision is timely and welcome, and we look forward to the Draft Environmental Impact Statement (DEIS)

Introduction and Background

Audubon's 2109 climate science at https://climate.audubon.org reveals that 389 species of North American birds may go extinct if warming reaches 3° Celsius above pre-industrial levels.

Audubon is committed to a rapid deployment of 100% clean energy to achieve net zero greenhouse gas emissions from the energy sector. Solar development on public lands play an important role in meeting this goal and we support the Administration's goal of 25GW of clean energy on public lands by 2025.

For birds, many other wildlife species, and overall biodiversity, however, clean energy planning must do more; it must also preserve both key resources and habitats needed in coming decades

as warming increases as well as protect resilient climate strongholds that will provide a safe haven for many decades to come. These issues are especially true in the arid West, where increasing renewables development while protecting habitats and species in a biodiversity crisis is most challenging.

For over one hundred years Audubon has protected birds and the places they need, today and tomorrow throughout the Americas using science, advocacy, education, and on-the ground conservation including a long history of engagement and collaboration with BLM on conservation of species and lands managed by BLM. We appreciate and value that collaboration. We engaged extensively with our eNGO partners, the solar industry, wildlife agencies, BLM and the Department of the Interior on the 2012 Solar PEIS and the subsequent revision of that plan for California's Desert Renewable Energy Conservation Plan (DRECP) adopted in 2016. We intend to continue that participation throughout the current, ongoing Revision process with the goal of guiding needed clean energy to the best places on our public lands, a mission that has become foundational to our advocacy.

Our comments on the N.O.P. and the scope of the analyses in the upcoming Revision of the 2012 BLM Solar PEIS follow.

The Purpose and Need stated in the 2012 FEIS is appropriate for the Revision although the urgency of the need to rapidly deploy clean energy on public lands to combat climate change as stated in the current Administration's Executive and Secretarial Orders should be included to represent that the need and purpose of the Revision are more urgent than ever.

> *The BLM has identified a need to respond in a more efficient and effective manner to the high interest in siting utility-scale solar energy development on public lands and to ensure consistent application of measures to avoid, minimize, or mitigate the adverse impacts of such development.*

Executive Summary of our Comments

Audubon recommends that the scope of the Revision in the National Environmental Policy Act (NEPA) be narrowed to the issues and actions presented in the 2012 PEIS in order to finalize the ROD in a timely fashion, to provide a thorough and defensible scientific analysis of each revised issue or action, and to result as quickly as possible in a more efficient and effective rapid deployment of solar energy on BLM lands.

Accordingly, Audubon recommends that the Revision narrow the scope of analysis as follows:

1. **Exclude revision of DRECP in California.** We understand this has been done as of February 28, 2023.
2. **Revise only the 6 Western states** in the original 2012 PEIS.
3. **Limit the analysis to PV solar only**, excluding wind energy, geothermal or other solar technologies that would require different analyses of impacts, exclusions, and "priority areas".
4. **Identify "priority areas" that have market appeal for solar developers** due to proximity to transmission, accessibility of existing roads and where permitting and mitigation costs are economically reduced by avoiding conflicts with wildlife, conservation and cultural values.
5. **Exclude additional lands and processes not currently excluded but proposed for conservation protections** such as ACECs, Wilderness Areas, Wilderness Study Areas, Wild and Scenic Rivers or lands and rivers in Regional Management Plans under revision that conserve environmental or cultural resources.
6. **Thoroughly analyze the impacts of opening additional acreage of lands with changes in technical exclusions of slope and insolation** and limit the revisions of those technical exclusions in order to limit the environmental analysis needed**.**

We elaborate on these six points in the following paragraphs.

Audubon also recommends that the BLM also consider analyzing in the PEIS two alternatives we propose later in this document:

1. **The Transmission Access Alternative**
2. **The Renewable Energy and Conservation Alternative.**

Response to questions proposed by BLM in the December 8, 2022 Federal Register Notice of the N.O.P.

1. **Should DRECP be included in the revised PEIS?**

   The Desert Renewable Energy Conservation Plan was a revision of the 2012 BLM Solar PEIS in a partnership between BLM, US Fish & Wildlife Service, California Energy Commission and California Department of Fish & Wildlife. The ROD was signed in 2016. The Plan was not litigated by any of the stakeholders, and the solar projects that have been developed under the DRECP have also not been litigated. So far solar development in the DRECP area on BLM lands has brought 2,400 MW of solar in operations since 2016 and another 10,000 MW of solar applications currently in process to meet California's SB100 legislated goal to achieve 100% clean energy by 2045. The planning goal for the DRECP is 20,000 MW by 2040. This goal informed the environmental analysis by California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA), the acres of Development Focus Areas that

might be needed, and the potential mitigation that might be needed if the goal was reached. The DRECP is working as planned.

Recommendation: Do not include the DRECP in the Revision.

In fact, we recommend that elements of the DRECP LUPA process be replicated for the Revision in the six states. Those elements are:

a. **Set a planning goal in MW** for the Revision to inform planning and environmental analysis that aligns with current federal climate goals contributing to the ultimate federal goal of 100% clean energy and net zero emissions. In the DRECP, this goal was not a legislative nor government mandate nor a floor nor ceiling but framed the scope of the analysis needed, including the exclusion of additional lands beyond the 2012 PEIS and the intention of the planning effort more narrowly. The Revision could consider such an action in the DEIS. The Administration has set a goal of 25GW of clean energy on public lands by 2025. We support this goal and the BLM should consider what part of this goal would be appropriate for the 6 states in the Revision.
b. **Add new science to environmental baseline data.** The State and Federal agencies partnering on the DRECP spent millions of dollars on collecting baseline data for the landscape level analysis of the DRECP Plan Area and incorporated the best available science from state and federal resource agencies and from BLM. This data was critical in identifying Development Focus Areas and in providing data to developers for initial desktop analyses and in determining lands for exclusion and upgraded conservation designation.
c. **Use the best and most recent environmental science.** There has been a great deal of new science developed on solar energy impacts on lands, cultures and species, and new science on the species themselves. BLM should not rely only on the science used in the 2012 PEIS.
d. **Identify BLM conservation areas to consider for higher conservation status while defining areas for development.** The DRECP identified 388,000 acres of Development Focus Areas and balanced the potential impact with a concurrent process with a Biological Conservation Strategy that identified BLM Conservation Areas which could be upgraded for higher conservation designations by BLM, Congress or the President. Subsequent actions by BLM, Congress and the President justified the identification of these areas by stakeholders during the DRECP process. The DRECP prepared a Biological Conservation Strategy and identified lands that were key to that Conservation Strategy: National Landscape Conservation System (NLCS) Lands, Wild and Scenic Rivers, and National Scenic and Historic Trails), ACECs, and Wildlife Allocations

Ensure compatibility with updated guidance for Consideration of Areas of Critical Environmental Concern designations in Resource Management Plans and Amendments (IM 2023-013). In accordance with Federal Land Policy and Management Act (FLPMA), which requires the Bureau of Land Management (BLM) to "give priority to the designation and protection of areas of critical environmental concern" in the development and revision of land use plans (43 USC 1712(c)(3)), the guidance directs the BLM to inventory, evaluate, designate, manage and implement actions to protect values in areas that meet the relevance and importance criteria for an ACEC.

Recommendation: Use elements of the DRECP as a model for the Revision

National Audubon Society has numerous science layers that we think could help to inform this scoping effort and illuminate areas important to birds, avian migration and climate resilience. On birds and bird habitat, Audubon recommends using the following science and data in the DEIS analysis:

1. **Important Bird Areas (IBAs)** are places of global, continental, or regional significance for the conservation of birds and other biodiversity. As the U.S. partner for BirdLife International, Audubon spearheads an ambitious effort to identify, monitor, and protect IBAs and the science team maintains a national database of sites and communicates with the global program. Audubon IBA spatial data can be requested at https://survey123.arcgis.com/share/2845d3994d44426b8aef9c2830367a95
2. **Climate Strongholds** are areas Audubon identified as priorities for conserving bird habitat in the face of climate change. These are a network of areas across the U.S. that are predicted to have high climate suitability and low human modification for birds at present and under a business-as-usual climate-change scenario. https://onlinelibrary.wiley.com/doi/10.1111/ecog.06401 Spatial data is available for download at this website https://datadryad.org/stash/dataset/doi:10.5061/dryad.0cfxpnw5z
3. **Full Annual Cycle** data are areas identified by Audubon's Migratory Bird Initiative by integrating tracking, banding, migratory connectivity, and bird distribution data that encompass all stages of the annual cycle: breeding, non-breeding, and migration. We look forward to fully sharing and discussing this information once data sharing and peer review, currently in process, have been finalized.

Appendix 1 contains maps using currently available Audubon data to highlight areas important to birds now and in the future within the planning area. We welcome further discussion of the data that we could contribute to this effort.

In addition to the data described above, we recommend the BLM consider data on special status species, particularly ones that could lose key habitats as a result of solar development; direct loss of habitat is the main known impact of utility scale solar development.

> ***Recommendation: Use Audubon Important Bird Areas, Climate Strongholds, and Full Annual Cycle predictions for broad scale evaluation, and fully consider habitat loss of special status species***

2. Should PEIS include wind energy?

The scope of the PEIS should not include wind energy for the following reasons:

a. **The Revision is ambitious enough** and needs to be completed in the remaining time of less than two years of the current Administration and BLM leadership. While we recognize the need for comprehensive planning, adding additional analyses beyond needed updates to the Revision or the PEIS may delay or complicate the final PEIS and Record of Decision (ROD) and delay rapid deployment of PV solar on BLM lands.
b. **There is already a process for wind.** BLM prepared a Wind PEIS1 in June 2005 and a Competitive Leasing Rule for Wind and Solar Leasing in 20162 as well as a 2009 IM 2009-043 Wind Energy Development Policy Instruction Memorandum.3 We recognize the value of a revision of the Wind PEIS, but recommend that this revision should be done as its own revision of the 2005 Wind PEIS incorporating the elements of that program and revising them in its own stakeholder process and with its own environmental analysis.
c. **The acreage left for wind energy after applying the current Exclusions in the Solar PEIS may be too minimal to incentivize development.**
d. **The resource, opportunities, and constraints of wind and solar are fundamentally different.** Revisions of the Wind PEIS should include exclusion areas based on the unique impacts of wind energy and the distinct siting, ancillary infrastructure, resource impact, land use, and mitigation considerations of wind energy development.
e. The area of intersection of all BLM lands (beyond the Solar PEIS states) with wind energy development potential is only .6% according to recent research.[4] This minimal development potential remaining on BLM lands may not warrant a revision.
f. **If BLM should revise the wind PEIS in a separate process, we recommend that BLM start with the 5 states that BLM is considering including in the Revision**, especially

[1] https://windeis.anl.gov/ last accessed 1/31/2023
[2] Ibid
[3] Ibid
[4] https://figshare.com/collections/Global_development_potential_indicies_for_renewable_energy_fossil_fuels_mining_and_agriculture_sectors/4249532 last accessed January 31, 2023

Wyoming, Idaho and Montana where wind energy resources and potential conflicts are the greatest.

Recommendation: Exclude wind energy from the Revision due to fundamentally different technologies, resources, and impacts; for multiple reasons, wind energy is a poor fit for the Revision

3. **Should the PEIS identify new areas for solar energy development including in added states?**

   a. **Yes, this assessment should take a closer look at lands in states currently covered by the Solar PEIS** and determine whether modifications or additions are needed for those areas identified as Solar Energy Zones (SEZs) and identify new "priority areas" for solar energy development. Solar energy priority areas should be in areas with the lowest potential resource conflicts, close (within 10 miles) to transmission and with existing roads to attract development and protect resources.

   b. Do not include additional states; the Revision is ambitious enough and needs to be completed in the remaining time of less than two years (including weekends) of the current Administration and BLM leadership. We are concerned that adding additional analyses to that PEIS may delay or complicate the final BLM Solar PEIS and Record of Decision (ROD) by extending the analyses in the PEIS to five additional states. Rather, we recommend analysis of the additional five states be undertaken as a separate, phased, future analysis. The five additional states proposed for analysis by BLM in the Revision will not have the benefit of the baseline environmental analyses that were conducted and analyzed for the 2012 PEIS. BLM would need to collect new data, and this merits additional time and resources as will the updates of RMPs and other plans that may be needed in the 5 additional states to finalize a Record of Decision for a group of states or each state individually. We do however, recommend that a process be considered for states that have solar resources where the need for a PEIS is demonstrated.

   c. Some proposed states have insufficient BLM lands, such as Washington with only 422,000 acres many of which are conservation areas excluded from solar development – and there may not be a demonstrated need to analyze or propose solar priority areas or exclusions in all additional 5 states.

   d. Solar projects can still be proposed and developed on BLM lands in those states, and this limits the purpose and need to engage in a planning or programmatic process in each states where the need for permitting efficiency is not great.

   e. Stakeholder outreach for new states is incomplete; the BLM must allocate the necessary time to meet with States, Tribes, and stakeholders in those additional states and to possibly establish an MOU or other agreement.

Recommendation: Identify new "priority areas" for solar energy development in the existing states as a top priority; once that is complete additional states can individually or collectively undergo a PEIS process and benefit from lessons learned with the Revision.

4. **Should BLM include the variance application process in the EIS or whether the variance procedures would more appropriately be effectuated by other means, such as through regulation or policy? Should the variance process be continued?**

   a. **The variance application process can be and is already managed through regulation or BLM policy and does not need to be separately analyzed in the Revision.** Inequities in rental payments in Solar Energy Zones vs. variance areas or competitive leasing processes and other lessons learned in the variance application process have been and can be fixed with regulation and policy, most recently by IM 2023-015. We also understand that a proposed rule that would revise the BLM's regulations for Rights-of-Way, Leasing and Operations for Renewable Energy and Transmission Lines is currently underway (as published in the Unified Agenda). These examples and the many projects that have been approved in the variance process tell us that the variance land application process is working, should be continued, and can be updated or revised as needed through policy and regulation. That said, we note it is important for the Solar PEIS to consider processes and procedures in a way that maintains consistency with these other rulemaking processes and any associated NEPA analyses.

      Suggested administrative or regulatory procedures we recommend include:

      i. **Prioritize variance applications with a criteria that prioritizes minimum distance to transmission interconnection and substations and siting on least conflict lands with conservation and cultural resources.**
      ii. **Limit gen-tie length for variance projects**. We suggest that 10 miles on either side of transmission interconnection may be a feasible distance and minimize the need for long gen-tie lines, which are economically less feasible for developers and environmentally more destructive.
      iii. **Wherever possible, underground gen-ties**; this may be an environmentally superior alternative in project review. We elaborate further on this in our Transmission Access Alternative below.

Recommendation: Continue to include the variance application process as an option, fine tuning the process through policy and regulation and maintaining consistency with associated regulations

Recommendation: Use distance to power infrastructure to prioritize variance applications and incentivize shorter gen-ties.

Recommendation: Incentivize underground gen-ties wherever possible

5. Should exclusion criteria be revised? Should the Bureau establish similar exclusion criteria for wind energy development?

a. **The Technical Exclusions of slope and insolation warrant a detailed and public analysis** We separate the Exclusion Areas for solar into two categories: Technical and Land Exclusions. The 2012 BLM Solar PEIS was developed assuming that Concentrating Solar Power (CSP), implemented using trough style reflectors with fluid-filled pipes that require graded sites, would be a dominant technology. Photovoltaic solar that can be installed on sites with more diverse topography is now the rule. This reality has led to a request for feedback on increasing the slope cutoff past 5% as was previously established. These proposed changes would have drastically different implications across the six southwestern states, however, driven both by inherent variations in topography as well as variations in the extent of exclusions defined by each state office during the original PEIS process.

As previously stated, Audubon does not support changes in any of the 2012 Solar PEIS non-technical exclusions except the addition of ACECS, Wilderness Areas, Wilderness Study Areas and lands in RMPs that have been proposed but not yet decided. Regarding technical exclusions, the low insolation exclusion imposed in the 2012 PEIS likely doesn't accurately reflect current development constraints. However, we have no position on what the best value is for current and future technology or access to the granular, proprietary data needed to evaluate solar resource with the accuracy needed. We strongly suggest that the BLM make available spatial data to show stakeholders areas likely to open up at lower levels of insolation; asking questions about relaxing these technical exclusions without providing sufficient data does not serve the NEPA process.

For the slope criteria we were able to complete an analysis using 10-meter National Elevation Dataset data provided by USGS.[5] These data, while publicly available, are not distributed at statewide extents, and the analysis was only possible because of a timely response to a special bulk data download request. We are presenting this in our comments in lieu of any official data from the BLM, and again note the necessity of a full exploration of this issue in the DEIS.

The analysis is based on several assumptions: that only areas up to 15% slope would be opened and that only areas greater than 300 acres and closer than 20 miles from transmission are viable for development. These assumptions and this analysis represent a first cut analysis intended to scope the resources potentially at stake in these areas and the analysis effort required for the PEIS. They are a thumbnail sketch of the detail we expect in the DEIS.

Statewide results with the two ranges of slope and two maximum distances from current and planned transmission are presented in Appendices to these comments.

Nevada has by far the largest area subject to slope exclusion; due to the basin and range topography, there are large areas in the transition zones between these two landforms that would open and few exclusions to protect them. Utah has the second most overall area but almost no area large enough or close enough to transmission to use for solar development on BLM lands. California's non-technical exclusions and the DRECP allow for little change in developable area despite having a large amount of slope exclusion area overall. Colorado has moderate overall slope exclusion area and a moderate number of acres that would be available, Arizona has a large slope exclusion area but no areas would open given exclusions. New Mexico has the least area of total slope exclusions but still would have new areas available if development were allowed on more moderate slopes up to 15%.

Evaluating development in areas greater than 15% seems both unwise and unneeded. As shown in the final columns below, the total high slope exclusion area is over 63 million acres; of that we have identified a maximum of just over 3.7 million acres as high development potential using the criteria above. Analysis of additional acres that are unlikely to be developed in coming decades in sensitive upland habitats that may have greater risk of erosion and other detrimental impacts is a poor use of resources that the BLM should be using to drive home a solution for the most probable acres. There's no indication that developers are interested in these higher sloped areas; demand for these

[5] United States Geological Survey (2021). United States Geological Survey 3D Elevation Program 1/3 arc-second Digital Elevation Model. Distributed by OpenTopography. https://doi.org/10.5069/G98K778D

lands should be strongly supported or the effort is not justifiable. Detailed results by state are presented in Appendix 2. These detailed results present acreage estimates for the four different slope scenarios as an indicator of the level of environmental review that would be needed to evaluate these sites in the PEIS.

b. Land Exclusions should be expanded to include lands and processes currently proposed for conservation protections such as ACECs, Wilderness Areas, Wilderness Study Areas, and lands in unfinished Regional Management Plans that conserve environmental or cultural resources, as mentioned in our response to Question 1. We see the PEIS revision as an opportunity for BLM to evaluate, list and include RMP updates, ACEC proposals and amendments, and any other pending land designations awaiting BLM decisions in the analysis of Exclusions. We also recommend that BLM look at Climate Strongholds, Biodiversity Hotspots, and Habitat Connectivity Areas as potential exclusion areas.

While the mapping and protection of big game corridors has rightfully captured public attention and resources, birds also migrate and use some of the same ecologically intact areas for habitat during migration, breeding and wintering. As mentioned previously, Audubon has a considerable amount of data including mapping of avian migration. Consistent with BLM IM 2023-005 – Habitat Connectivity on Public Lands, BLM should review species whose populations move across the landscape seasonally, as well as those that rely on connected landscapes for genetic dispersal and adaptation to climate-driven changes in habitat distribution. We encourage BLM to assess the connectivity needs for the most sensitive species in the plan area to ensure that solar development is excluded from the areas they require. In addition to focusing on the connectivity needs of individual sensitive species, it would be valuable to protect key nodes or corridors of intact habitat that are likely to facilitate the movement of a wide range of species when considering exclusion areas.

c. **The Bureau should not establish exclusion criteria for wind energy in the Revision** but should consider this is in a separate Wind PEIS revision if warranted, as previously stated.

Recommendation: Provide sufficient information to allow for meaningful comment on this issue; this is information that should have been provided to stakeholders in the current phase of the process given the sweeping implications and unpredictability of where they would occur across the landscape in each state.

6. **Should the BLM re-define utility-scale solar to include projects under 20MW?**

The revision of the BLM Solar PEIS of 2012 is ambitious enough and needs to be completed in the remaining time of less than two years (including weekends) of the current Administration and BLM leadership. We do not see the value in adding additional analyses to that PEIS that may delay or complicate the final BLM Solar PEIS and Record of Decision (ROD) unless this analysis allows for efficient permitting of portions of projects on "checkerboard" lands, on abandoned or inoperative gas or oil wells on lands that cannot be restored, or on abandoned mine lands. If projects under 20MW are not excluded from being proposed on BLM lands at this time and do not need to tier off of a PEIS we suggest that this analysis is not needed.

Recommendation: Do not include projects under 20MW in the Revision unless there are compelling reasons such as a need for efficient permitting of small areas in "checkerboard" lands or siting on abandoned or inoperative gas or oil wells on lands that cannot be restored; these could be included at a later date if sufficient demand were documented

7. **What additional incentives would facilitate faster and easier permitting in SEZs, improve and facilitate appropriate mitigation, and encourage solar energy development on suitable lands adjacent to SEZs?**

BLM has the opportunity to create a market for PV solar on BLM lands through faster and easier permitting and lower cost by identifying "priority areas" that are 1) within 10 miles of available transmission or planned transmission upgrades or new transmission; 2) with existing roads to remove the cost of building new roads; 3) that are lowest conflict with natural and cultural assets; and 4) that have a clearly defined pathway of permitting with a timeline. These incentives can be enhanced by:

a. **Providing baseline spatially explicit data** on wildlife and habitat in proposed and existing "priority" areas to developers and public in an online platform for initial desktop analysis before conducting site specific surveys.
b. **Providing clear siting and mitigation guidance and instruction and mitigation bank or in-lieu fee mitigation opportunities** after avoidance and minimization efforts have been completed.
c. **Utilizing RECOs to the maximum extent possible** to facilitate inter-agency coordination
d. Increasing staff capacity to process applications

Recommendation: Incentivize SEZ development through increased access to data, guidance, and agency expertise rather than just focusing on monetary incentives

Additional Comments and Recommendations

The Transmission Access Alternative

Audubon proposes that BLM analyze a Transmission Priority Alternative that identifies and prioritizes "priority areas" only along existing and upgradable and proposed or planned transmission lines in the 6 States of the 2012 PEIS.

It is clear from the 2012 PEIS that SEZs identified with no access to transmission sit unused despite the analysis that went into identifying them. This was a flaw in the planning process. Meanwhile new transmission lines have spurred development in variance areas where analysis is left to the solar project developer rather than a programmatic analysis that would make permitting more efficient and effective, the Need and Purpose of the 2012 PEIS and the Revision.

This Alternative should include an analysis of lands that identifies "priority areas" along Transmission Access Corridors most marketable for solar developers due to criteria that could include 1) access to existing and upgradable or planned transmission or substations within a maximum economically feasible distance (we recommend 10 miles); 2) presence of existing roads and other infrastructure to minimize building of new ones; 3). lack of conflicts with species, high value conservation lands or cultural resources.

A Transmission Access Alternative would increase efficiency of permitting of solar projects in these areas as well as narrow the scope of the Revision to areas most likely to be developed rather than the entire landscape of BLM lands. Since time from planning to construction of new transmission lines currently takes around 10 years, current planning incorporated in the analysis could be appropriate for the next 10 years during which most development will probably occur along existing transmission lines or upgrades, and possibly in the West-wide Corridor. If new transmission lines are proposed other than West Wide Corridors or known proposed transmission lines, BLM should provide an option to update "priority areas" either through a analysis in the Revision or a future Revision in the next ten years.

This narrow focus on a Transmission Access Corridor would also allow BLM to analyze the environmental impacts of development in these areas to not only avoid and minimize impacts but also to mitigate for any impacts in the "priority areas" in a programmatic way.

1. **The Renewable Energy and Conservation Alternative**

   A benefit of the DRECP process was the simultaneous analysis and additional science developed during the preparation of the plan that identified areas of high conservation values for natural and cultural resources at the same time as identification of Development Focus Areas. Following this landscape level analysis lands were elevated for conservation by designation by BLM with stakeholders, Congressional action as National Conservation Lands, or as monuments by Presidential use of the Antiquities Act. Conservation and clean energy were considered simultaneously. We propose that BLM include analysis of an Alternative that includes identification of solar energy "priority areas" while at the same time offers elevated protections of lands of high conservation value that are currently not excluded and analyzes the benefits of these higher protections in offsetting impacts of identifying lands for development.

   In particular, we encourage BLM to consider amending RMPs to expand existing ACECs or designate new ones to ensure that the resources most incompatible with solar development are excluded as intended. We recommend this in addition to asking the BLM to consider Climate Strongholds, Biodiversity Hotspots and Habitat Connectivity Areas as potential exclusion criterion.

The BLM has a responsibility to protect special status and migratory birds

Today, the stakes for birds have never been higher. Scientists estimate that North America is home to nearly three billion fewer birds today compared to 1970, a loss of more than one in four in just the last fifty years.[6] In addition, Audubon has determined that two-thirds of birds are at risk of extinction due to climate change.[7]

We remind the BLM of their obligations to protect species protected under the Endangered Species Act (ESA) and the Migratory Bird Treaty Act (MBTA) as well as species of birds covered under obligations for conservation of birds under the Fish and Wildlife Conservation Act as amended in 1988[8], Executive Order (EO) 13186 "Responsibilities of Federal Agencies to Protect Migratory Birds" (January 17, 2001)[9], North American Waterbird Conservation Plan[10] as well as non-listed but protected birds such as the Greater Sage-grouse and sensitive species identified by U.S. Fish & Wildlife Service recently revised Birds of Conservation Concern.[11]

[6] Decline of the North American Avifauna, Rosenberg, et al., available at https://science.sciencemag.org/content/366/6461/120
[7] Survival by Degrees, available at https://www.audubon.org/climate/survivalbydegrees
[8] https://www.fws.gov/law/fish-and-wildlife-conservation-act
[9] https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/Req-EO13186migratorybirds.pdf
[10] https://www.fws.gov/partner/north-american-waterbird-conservation-plan
[11] https://www.fws.gov/media/birds-conservation-concern-2021pdf

The BLM must work in close consultation with the state wildlife agencies and the US Fish and Wildlife Service (FWS) to ensure adequate protections for special status and migratory birds. This should include a careful evaluation of data on special status and migratory bird species distribution and occurrence, the potential impacts of solar energy development in the plan area, conservation measures, and restoration priorities.

We look forward to the DEIS and are available for further discussion of our comments or proposed alternatives at any time.

Regards,

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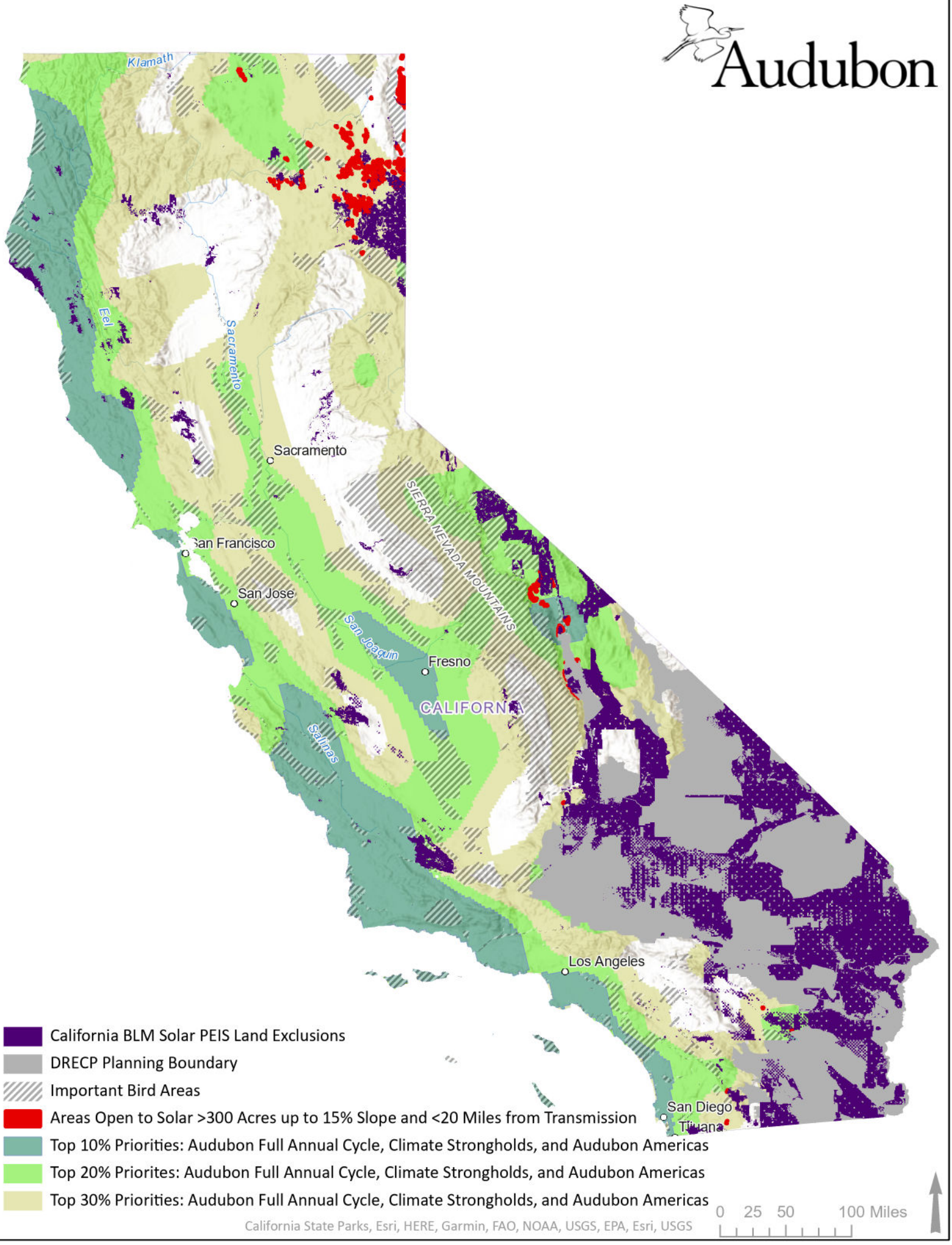
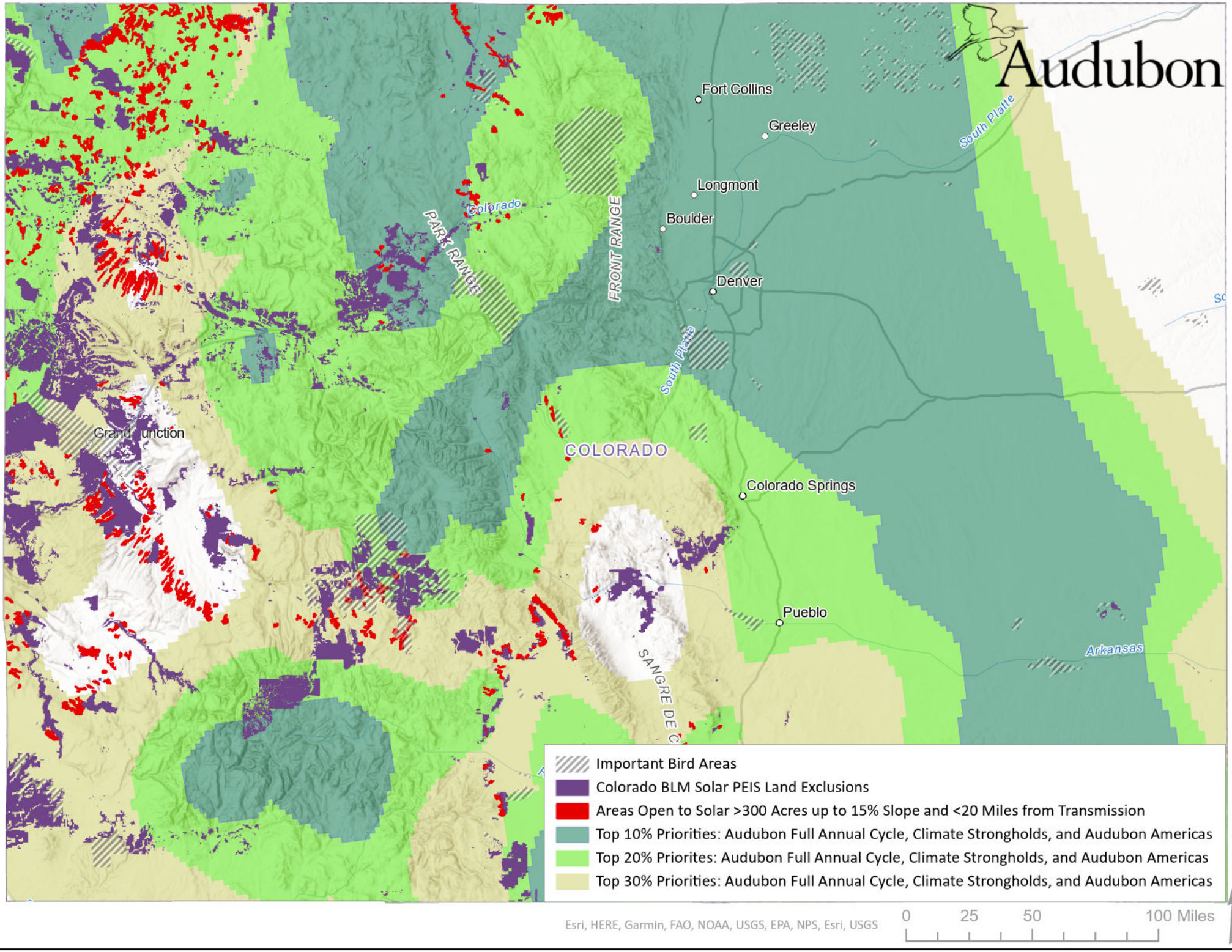
Appendix 1: Audubon Avian Data Layers and Areas of Anticipated Development by State


Audubon
Klamath
Eel
Sacramento
Sacramento
San Francisco
San Jose
San Joaquin
Fresno
SIERRA NEVADA MOUNTAINS
CALIFORNIA
Salinas
Los Angeles
San Diego
Tijuana
California BLM Solar PEIS Land Exclusions
DRECP Planning Boundary
Important Bird Areas
Areas Open to Solar >300 Acres up to 15% Slope and <20 Miles from Transmission
Top 10% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 20% Priorites: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 30% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
0 25 50 100 Miles
California State Parks, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS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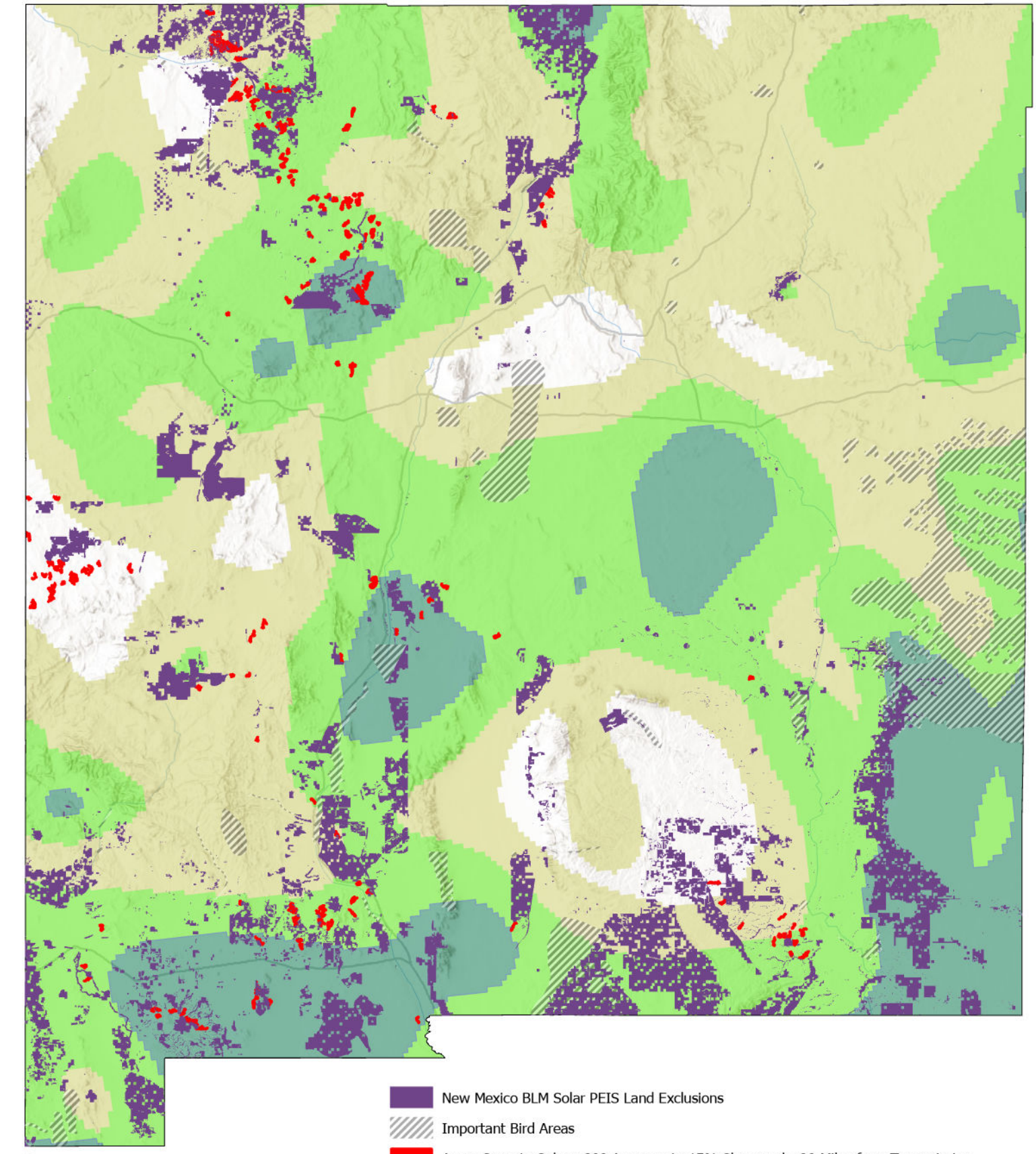
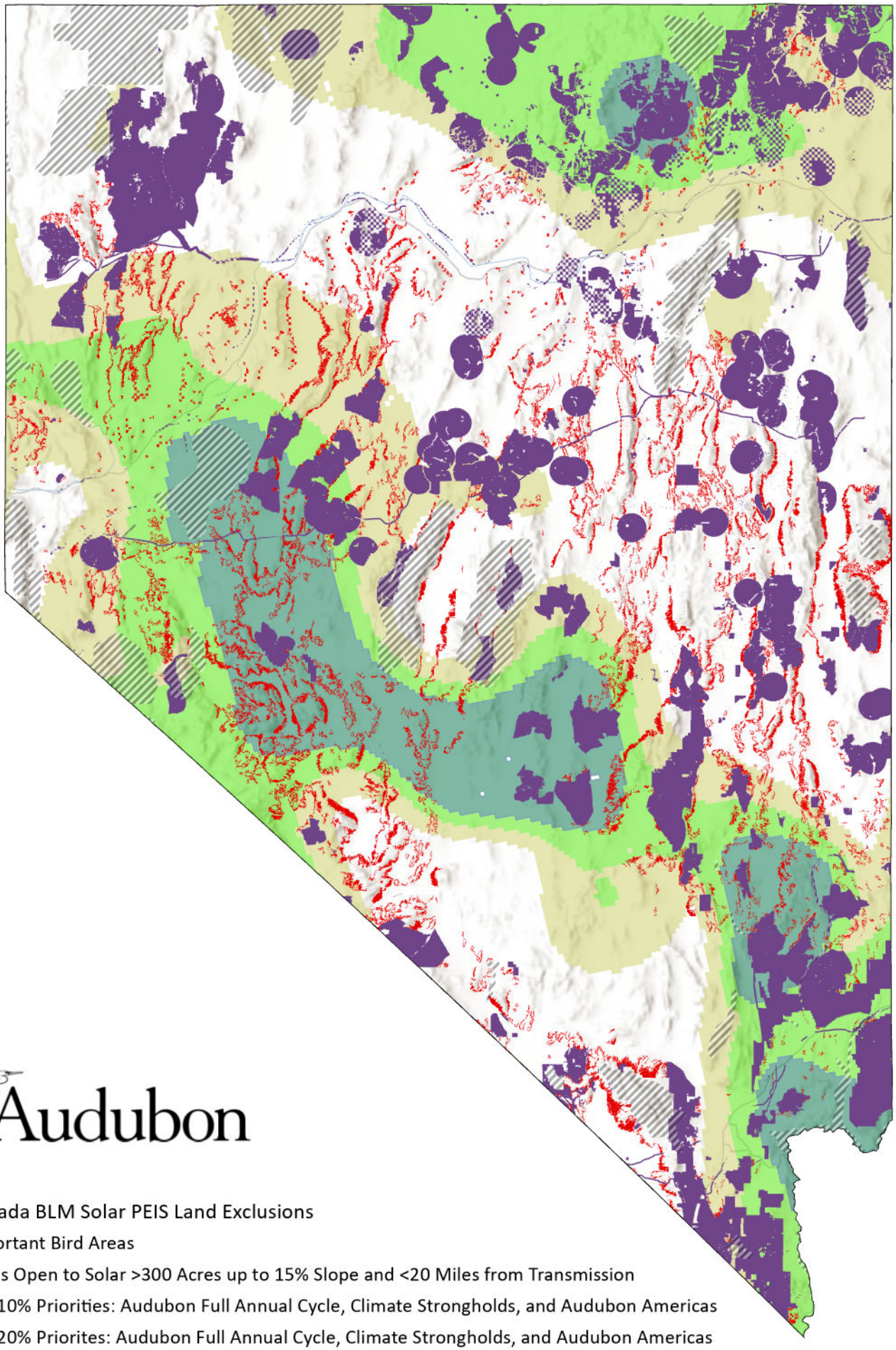
Grand Junction
COLORADO
FRONT RANGE
PARK RANGE
South Platte
Colorado
Arkansas
SANGRE DE C
Important Bird Areas
Colorado BLM Solar PEIS Land Exclusions
Areas Open to Solar >300 Acres up to 15% Slope and <20 Miles from Transmission
Top 10% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 20% Priorites: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 30% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS, Esri, USGS
0
25
50
100 Miles


New Mexico BLM Solar PEIS Land Exclusions
Important Bird Areas
Areas Open to Solar >300 Acres up to 15% Slope and <20 Miles from Transmission
Top 10% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 20% Priorites: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 30% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Audubon
0 25 50 100 Miles
New Mexico State University, Texas Parks & Wildlife, Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS, Esri, USGS



Audubon

Nevada BLM Solar PEIS Land Exclusions

Important Bird Areas

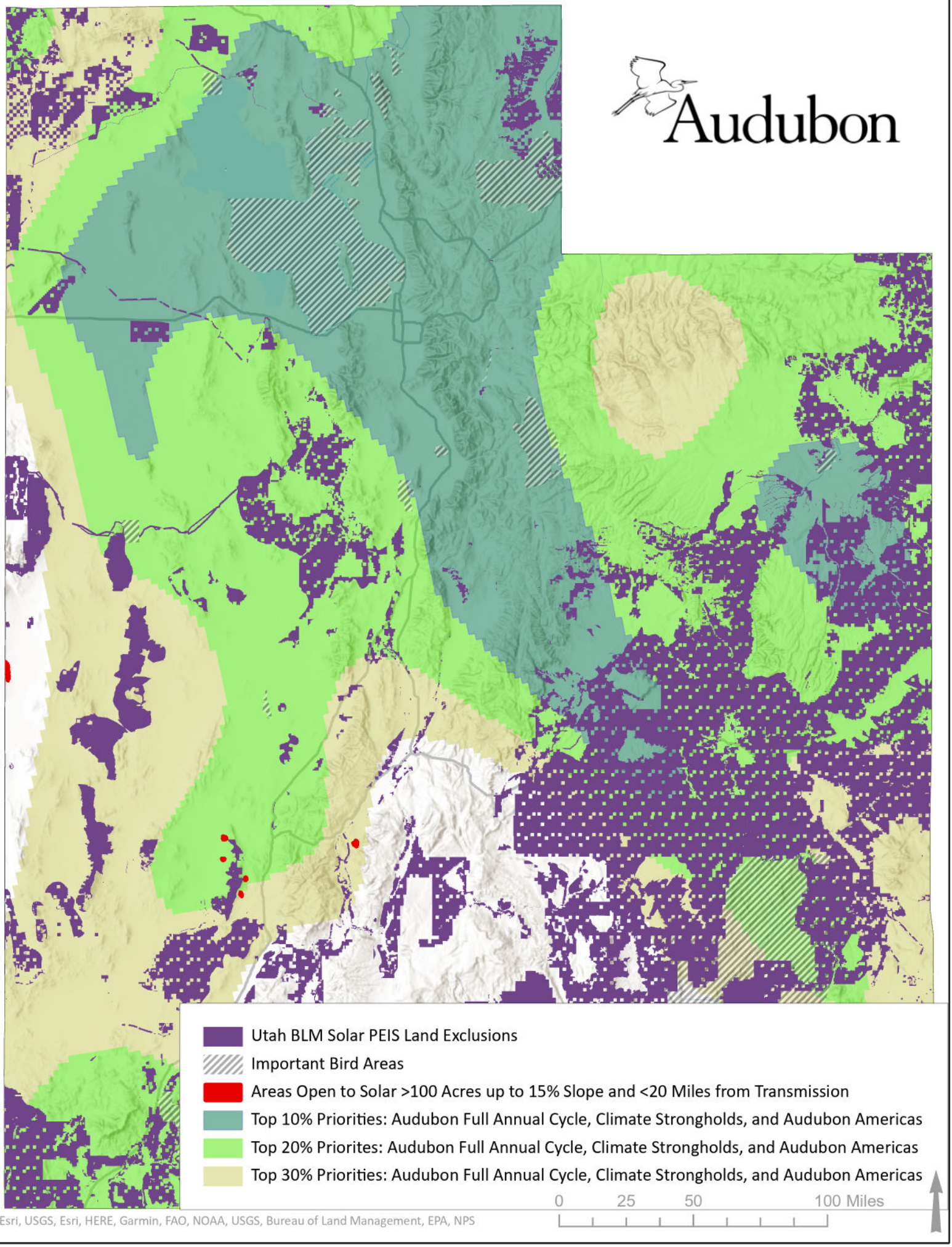
Areas Open to Solar >300 Acres up to 15% Slope and <20 Miles from Transmission

Top 10% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas

Top 20% Priorites: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas

Top 30% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas

0 25 50 100 Miles


Audubon
Utah BLM Solar PEIS Land Exclusions
Important Bird Areas
Areas Open to Solar >100 Acres up to 15% Slope and <20 Miles from Transmission
Top 10% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 20% Priorites: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
Top 30% Priorities: Audubon Full Annual Cycle, Climate Strongholds, and Audubon Americas
0 25 50 100 Miles
Esri, USGS, Esri, HERE, Garmin, FAO, NOAA, USGS, Bureau of Land Management, EPA, NPS

Appendix 2: Potential Impacts of Changing 2012 BLM Solar PEIS Technical Exclusion Criteria by State

The analysis presented below assumes that all Land Exclusions, including the DRECP, stay in place in each state, but that the low insolation exclusion is eliminated completely. Some change in both Technical Criteria is expected as a result of this PEIS since the values for each were set too conservative to accurately reflect developer constraints. However, we have no expertise or data to support what the cutoff value for insolation should be or the effects across the landscape of changing the criterion, so are assuming that all levels of insolation could be open. Slopes up to 15% only were analyzed for reasons explained previously.

Summaries by State

The online maps linked to below display areas that could be opened for solar applications if the 5% slope exclusion was raised to 10% or to 15%. Results were filtered to exclude areas smaller than 300 acres (100 acres in Utah), then further screened to include only areas within 10 or 20 miles of current or planned transmission lines. These remaining areas, labeled as "Unconserved" in the maps, represent a first cut for scoping resources at stake and the analysis effort required if technical exclusions were changed. These are examples for scoping. Other similar conflicts may exist for other species and resources than the ones we analyzed.

	0-10% Slope, Over 300 Acres, Within 10 miles of Transmission	0-10% Slope, Over 300 Acres, Within 20 miles of Transmission	0-15% Slope, Over 300 Acres, Within 10 miles of Transmission	0-15% Slope, Over 300 Acres, Within 20 miles of Transmission	Total Acres in High Slope Exclusion Areas
Arizona*	0	0	0	0	5,797,197
Utah**	979	1,597	979	1,597	13,081,800
New Mexico	8,491	14,433	55,367	95,315	4,213,906
California (excluding DRECP)	15,365	21,836	103,430	136,708	9,088,677
Colorado	41,169	56,009	238,411	352,284	6,733,881
Nevada	1,035,887	1,405,350	2,327,510	3,128,287	24,181,450
				3,714,190	63096911

*No parcels > 30 acres

**Size criteria changed to 100 acres for Utah; only one polygon > 300 acres

Table 1: BLM 2023 Solar PEIS Scoping: Statewide Summaries of Estimated Acreage Open to Development with Relaxation of Slope Exclusion *(non-technical exclusions remain, insolation exclusion not used)*

Arizona: Non-technical exclusions that are likely to stay in place fully cover any areas that could open in 2012 high slope exclusion areas and prevent any additional land being made available for development. There is no insolation exclusion in the state. No static maps or summary tables are included for Arizona because no new areas would become available.

https://experience.arcgis.com/experience/db838e1bce5544648a3beb0f7fefd332

California: Almost all areas that would become available if slope exclusions were relaxed are protected by existing exclusions or the DRECP.

- Isolated exceptions can be found
  - Near the Campo Indian Reservation along the southern border.
  - In the Mono Lake area, south of areas used by the Bi-state Greater-Sage-Grouse population but west and south of the Volcanic Tablelands ACEC, in an area important for Sierra Nevada Bighorn Sheep as well as surrounding the Crater Mountain ACEC further south.

- In the northeast corner of the state, where potential effects on Greater Sage-Grouse are a concern.

- Intersections with IBAs are small and tangential
- Overlaps with Nevada Sagebrush Ecosystem Program layers that extend into the northwestern corner of the state are significant.

	0-10% Slope, Over 300 Acres, Within 10 miles of Transmission	0-10% Slope, Over 300 Acres, Within 20 miles of Transmission	0-15% Slope, Over 300 Acres, Within 10 miles of Transmission	0-15% Slope, Over 300 Acres, Within 20 miles of Transmission
Important Bird Areas	0	0	102	3472
NSEP GRSG Low Suit	0	445	18623	28761
NSEP GRSG Medium Suit	1994	4073	22868	27999
NSEP GRSG High Suit	6117	8614	33938	43010
NSEP GRSG Preferred	2833	3180	6340	9738
NV SB Eco. Prog. GRSG General	5278	9952	69089	88130

Table 2: California BLM 2023 Solar PEIS Scoping: Estimated Acreage in Sage-Grouse Conservation Areas with Relaxation of Slope Exclusion *(non-technical exclusions remain, insolation exclusion not used)*

https://experience.arcgis.com/experience/41a4e7ea856d48ba8c199e5641910532

Colorado: The following concerns primarily relate to sagebrush habitat impacts and impacts on Gunnison (threatened) and Greater Sage-Grouse, and other sage obligate species.

- Extensive areas scattered throughout the NW corner of the state that support the Northwest Colorado Greater Sage-Grouse Population. In this part of the state, potential development areas overlap with all layers listed above that apply to Greater Sage-Grouse.
- Arapahoe National Wildlife Refuge and the surrounding area, which supports the North Park Population of Greater Sage-Grouse, has overlap of potential development areas and Greater Sage-Grouse Preferred Habitat Management Areas, USGS Sagebrush Biome as well as CPW's Sage-Grouse Production Areas, Brood Areas, Winter Range, and Severe Winter Range.
- Areas south of Gunnison which intersect CPW Gunnison Sage-Grouse Occupied Habitat, lek sites (1 mile buffer), and Production Areas, as well as general CPW Winter Range and Severe Winter Range.
- The northern end of the San Luis Valley near Mineral Hot Springs, which contains both USGS sagebrush biome designations[1] - Core Sagebrush Areas and Growth Opportunity Areas. These represent habitat for all sagebrush species as well as Colorado Parks and Wildlife (CPW) designated Sage-Grouse Winter Range and Production Areas and BLM Colorado Gunnison Sage-Grouse Habitat Areas.
- Kremmling area, where there are extensive overlaps with the Greater Sage-Grouse Middle Park Population, specifically lek sites (1 mile buffer), Priority Habitat Management Areas, CPW Sage-Grouse Winter Range, Severe Winter Range, Winter Range, Brood Areas, and Production Areas.

[1] Doherty et al. 2022. A sagebrush conservation design to proactively restore America's sagebrush biome: U.S. Geological Survey Open-File Report 2022–1081, 38 p., https://doi.org/10.3133/ofr20221081

- South of Grand Junction and Montrose, an area that lacks impacts to grouse species but where use of CODEX[2] and engagement with CPW would be important to determine potential conflicts with other high priority avian species .

Colorado Map: https://experience.arcgis.com/experience/9c3795b0383e45b18f9be8fc9db03f61

	0-10% Slope, Over 300 Acres, Within 10 miles of Transmission	0-10% Slope, Over 300 Acres, Within 20 miles of Transmission	0-15% Slope, Over 300 Acres, Within 10 miles of Transmission	0-15% Slope, Over 300 Acres, Within 20 miles of Transmission
Important Bird Areas	1	1030	8041	11689
CPW Gunnison Sage-Grouse Lek (1 mile buffer)	1093	1384	2618	3586
CPW Greater Sage-Grouse Lek (1 mile buffer)	710	751	13304	18401.5991
CPW Sage-Grouse Severe Winter Range	367	367	8584	8769
CPW Sage-Grouse Brood Area	173	307	7756	10504
CPW Sage-Grouse Winter Range	6519	7173	61414	70269
CPW Sage-Grouse Production Area	10581	15071	91710	116834
BLM 2020 Greater Sage-Grouse PHMA	5041	8394	61257	83349
USGS Sagebrush Biome CHAs and GOAs	19034	23869	106952	239122

Table 3: Colorado BLM 2023 Solar PEIS Scoping: Estimated Acreage in Avian Conservation Areas with Relaxation of Slope Exclusion *(non-technical exclusions remain, insolation exclusion not used)*

Nevada: the largest area of all states subject to slope exclusion and, due to the basin and range topography, extensive area in the transition zones between these two landforms that would open up. Detailed area-specific comments have not been created for this state due to the acreage involved and the short timeline on scoping comments.

- Overlap is small when areas only 10 miles from transmission are included but increases when sites up to 20 miles are considered.
- High degree of overlap in central and northern Nevada with Greater Sage-Grouse habitat based on layers from the Nevada Sagebrush Ecosystem Program
- Large expanses in the southern part of the state unprotected by any Land Exclusions and not subject to the Insolation exclusion that would need analysis.

Nevada Map: https://experience.arcgis.com/experience/62fc3515755a40b492ba6c2c86b6c21d

	0-10% Slope, Over 300 Acres, Within 10 miles of Transmission	0-10% Slope, Over 300 Acres, Within 20 miles of Transmission	0-15% Slope, Over 300 Acres, Within 10 miles of Transmission	0-15% Slope, Over 300 Acres, Within 20 miles of Transmission
Important Bird Areas	1315	10983	3189	15228
NSEP High Suit. GRSG	104377	164496	283532	389692
NSEP Med. Suit.GRSG	74273.4661	106208	163070	217822
NSEP Low Suit. GRSG	120677.187	164020	256100	344159
NSEP GRSG Preferred	61939	88068	180080	248030
NSEP GRSG General	103571	156135	279414	368340
NSEP GRSG Other	163415	228191	342299	458248

[2] https://codex.cnhp.colostate.edu/

Table 3: Nevada BLM 2023 Solar PEIS Scoping: Estimated Acreage in Sage-Grouse Conservation Areas with Relaxation of Slope Exclusion *(non-technical exclusions remain, insolation exclusion not used)*

New Mexico: the least area of total slope exclusions but still would have new areas available if development were allowed on more moderate slopes up to 15%. Insolation exclusion areas in the southeast corner of the state

- No overlap with Important Bird Areas
- State Crucial Habitat Assessment Tool Threatened and Endangered status metrics increase as areas open to solar increase

New Mexico Map: https://experience.arcgis.com/experience/828dd3fed52d4ae182887e9ba58b7637

	0-10% Slope, Over 300 Acres, Within 10 miles of Transmission	0-10% Slope, Over 300 Acres, Within 20 miles of Transmission	0-15% Slope, Over 300 Acres, Within 10 miles of Transmission	0-15% Slope, Over 300 Acres, Within 20 miles of Transmission
Important Bird Areas	0	0	0	0
NMGF CHAT T&E Status 1 (E)	7680	10240	39040	67200
NMGF CHAT T&E Status 2 (T, C)	4480	17280	33920	93440

Table 4: New Mexico BLM 2023 Solar PEIS Scoping: Estimated Square Miles in IBAs and NMGF CHAT T&E Habitat with Relaxation of Slope Exclusion *(non-technical exclusions remain, insolation exclusion not used)*

Utah: the second most overall slope exclusion area but almost no consistently lower slope BLM lands large enough or close enough to transmission for solar development to be feasible. No conflicts were detected with the few potentially developable areas detected by the analysis.

Utah Map: https://experience.arcgis.com/experience/959f66e23b4c49babf61a6cae654177a