Audubon NEW MEXICO

P.O. Box 9314
Santa Fe, NM 87504-9314
Tel: 505-983-4609
Fax: 505-983-2355

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Delivered via electronic mail (nmsunziaproject@blm.gov) and U.S. Postal Service

U.S. Bureau of Land Management
New Mexico State Office
SunZia Southwest Transmission Project
P.O. Box 27115
Santa Fe, New Mexico 87502-0115

Re: Comments from Audubon New Mexico on the Proposed SunZia Southwest Transmission Project's Draft Environmental Impact Statement

Dear Mr. Garcia,

Please accept and fully consider these comments on the proposed SunZia Southwest transmission project ("SunZia") submitted jointly by the following Audubon entities - Audubon New Mexico, the state office of the National Audubon Society, and the New Mexico Audubon Council, representatives from Audubon chapters across New Mexico ("Audubon New Mexico"). Audubon New Mexico has been very engaged in the SunZia discussions, working towards positive solutions to meet our nation's growing energy demands. **Our comments highlight major areas of concern, including problematic stretches of the various routes in New Mexico and avian species that are likely to be most seriously impacted in New Mexico. Should the proponent be interested in pursuing the SunZia transmission line, we strongly encourage identification of alternative routes as all current routes have unacceptably high levels of environmental risk.** It is our hope that these help the U.S. Bureau of Land Management ("BLM") and project proponent choose generation sources and transmission sites that are the least environmentally damaging, and that SunZia becomes an example to the American people of a new way of business – where development of our nation's transmission infrastructure occurs in a manner that does not compromise the nation's wildlife resources and majestic landscapes.

Our comments contain the following sections:

I. Improvements Needed on the BLM's DEIS
II. Generation, Transmission, and Climate Issues
III. Proposed Routes Conflict with Important Rivers and Riparian Areas
IV. Other Areas of Concern in New Mexico
V. Species of Concern in New Mexico within the SunZia Project
VI. Collisions with the Proposed Transmission Line Highly Likely
VII. Crossing the Rio Grande
VIII. General Considerations for Renewable Energy and Transmission Line Development
IX. Mitigation Possibilities in New Mexico

I. Improvements Needed on the BLM's DEIS

Stakeholder Engagement

Audubon New Mexico is concerned about the format of the public review meetings that were held for the proposed SunZia project. Given the size and scope of this project, as well as it being identified as a priority project by the federal Rapid Response Team for Transmission, the BLM did a woefully inadequate job of meeting the spirit and intent of the National Environmental Policy Act ("NEPA") obligation of holding public meetings/hearings. According to the BLM's own NEPA Handbook (H-1790-01), "You may receive oral comments at public meetings and workshops" (6.9.2 Comments). The only approved speakers at these meetings were those representing the BLM. No public questioning of the speakers was permitted and no public discussion was allowed, raising questions about the transparency of the process. This narrow approach to public participation fails to provide attendees with an important opportunity to publically pose questions to the BLM and discuss essential issues, further degrading public faith in the federal process. Future meetings should incorporate an opportunity for public questioning of the speakers to improve overall understanding of the project's potential impacts.

Content of the DEIS

Audubon New Mexico's ability to provide substantive review was challenged by the vagueness of this Draft Environmental Impact Statement ("DEIS"). Therefore, our comments are based on a lack of sufficient information to evaluate the impacts of this project. For instance, the preferred route crosses the Rio Grande at a site not previously discussed or evaluated in prior scoping or comment periods, nor is it clear how the potential two 500 kV transmission lines will be sited in relation to each other. Only through informal discussions with BLM staffers and SunZia proponents were we able to learn that trees would be removed as a "safety concern" for wildfire and that the SunZia crossing of the Rio Grande may or may not have footings placed in the river or riparian areas.

In comparison to another federally-identified priority project, Gateway West, the analysis presented in this DEIS for the proposed SunZia transmission line is noticeably lacking. We request a more robust analysis of the impacts for specific species and to the various habitats, which includes up-front biological surveys. Furthermore, the *Cumulative Impacts section* fails to note if the actions proposed would have an adverse effect on migratory bird populations (including special status wildlife and fish species), habitats, ecological conditions, and/or significant bird conservation sites[1]. The SunZia DEIS also does not provide *specific information* on acreage of critical habitat impacted by species, further inhibiting our ability to understand impacts and provide more substantive comments. In the Gateway West DEIS, stakeholders were also presented with proponent-proposed *Environmental Protection Measures* and agency mitigation measures, which are lacking in the SunZia DEIS. Some measures, required to be implemented project-wide, are required

[1] In April 2010, the BLM signed and MOU with the USFWS regarding the management of public lands and the protection of migratory birds (BLM and USFWS 2010). BLM's obligations at the project level are to determine if the actions proposed would have an adverse effect on migratory bird populations, habitats, ecological conditions, and/or significant bird conservation sites. This should be reviewed for the project itself and then cumulatively with existing disturbances (caused by past and present actions) and potential future losses due to those same activities, both of which should be clearly stated.

on federally managed lands or for compliance with the Endangered Species Act. The inclusion of this information would have resulted in more robust analyses of project impacts and improve stakeholder confidence in reduction of impacts to species.

Conservation easements were also inadequately addressed within the DEIS. While section 4.17.3.2 indicates that conservation easements are covered in Section 3.10, there is no mention of any conservation easements. This is a notable omission as more than 500 acres of conservation easements are in development or have been completed along the floodplain between Bosque del Apache National Wildlife Refuge and Bernardo (with the conservation group Rio Grande Agricultural Land Trust). Conservation easements are an often overlooked but increasingly conservation tool as critical habitats become further fragmented.

The BLM and SunZia proponents must provide and disclose additional and specific information on resources that could be impacted along the routes in a supplemental document for public review and comment. As new transmission projects are being proposed with frequency, Audubon requests that BLM provide clear information on the criteria for route selection. Clarity is also needed in how other proposed transmission projects in the relative area, of which we understand there are four, all relate to each other in terms of meeting energy demands in specified areas, generation sources used, relative benefits and environmental impacts.

- ***Recommendations***: In addition to the above, we also ask that the following points be taken into consideration as this project continues to be under review:
  - Determine site specific information for areas of high potential conflict, such as the crossing of the Rio Grande, and provide that information to the public;
  - Include a full range of alternatives for project development, including the potential for the joint use of corridors by other project sponsors;
  - Improve and expand opportunities for stakeholder involvement, which will be critical for minimizing impacts and building stakeholder confidence and support;
  - Include a detailed Construction, Operation and Maintenance Plan;
  - Consider a full range of off-site mitigation strategies to improve conditions for wildlife and habitat, in addition to avoidance and on-site mitigation;
  - Include a map depicting all existing, designated and proposed energy transmission corridors, supplemented by a description of the nature of the corridor, and the date and status of designation;
  - Improve the description and justification of the purpose and need for this project, see comments submitted by The Wilderness Society et al. for greater detail;
  - Include a map depicting existing conservation easements and discussion on proposed management associated with the specific development restrictions associated with these;
  - Include a sufficient and rigorous analysis on impacts to Sandhill Cranes that specifically studies the proposed routes with full migration cycles (see Section V page 14 below for comments on the study included in Appendix B2 of the DEIS);

- Include more substantive analysis on direct impacts to individual species, such as acreage of critical habitat and miles of crossed by segment number;
- More thorough cumulative impacts analysis section, including review on cumulative effects to particular special status wildlife and fish species; and
- Include a discussion on habitat and species-specific Environmental Protection Measures ("EPMs") and mitigation measures that would be applied to limit the potential impact of the proposed project[2].

Therefore, we request the publication of a Supplemental EIS and/or supplemental documents for public review (which contains much of the additional analyses described above) and comment prior to publication of a Final EIS.

II. Generation, Transmission, and Climate Issues

In the face of growing concern about rapid global changes in climatic conditions, much of it due at least in part to human activities (Intergovernmental Panel on Climate Change 2007), there has been speculation about what impacts these changes may have on various ecological communities (McCarty 2001, Huntley et al. 2006, Jetz et al. 2007, Intergovernmental Panel on Climate Change 2007, BirdLife International 2008). Nearly 60 percent of the 305 species found in North America in winter are on the move, shifting their ranges northward by an average of 35 miles. National Audubon Society scientists analyzed 40 years of citizen-science Christmas Bird Count[3] data, providing new and powerful evidence that global warming is having a serious impact on natural systems. Northward movement was detected among species of every type, including more than 70 percent of highly adaptable forest and feeder birds. These data illustrate, in part, the impacts of climate change on birds.

Energy and climate issues are linked with the health of our communities and environment. Our nation's continued demand for fossil fuels, coupled with the unprecedented threats brought about by climate change, threaten to dramatically alter ecosystems and available water supplies. As we move forward in improving our aged transmission infrastructure, our nation must consider the source of the energy being delivered to communities, the siting of the transmission line, and the overall impacts to the wildlife resources in these areas.

The United States should make major new investments in clean energy technologies and infrastructure that will allow us to reduce global warming pollution while also creating the clean energy economy of the future. We strongly believe our society should maximize

[2] See Gateway West DEIS for list of suggested mitigation measures. These mitigation measures include proponent-proposed EPMs (2.7.5 and Table 2.7-1) that were developed with the BLM and cooperating agencies. The more thorough effects analysis for Gateway West assumed that these EPMs would be followed on all routes, as site-specific circumstances dictate. Notably, the BLM or cooperating agencies identified additional mitigation measure when they determined that an EPM was insufficient to protect the affected resources or was inconsistent with agency requirements (aka, mitigation measures, see section 3.11.3).

[3] To find out more about Audubon's Christmas Bird Count, please go to http://birds.audubon.org/christmas-bird-count

energy efficiency, vastly expand our use of renewable energy, and develop the needed infrastructure to deliver clean energy to America — all in an environmentally responsible manner - that will help reduce our global warming emissions while minimizing the impacts on birds and habitat. In order to achieve this clean energy vision, Audubon recommends the development of properly-sited transmission to serve new renewable energy and a "Smart Grid" to transmit that energy more efficiently.

We strongly prefer that any new lines facilitate only renewable energy generation but understand the Federal Energy Regulatory Commission ("FERC") open access constraints. Given those constraints, however, we expect for BLM to scrutinize the probability that SunZia will facilitate renewable energy generation and to explicitly address the possibility of facilitating new generation from coal plants.

The stakeholders and active participants in the evolving national transmission discussion have expanded dramatically – conservationists and other interests are deeply engaged in the dialogue and policy process. Conservationists agree that it is possible to build responsibly-sited projects faster, better, and with less expense, all while minimizing harm to the environment (Dart et al. 2011). Improving our transmission infrastructure provides a unique opportunity to be forward-thinking in our approach, by selection of greener technologies and siting to preserve priceless landscapes and iconic wildlife species.

Transmission and generation are inextricably linked. As an AC line, power from additional, unspecified projects can be added to a given transmission line. Therefore, analyses should include information on source of power, with a strong emphasis on renewable energy sources. To provide increased confidence that the line will principally carry renewable energy, the proponent and BLM should provide continuous, transparent updates on potential subscribers to the line and explicit statements of generation intent for the line within any revisions of this EIS, Integrated Resource Plans ("IRPs"), and state rate cases while acknowledging open access rules. The FEIS needs to also include discussion on how impacts can be avoided and mitigated in the event multiple transmission projects are ultimately approved and constructed within a given area.

Audubon New Mexico supports renewable energy development provided that it is sited, designed, constructed, and operated to responsibly minimize harmful impacts on the environment. In particular, we believe that siting of renewable power and transmission line development in New Mexico should contain appropriate stipulations regarding wildlife and avian resources inventory, mitigation, and monitoring, including the cumulative effects of expanded development in both space and time.

- ***Recommendations***:
  - SunZia line could help meet our nation's clean energy and climate goals by providing access to wind and solar projects in New Mexico and Arizona. However, it must be properly sited to avoid impacts to sensitive avian species and wildlife habitats.
  - Priority for capacity on SunZia should be given to renewable energy projects as an important tool to addressing climate change concerns.

- Analyses should include information on source of power. To provide increased confidence that the line will principally carry renewable energy, the proponent and BLM should provide continuous, transparent updates on potential subscribers to the line and explicit statements of generation intent for the line within any revisions of this EIS, IRPs, and state rate cases while acknowledging open access rules.
- The FEIS needs to also include discussion on how impacts can be avoided and mitigated in the event multiple transmission projects are ultimately approved and constructed within a given area.

III. Proposed Routes Conflict with Important Rivers and Riparian Areas

Background on Ecological Value of Rivers and Riparian Areas

Riverine and riparian ecosystems are the most productive, biologically diverse, and threatened habitats in the American Southwest (Johnson and Jones 1977, Johnson et al. 1985, Knopf et al.1988, Ohmart et al. 1988, Johnson 1991, Minckley and Brown 1994). Riparian habitats support ecological processes and diverse assemblages of distinctive species that are not found in the surrounding uplands (Stevens et al. 1977, Minckley and Brown 1994).

Despite their great ecological importance, land management activities, such as flow regulation and other anthropogenic activities have substantially compromised the ecological integrity of stream, wetland, and riparian ecosystems throughout North America (Minckley and Brown 1994, Dale et al. 2000). Estimates of riparian habitat loss range from 40% to 90% in the arid southwestern states (Dahl 1990), and riparian habitats are considered to be one of the region's most endangered ecosystems (Minckley and Brown 1994, Noss et al. 1995). The highest known densities of breeding birds in North America occur in southwestern cottonwood forests (also known locally as "bosque") and 73% of all southwestern breeding birds occur in riparian habitats during the breeding season. These same riparian habitats are also critical migration stopovers for other species that breed farther north.

The Rio Grande corridor, specifically, is critical for numerous avian species. During spring and fall migration, the shorelines, mudflats, and sandbars of the reservoir and river in this area provide important feeding grounds for migrating shorebirds and waterbirds that need to refuel during their journey along the river corridor. The waters of the Rio Grande in this area also support valuable riparian forests and marshes which host breeding populations of many neotropical migrants such as warblers, tanagers, and flycatchers, and these same riparian habitats are critical migration stopovers for other species that breed farther north.

The Middle Rio Grande valley has experienced increasing human impacts that are compromising the long-term capability of these areas to provide adequate forage and roosting habitats to sustain cranes at current levels (Association of Fish and Wildlife Agencies 2009). Because of existing and increasing threats to Sandhill Crane and other bird populations, any new impacts within the Middle Rio Grande valley should be examined carefully.

Important Bird Areas Reflect Critical Avian Habitat

We commend the BLM for inclusion of Important Bird Areas in the DEIS, which further supports our argument for avoiding these areas. Important Bird Areas ("IBAs") are part of an international program to identify priority areas where threatened, restricted-range, biome-restricted and congregatory birds occur. In the United States, this program is managed by the National Audubon Society. A site is recognized as an IBA only if it meets certain criteria, which are internationally agreed, standardized, quantitative and scientifically defensible. Scientists identify locations that provide essential habitat to one or more species of birds during some portion of the year (nesting areas, crucial migration stop-over sites, or wintering grounds). The selection of IBAs has been a particularly effective way of identifying conservation priorities. The identification of such critical habitats is an important consideration in generation and transmission development, as these areas should be avoided due to their ecological value.

To that end, the influential Western Electricity Coordinating Council's ("WECC") Environmental Data Task Force ("EDTF") ultimately included Important Bird Areas as a preferred data set when evaluating potential transmission alternatives. According to the EDTF, "high voltage transmission lines have a relatively small direct footprint on the ground; however, large interstate transmission lines can also indirectly and cumulatively impact wildlife, cultural and historical features and water resources" (WECC 2011). Thus, "the anticipated benefit of incorporating environmental and cultural information upfront in the transmission planning process is to reduce the potential for conflict with these resources during subsequent siting, permitting, and constructions" (WECC 2011).

New Mexico currently has 62 IBAs which include sites like Bosque del Apache National Wildlife Refuge, Ladd S. Gordon Waterfowl Complex, Rio Grande Nature Center, the Gila Bird Area along the Gila River, Valles Caldera National Preserve, and Otero Mesa. The first two IBAs referenced above, of which there is more detail below, are *global*[4] IBAs that threaten to be negatively impacted by this proposed transmission line.

The Middle Rio Grande Valley IBAs

Audubon New Mexico has concerns about the impacts of the SunZia transmission line on the Rio Grande, particularly with the Middle Rio Grande valley and the specific routes crossing the Rio Grande north of the Bosque del Apache National Wildlife Refuge ("NWR"). Both the Rio Grande crossing Subroute 1A and the San Antonio crossing Subroute 1B are located within critical wintering habitat for Sandhill Cranes and other waterfowl. Because of unacceptable impacts to migrating Sandhill Cranes and other important birds and wildlife, BLM should not select any routes crossing the Rio Grande near the Bosque del Apache NWR or in the Middle Rio Grande valley, unless

[4] The global IBA designation is based on the site meeting criteria related to containing species of global conservation concern, assemblage of restricted-range or biome-restricted species, ≥1% biogeographic (N. Am.) population of a waterbird simultaneously or ≥5% over a season, ≥1% global population of a seabird or terrestrial species simultaneously or ≥5% over a season, and/or aerial bottleneck where ≥ 5% North American population of a migratory waterbird or ≥ 5% global population of a migratory seabird or terrestrial species passes during a season.

environmental analysis shows that running the line underground in this area would sufficiently limit impacts.

The network of floodplain wetlands along the Rio Grande corridor form an inherent route for more than 200,000 Mallards, Northern Pintail, American Wigeon and 16 other Intermountain West Joint Venture ("IWJV") priority duck species migrating to and from breeding and wintering areas in the interior highlands and Gulf of Mexico (Appendix A). The Middle Rio Grande valley is considered one of three important wintering areas for the Central Flyway population of Northern Pintail. Up to 60,000 Snow and Ross' geese, and the majority of the Rocky Mountain population of greater Sandhill Cranes winter and migrate through Middle Rio Grande habitats. Currently, 80% of Rocky Mountain cranes winter in two New Mexico counties encompassing just 34 river miles, 5,000 acres of managed wetlands, and a limited number of acres of suitable agriculture (Association of Fish and Wildlife Agencies 2009). In moist-soil units, the production of protein and carbohydrate rich vegetation is maximized to meet the high energetic demands of wintering waterfowl and waterbirds. In areas of high sub-surface water, salt grass meadows support high biomasses of protein-rich invertebrates. Along with managed historic floodplain wetlands and privately-owned agricultural fields these areas support hundreds of thousands of waterfowl, cranes, raptors, and waterbirds (White-faced Ibis, Green Heron, Black-crowned Night Heron and Snowy Egrets). Fresh and saline wetlands support dozens of shorebird species (Black-necked Stilts, American Avocets, Long-billed Curlews, Baird's Sandpipers, and Wilson's Phalaropes). One of the largest remaining gallery cottonwood forests is in the Middle Rio Grande valley and supports a great diversity of breeding landbird species, including species of concern such as the Lewis's Woodpecker and Lazuli Bunting. Mixed-aged stands of woody vegetation in the area support the federally endangered Southwestern Willow Flycatcher and other species of national and regional concern including Bell's Vireo, Yellow-billed Cuckoo, Common Black-Hawk, and Lucy's Warbler.

Bosque del Apache IBA, one of the most spectacular national wildlife refuges in North America, was recently recognized as a global IBA in 2012. The 57,191 acre refuge straddles the Rio Grande valley in Socorro County, New Mexico. Within the refuge borders lie three wilderness areas totaling almost 31,000 acres, most of which is desert scrub/mesquite and grassland habitat. Over 340 species of birds live here, often numbering in the tens of thousands. During winter, huge flocks of Snow Geese and Sandhill Cranes inhabit the IBA, as well as dabbler ducks (35,000+), Black-throated and Sage Sparrows, and raptors including Bald Eagles and Ferruginous Hawks. During summer Vermillion Flycatcher and Lucy's Warbler (both at the northern edge of their range), Lesser Nighthawk, Yellow-billed Cuckoo and Southwestern Willow Flycatcher use the area. Migration brings shorebirds as well as passerines. During the period 1995-2002 in winter, there was an average of about 45,000 waterbirds. Through the annual Festival of the Cranes that takes place here, the Central New Mexico Audubon Society, the New Mexico Audubon Council, and Audubon New Mexico join the Friends of Bosque del Apache to continue to share the wonders of birding with the public and support the Refuge's efforts to continue providing sanctuary to these magnificent birds and other wildlife.

Routes north of the Bosque del Apache NWR will compromise the purpose of the refuge and even the Ladd S. Gordon Waterfowl Complex managed by the New Mexico

Department of Game & Fish ("NMDGF"). The proposed transmission line could also significantly harm the financial investments in habitat restoration and forage for birds made by the government agencies, both at the federal and state level, as well as by several non-governmental organizations. Bosque del Apache NWR was established using the authority of the Migratory Bird Conservation Act (16 U.S.C. 712d) of 1936, to provide refuge and breeding grounds for migratory birds and other wildlife as well as incidental fish and wildlife-oriented recreational development, the protection of natural resources, and the conservation of endangered species or threatened species. Additional lands were added by Executive Order 82189 in November 1939.

The ***Ladd S. Gordon Waterfowl Complex,*** another global IBA, is composed of the Belen, Casa Colorada, Bernardo, and La Joya Waterfowl Areas. This IBA was originally designated in 2000 and then elevated to a Global IBA in 2012 because it contains critical resting and feeding area for thousands of ducks, geese, and cranes during migration and winter. This complex is a cooperative project between the NMDGF and the U.S. Fish and Wildlife Service ("USFWS") to feed and harbor migrating waterfowl along the Rio Grande corridor. Approximately one-half of the wintering waterfowl in the Middle Rio Grande valley are fed by this IBA[5]. The Belen Waterfowl Area is four miles south of Belen on New Mexico 109. This 230-acre farm grows corn and alfalfa for migrating waterfowl. The Casa Colorado Waterfowl Area comprised of 420 acres of cultivated crops is six miles south of Belen on New Mexico 304. The Bernardo Waterfowl Area is 17 miles south of Belen near Bernardo and straddles U.S. Highway 60. This property consists of more than 1,700 acres with 450 acres in cultivation and is open to the public on most days, with recent improvements for bird viewing and photography platforms. An auto tour loop and two short hiking trails also give visitors views of birds in fields and ponds. The La Joya Waterfowl Area is 22 miles south of Belen, just east of I-25 and consists of 3,500 acres containing 600 acres of man-made ponds to provide winter feed and resting areas.

Located on the southern end of the Central Flyway and along the key migration corridor of the Rocky Mountain population of Sandhill Cranes, the Middle Rio Grande valley, more specifically the Socorro reach of the valley, has been integral in the rebuilding and protection of this waterbird population. During the early 1900's the Rocky Mountain population of Sandhill Cranes numbers plummeted due to habitat alteration, land fragmentation, and human population growth (Taylor 1999). By the 1940's, the population was estimated to be fewer than 400 birds. Efforts to protect habitat, restore wetlands, and enhance existing natural and agricultural habitats in combination with sound population management practices helped the species recover to between 18,000 and 20,000 birds annually (Taylor 1999). Today along with the Rocky Mountain population cranes, the Middle Rio Grande valley plays host to hundreds of thousands of migrating and wintering waterbirds and countless breeding and migratory neotropical migrants and raptors including the federally-listed endangered Southwestern Willow Flycatcher and the candidate species Yellow-billed Cuckoo.

In 2010, a subgroup of *The Migratory Shore and Upland Game Bird Support Task Force* focused on establishing the top priority information needs for migratory populations of

[5] For more info, NMDGF website at http://www.wildlife.state.nm.us/conservation/wildlife_management_areas/index.htm

Sandhill Cranes (Assoc. of Fish and Wildlife Agencies 2009). One of the outcomes of this effort was the finding that the most limiting landscape in the annual cycle of Sandhill Cranes, specifically the Rocky Mountain population, is the Middle Rio Grande valley and further alterations to the valley could be population compromising. Many geographic constrictions occurs in the Middle Rio Grande valley which limit the energetic potential of the valley, concentrates the Sandhill Crane population for an extended period, and places them in proximity to large concentrations of other migratory waterbirds. Due the valley's size there are already limited habitat resources for foraging and roosting which are becoming increasingly limited due to habitat conversion and degradation resulting from water loss and urbanization.

Conservation Investments in Middle Rio Grande Valley

Audubon New Mexico is concerned about the impacts of SunZia to the significant financial investments made to date to conserve the biological, cultural, and historic resources of the Middle Rio Grande valley by landowners, non-governmental organizations, and state and federal agencies and governments. Because of its importance as a continental flyway, the USFWS and partners have worked to conserve and restore habitat for decades along the Middle Rio Grande Valley. The SunZia project will adversely impact the federal and partner investments in this Middle Rio Grande region including the 2001 and 2005 North American Wetlands Conservation Act ("NAWCA") projects valued at over $6.5 million ($2 million from the federal NAWCA grants and $4.5 million in matching funds from partners). Successful implementation of two previous NAWCA grants in partnership with Ducks Unlimited and the USFWS funded wetland and riparian restoration work at Bosque del Apache NWR, Sevilleta NWR, the Ladd S. Gordon Waterfowl Management Area, and several other sites along the Middle Rio Grande valley including several conservation easements.

Audubon New Mexico supported these projects and the recent NAWCA grant which may award $1 million in federal funds for five conservation easements, one fee acquisition, and riparian restoration in the Middle Rio Grande and the inter-agency Private Lands Program Conservation Initiative. The 2012 NAWCA project for the Middle Rio Grande valley contributes 1,857 acres of protected, restored, and enhanced palustrine and forested wetlands, irrigated agriculture, and wetland-associated uplands to the diminished base of waterbird habitat – all which could be impacted by the SunZia project. To be successful, this Middle Rio Grande landscape-level initiative requires many partners willing to work together towards a shared vision of a living river. This project, currently underway, brings together 14 new partners – 7 of which are 10% matching partners – comprised of a diverse collaboration including: 8 private landowners, 5 non-profit organizations, 2 charitable foundations, Santo Domingo Pueblo, USFWS, NMDGF, New Mexico Environment Department, and the Socorro Soil and Water Conservation District.

Conservation easements currently held by and in negotiations with the Rio Grande Agricultural Land Trust ("RGALT") will be impacted by the SunZia line with the crossing between Bosque del Apache and Sevilleta National Wildlife Refuges. RGALT is securing 3 perpetual conservation easements on 602 acres of private lands along more than a mile of the Rio Grande just north of Bosque del Apache NWR. These tracts are in the active floodplain and still have some overbank flooding, providing important wetland habitat and support ecological functioning.

- ***Recommendations***:
  - BLM should not select any of the proposed routes which cross the Rio Grande near the Bosque del Apache National Wildlife Refuge or in the Middle Rio Grande valley, unless environmental analysis shows that running the line underground in this area would sufficiently limit impacts.
  - Routes north of the Bosque del Apache NWR will compromise the purpose of the refuge and even the Ladd S. Gordon Waterfowl Complex managed by the New Mexico Department of Game & Fish.
  - Because of its importance as a continental flyway, the USFWS and partners have worked to conserve and restore habitat for decades along the Middle Rio Grande Valley. The proposed transmission line could significantly harm the financial investments in habitat restoration and forage for birds made to date by governmental agencies (state and federal) and non-governmental organizations. For example, the 2001 and 2005 NAWCA projects valued at over $6.5 million ($2 million from the federal NAWCA grants and $4.5 million in matching funds from partners).
  - In addition to the species noted in the DEIS, this project could also severely impact Sandhill Cranes. In 2010, a subgroup of The *Migratory Shore and Upland Game Bird Support Task Force* focused on establishing the top priority information needs for migratory populations of Sandhill Cranes. One of the outcomes of this effort was the finding that the most limiting landscape in the annual cycle of Sandhill Cranes, specifically the Rocky Mountain population, is the Middle Rio Grande valley and further alterations to the valley could compromise populations.
  - SunZia routes considered in earlier scoping stages included crossings of the Rio Grande further south in New Mexico and would considerably reduce the riparian and avian impacts. BLM should consider the routes that cross the Rio Grande south of Elephant Butte Reservoir in New Mexico. If these routes in the Middle Rio Grande valley are chosen, BLM must require all mitigation measures to minimize impacts to any crossing of the Rio Grande in this area.

IV. Other Areas of Concern in New Mexico

The Nutt Grasslands (aka Luna County Grasslands)

The Nutt Grasslands in northeastern Luna County, east of Midpoint Substation, are relatively unfragmented Chihuahuan semi-desert grasslands and identified as a key eco-region in NMDGF's Comprehensive Wildlife Conservation Strategy. Proposed routes on the southern end of Group 1 will impact and fragment this grassland area home to many wildlife species. These southern New Mexico grasslands support Grasshopper and Baird's Sparrows and other sparrows, Sprague's Pipits, meadowlarks, lark buntings, and more. The DEIS notes that the area contains important grassland habitats for wintering grassland birds, as well as Sandhill Cranes and geese (3-110). Additionally, we have learned that the Nature Conservancy and the New Mexico Land Conservancy both hold conservation easements in this area and the route may cross these protected lands.

Lordsburg Playa
Lordsburg Playa is a vast ephemeral saline lake that provides habitat to considerable numbers of waterfowl including Sandhill Cranes. In partnership with New Mexico's Tourism Department, NMDGF, and other partners, Audubon New Mexico designated this site as part of our Southwestern New Mexico Birding Trail (site 11) for bird-watchers to visit the shallow playa for shorebirds and waterfowl sightings. The soils in this area are also home to several rare plants. Subroute 3A1 would cross this area and negatively impact sensitive plants and invertebrates. While the DEIS references the Lordsburg Playa as a winter stopover site for migratory shorebirds (3-117), it fails to adequately address the impacts of a transmission line through this sensitive habitat.

- ***Recommendations:***
  - If this transmission line is approved, subsections A361, 430, and 431 should all be avoided. Instead, the more westerly BLM preferred route would cause less disturbance. Given the importance of this general area, site disturbance should be minimized and grasslands should be restored with native grasses.
  - The transmission corridor should be minimal width of 400 feet to decrease the impact to the landscape and wildlife. If required, the BLM's RMP amendment should adopted the utility corridor of 400 feet and not the 2,500 feet to allow for future projects (3-229). The two 500 kV transmission lines are more than sufficient for any electricity generated in the area now and long into the future.
  - Impacts to Lordsburg Playa must be adequately addressed.

V. Species of Concern in New Mexico within the SunZia Project

Southwestern Willow Flycatcher
The southwestern subspecies of the Willow Flycatcher, known as Southwestern Willow Flycatcher, has been listed as federally endangered since 1995, currently state listed as endangered, and critical habitat has been designated since 2005. The species has had more than a century of decline, mostly attributed to loss/conversion of riparian habitat. The Rio Grande corridor in New Mexico is part of this critical habitat where it is vulnerable to the loss, fragmentation, and modification of the riparian areas. The Middle Rio Grande reach has 357 documented territories of Southwestern Willow Flycatcher (2010 data) with 33 of those sites at Bosque del Apache NWR.

Yellow-billed Cuckoo
Similar to the needs and habitat preferences of Southwestern Willow Flycatcher, Yellow-billed Cuckoo is a candidate species for listing under the Endangered Species Act. A riparian species experiencing significant declines in the last few decades, Yellow-billed Cuckoo breeds along New Mexico's major river valleys, including the Rio Grande. Once common along the streams and rivers of the western U.S., Yellow-billed Cuckoo appear to breed only in long contiguous stretches of riparian habitat (Holmes et al. 2008). In 2001, as the result of habitat loss, the USFWS found that the western Yellow-billed Cuckoo (populations west of the crest of the Rocky Mountains) represents a distinct population segment and warrants protection under the Endangered Species Act. It was determined

that it should be listed as "threatened," but this action was precluded by other higher priority listing actions, and is now under USFWS review (Johnson 2009).

Sandhill Cranes

The State of New Mexico has developed a Long-range Management Plan for Sandhill Cranes and this species is a New Mexico Species of Greatest Conservation Need as identified in the State Wildlife Action Plan (NMDGF 2003 and 2006). However, the primary authority for management of the species lies with the USFWS.

There is one species of crane found in New Mexico, the Sandhill Crane (*Grus canadensis*), with three identified subspecies found in the state: Lessers (*G.c. canadensis*), Canadians (*G.c. rowani*) and Greaters (*G.c. tabida*) (NMDGF 2003). Migration and wintering areas are of concern in New Mexico (Appendix B and Appendix C). These areas are described in NMDGF's Long-Range Plan, but, briefly, include the entire Rio Grande valley from the Colorado line to northern Dona Ana County, the Pecos River watershed from Roswell to Carlsbad, and from Las Vegas National Wildlife Refuge in western San Miguel County southwest to the Middle Rio Grande valley. Additional areas include Grulla National Wildlife Refuge, Roosevelt County and surrounding areas southwest to Roswell, the Las Uvas Valley south to Columbus in Luna County, and from Bosque del Apache National Wildlife Refuge southwest to Wilcox Playa, Arizona. Fewer numbers migrate through and winter at Maxwell National Wildlife Refuge, Colfax County and the lower Gila River Valley, Grant County. The Middle Rio Grande valley, and specifically the Socorro valley, is a narrow corridor that is used by hundreds of thousands of migrating and wintering waterbirds.

The Socorro valley has been identified as the most critical landscape in the annual cycle of the Rocky Mountain population of Sandhill Cranes (approximately 20,000 annually in the population) due to the density of wintering birds in one location, the limited availability of foods (natural and wintering), and the small size of this wintering area (Taylor 1999). Research across all Sandhill Crane populations indicates the single most important factor regulating Sandhill Crane populations is habitat availability (Tacha et al. 1992). Understanding the importance of the valley in the context of population viability is essential when evaluating potential anthropogenic impacts**.**

Audubon New Mexico has reviewed the study initiated by SunZia and commissioned to EPG called the "Analysis of Potential Avian Collisions with Transmission Lines at Four Locations on the Rio Grande in New Mexico" ("EPG Study") to look at crane movements up and down the Middle Rio Grande valley because of concerns expressed about the crossing north of Bosque del Apache NWR. In this study, the conclusion states that the SunZia project "would have no significant effects on the population status of any species living in or migrating through the Rio Grande Valley." However, Audubon New Mexico believes that the collision estimates and population effects on Sandhill Cranes are difficult to predict. The EPG Study looked at four sites, and none of these are the routes chosen in this DEIS. Additionally, there appear to be gaps in the study design and Audubon New Mexico and other migratory bird managers have little confidence that this study is going to provide us much in the way of understanding how cranes use the valley seasonally or daily. For instance, the survey periods are incomplete and do not contain the entire migration cycle. The survey in year one, December 2009 – March 2010, excludes much of

the fall migration. The study in year two, August 2010 – December 2010, misses the late winter and spring migrations. The population numbers are not an accurate reflection of true population numbers. Furthermore, EPG's mortality estimates are based on assumptions about the effectiveness of the new "FireFly" technology from one study (Murphy et al. 2009) in which the authors conclude that a more rigorous study with experimental design is needed to draw any inferences about the effectiveness of this technology at decreasing crane mortality.

Bell's Vireo

In New Mexico, Bell's Vireo is broadly distributed in appropriate habitat across the central and southern part of the state. They breed in the Rio Grande valley from the southern border up to San Antonio, New Mexico. Listed by the state of New Mexico as threatened, Bell's Vireo populations are declining throughout its range, primarily due to declining riparian habitat.

Lucy's Warbler

A desert riparian species, Lucy's Warbler occurs in several areas of New Mexico including the Rio Grande valley around Socorro. Breeding in the riparian areas, Lucy's Warbler is a National Audubon Society WatchList species and is at risk due to extensive habitat loss and a small breeding range. Maintaining and enhancing suitable riparian habitat in the Rio Grande corridor is essential to this species.

Lewis's Woodpecker

Lewis's Woodpecker has experienced broad population declines since the 1960's and is a National Audubon Society WatchList species, with breeding areas in New Mexico. Although most documented nest sites are north of the SunZia routes, potential nesting sites within the Rio Grande corridor and the SunZia project area may exist. Often described as an opportunistic and nomadic species, it winters in New Mexico, including in southern New Mexico.

Raptors in New Mexico

New Mexico contains a diverse array of habitats, many of which are known to support raptors during one or more seasons. Raptors include all diurnal and nocturnal birds of prey. The central mountains in New Mexico lie within one of three major migration corridors in western North America. Twice annually, thousands of migrating raptors pass through the state, utilizing the updrafts that occur on the windward side of mountain ridges (Smith and Neal 2008). Raptors breed, migrate and winter in the state. Most North American raptor species may be present in New Mexico during the migration season and in a wide variety of habitats. These include riparian corridors, perennial and ephemeral wetlands, grasslands, juniper savanna, woodlands, deciduous, pine/oak, and coniferous forests. All north-south oriented mountain ridges and river corridors (including the Rio Grande, Pecos, and Canadian) serve as important migratory flyways.

Raptors of particular conservation interest are Aplomado Falcon, federally listed as endangered, and the following species of concern with one or more state or federal agencies such as Peregrine Falcon, Common Black-Hawk, Gray Hawk, Prairie Falcon, and Ferruginous Hawk. Additionally, Golden Eagles are monitored throughout the United States because the species is vulnerable due to its relatively small population size and various sources of mortality.

Because raptors feed at the top of food pyramids, inhabit most ecosystems, occupy large home ranges, and are sensitive to environmental contamination and other human disturbances, they serve as important biological indicators of ecosystem health (Bildstein 2001). They are documented utilizing considerable swaths of habitat along portions of the SunZia proposed transmission route.

Golden and Bald Eagles

Based on the USFWS' analysis of populations across the nation, there is no safe allowable take level for Golden Eagles; however, take is likely unavoidable with transmission project of this magnitude and in this location. Use by Golden Eagles is not surprising as the application area contains native shrubland and grassland communities, as well as natural landscape features, that provide foraging and nesting opportunities sought by Golden Eagles. Given the growing concern for these majestic birds, especially related to mortalities associated with wind farms and expanding transmission infrastructure, any development decisions that will impact Golden Eagles must be placed within a regional population context much larger than the area immediately surrounding any proposed transmission project, which this DEIS fails to do.

The status of the Golden Eagle is so dire that the USFWS currently authorizes take permits only under the philosophy that *"no net loss"* may be attributable to such take. Raptor migration counts and Christmas Bird Counts have indicated a *decline in Golden Eagle populations* in western North America since the 1980s, especially in recent decades (Farmer et al. 2007). Similarly, a recent update of this data continues to suggest juvenile eagles are declining in some regions (Neilson et al. 2010). In February 2011, the USFWS issued the Draft Eagle Conservation Plan Guidance ("Guidance") which is designed to comply with the regulatory requirements of the Bald and Golden Eagle Protection Act ("BGEPA"). The Guidance is intended to assist project developers and USFWS personnel in actions to avoid, minimize, restore and compensate adverse effects to Bald and Golden Eagles, describing a process by which project developers can collect and analyze information that could lead to programmatic permits authorizing additional take of eagles. Again, we are left with a situation where the proposed project is proceeding ahead of guidance and data necessary to ensure that significant wildlife values are not compromised**.** *We recommend that BLM fully ensures compliance with BGEPA and ensures stable or increasing Golden Eagle breeding populations* – an action that has not been adequately addressed in the DEIS.

Without project modification, the proposed *transmission line appears inconsistent with the USFWS' goals of minimizing eagle population impacts* and avoidance over compensatory mitigation. Improvements can be achieved by using historical and current survey data, as well as the Key Raptor Areas such as the BLM's Macho Wildlife Habitat Area, to identify areas to avoid development. One such area are migration routes, which received very minimal attention in the DEIS. Adequate buffers should be in place and monitored to evaluate effectiveness. Compensatory mitigation for retrofitting of lethal power poles in the region should be considered for the first five years of operation. In addition, the Eagle Conservation Plan should include Advanced Conservation Practices to reduce risks to Golden Eagles and other raptors from the project.

BLM and SunZia should consult with USFWS regarding what surveys should be conducted to predict potential eagle mortality, and if warranted, consider applying for an eagle incidental take permit. Bald Eagles are currently listed as state threatened in New Mexico. Although fatalities most often occur at smaller (≤ 69 kV) distribution lines, electrocution and collision are known causes of mortality for the Golden Eagle. The design and layout of SunZia's towers, transmission lines and guy wires should minimize risk to eagles.

Common Black-Hawk

In New Mexico, the Common Black-Hawk population is highly vulnerable to alterations or further losses of riparian forest habitat and particularly mature, streamside gallery forests. This species is listed as threatened in the state of New Mexico. Less than one percent of this species population occurs in the United States.

Ferruginous Hawk

A Species of Conservation Concern, Ferruginous Hawk has the highest vulnerability scores from Partners in Flight due to its small population size and threats during the breeding season. It is considered highly sensitive to disturbance and to loss or alteration of native grassland habitat. Ferruginous Hawk breed across the northern two-thirds of New Mexico and are found statewide in the winter. Breeding may occur in the Rio Grande valley in the area of the SunZia project and in isolated areas in the southwestern portion of the state.

Peregrine Falcon

Peregrine Falcon is a state priority due to its small New Mexico population and high degree of threat to breeding in the state. A national bird of conservation concern for the USFWS, Peregrine Falcon is state listed as threatened by NMDGF.

Northern Aplomado Falcon

Listed as federally endangered in southern and western Texas and state-listed as Endangered in New Mexico, this species exists as an experimental population in New Mexico with primary breeding habitat in the Chihuahuan Desert Grassland of southern New Mexico. Falcons are threatened by habitat destruction and disturbance at nest sites, and may experience direct mortality due to collisions with construction cranes, trucks, or wires and powerlines. Noise and human activity may displace the birds, and removal of nesting sites impacts their reproductive activities. Both of the SunZia routes in southern New Mexico would cross suitable habitat for this species. Transmission, planning, and construction of the proposed line should be consistent with the species reintroduction plan and its objectives to avoid negative impacts to the falcons. In addition, the Final EIS must adequately analyze potential cumulative effects of energy development that would be enabled by the construction of SunZia. For example, recent wind development (Macho Springs) in the Nutt Grasslands area, the same area where SunZia is proposed to be routed, has led to the decision to not reintroduce these endangered birds into highly suitable habitat in the Nutt Grasslands due to potential conflicts with wind turbines. We anticipate SunZia will enable future wind, solar and natural gas development to occur that could not only directly impact suitable habitat and the likelihood of successful natural dispersal and establishment of new populations, but could also preclude or dissuade reintroduction

efforts in suitable habitats. Therefore, the impact to Aplomado Falcon recovery and recovery efforts must be analyzed.

The DEIS states, "Large areas of available but unoccupied habitat, coupled with the naturally low densities of Aplomado Falcons, would preclude significant negative effects of Project construction related to habitat loss." While it is true there are large areas of unoccupied and suitable habitat for the falcon in the project study area, we do not see any basis for the assumption that naturally low densities of this species would preclude significant negative effects from occurring. Effects to this species will depend largely upon the final route that is selected and that route's proximity to occupied habitat and nest locations. Modifying or creating hazards in suitable and unoccupied habitat could preclude birds' dispersing there or being reintroduced there, which could have significant negative impacts on their ability to be recovered.

- ***Recommendations*:**
  - SunZia and BLM should consult with the USFWS regarding conservation measures for each of these bird species. One of the more prominent species is the Southwestern willow flycatcher. For this species, engineering of structures to span over flycatcher habitat is the preferred avoidance method, and vegetation preservation and/or restoration actions should be implemented where SunZia interacts with flycatcher habitat.
  - For some species, recovery plans may provide guidance for avoidance, minimization, and mitigation measures (and implemented in consultation with USFWS).
  - Avoidance and mitigation measures may be warranted for any instances in which the transmission corridor crosses a floodplain or other riparian habitat area such as the Middle Rio Grande.
  - Clarification on impacts to raptor nesting concentration areas and migration routes.
  - Avoiding impacts will require a great deal of geospatial data on the locations of the protected and sensitive lands and species. The quality and availability of these data will vary across the extent of the proposed line. The absence of data, such as on private lands, does not necessarily indicate the absence of sensitive resources. On-the-ground surveys, consistent with guidelines provided by the USFWS or state wildlife agencies, must be performed and results made public for consideration of project impacts.
  - Specific information about the sensitivity to disturbance of the endangered, threatened, candidate wildlife species will be required to establish buffer zones around the most sensitive habitat to avoid direct and indirect impacts.
  - An Avian Protection Plan ("APP"), developed before construction begins in consultation with USFWS and state wildlife agencies, should be designed for the entire line to reduce the mortality and injury risks to birds from the new power line. The APP should follow guidelines available through the Avian Power Line Interaction Committee ("APLIC"), including also the most current technological and operational innovations to reduce avian risks. The APP should describe how the transmission tower design will reduce electrocution

risks, prevent nesting, and prevent collision with electrical wires and tower support wires.
- Reclamation of disturbed habitat with native species will require a plan informed by the best available science as well as a rigorous inspection program to achieve goals and objectives in the short-, medium-, and long-term.
- An impacts analysis, especially for Sandhill Cranes, must be conducted in coordination with agency biologist to provide an understanding of impacts to specific avian populations and habitat. This information will then inform the development of a compensatory mitigation plan for both temporary and permanent impacts.

VI. Collisions with the Proposed Transmission Line Highly Likely

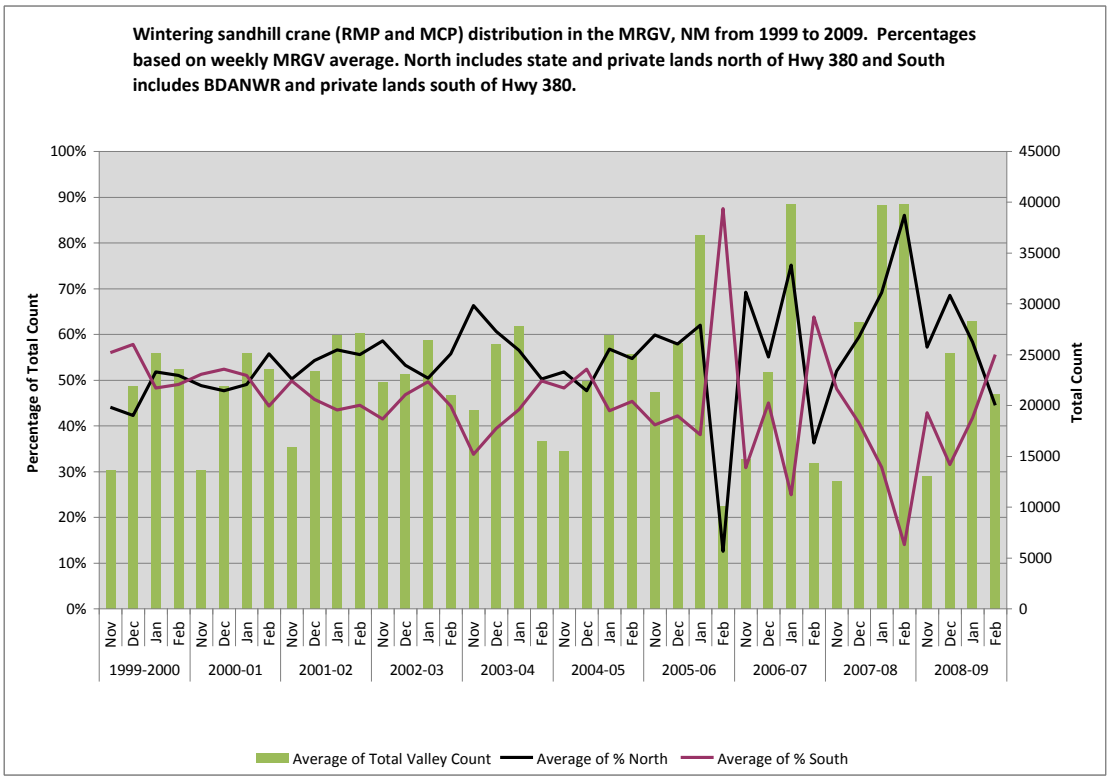
Extensive alteration to the Rio Grande and associated floodplain has reduced the available riparian habitat and constricted it to a narrow corridor, particularly in the Middle Rio Grande valley. This constriction increases the density of birds moving along the corridor increasing the likelihood of collisions. Additionally, the Lordsburg Playa area provides habitat to vast numbers of waterfowl, including cranes, after rain events and the overhead line would present avian challenges in that area.

Sandhill Cranes are threatened from collisions with powerlines. Up to 10% of all mortality is due to collisions with powerlines (NMDGF 2003). An additional 30% of all deaths are from unknown causes, but a portion could conceivably include collisions. During winter cranes need both roosting sites, flat, shallow open wetlands as well as nearby feeding areas which may include wet meadows or other wetlands and cropfields. Cranes in New Mexico have been documenting traveling over 20 miles from roost site to feeding areas (NMDGF 2003).

Numerous studies have found that collisions with transmission are a significant cause of mortality for Sandhill Cranes and collisions with power lines have been well-documented (Ward et al. 1987, Windingstad 1988, Brown and Drewien 1995, Wright et al. 2009). In a 2005 USDA Forest Service Technical Report, Manville said that collisions with power transmission and distribution lines are estimated to kill as many as 175 million birds annually, and an additional tens to hundreds of thousands more birds are electrocuted. The difficulty with quantifying the impact of these utilities is that due to great expanse of area they cover they are poorly monitored for both strikes and electrocutions (Manville 2005). Other sources of mortality include hunting (53%) and other shooting incidents (5%) (NMDGF 2003). Cranes generally fly higher than turbines or powerlines. Incidents may occur during landing or takeoff and during inclement weather conditions such as snow storms or heavy fog.

Daily movements north out of Bosque del Apache NWR and up to Ladd S. Gordon Waterfowl Management Area or the surrounding agricultural lands expose birds to obstacles in their flight path. Managed agricultural crops are provided at Bosque del Apache NWR and Ladd Gordon Waterfowl Area approximately 40 miles north of the Refuge. Food and hunting management at each of these areas is designed to encourage daily movement between the areas to disperse the population of wintering cranes and snow

geese and to reduce disease outbreak and spread (as shown on the chart reproduced below, which was provided courtesy of refuge biologists at the Bosque del Apache NWR). Audubon's greatest concern is the likelihood of collisions for cranes and other migratory birds that forage up and down the Middle Rio Grande valley and have frequent takeoff and landings. Extreme weather conditions that create poor visibility, which are common along the river during the winter, further increase the likelihood of bird and transmission line collisions.



Winter distribution of Sandhill Cranes throughout the Middle Rio Grande Valley in response to location of food and roost sites.

In the San Luis Valley of Colorado, collisions with transmission lines were one of the contributing mortality factors to the experimental Whooping Cranes population. On certain sections of transmission lines in the San Luis Valley where wetlands and agricultural foods are bisected by transmission lines, Sandhill Crane collision events have been as high as 75 birds a night (information provided by Vradenburg, personal communication, November 2009). Historic bird and transmission line collisions at Bosque del Apache NWR and further north in Colorado stimulated the Refuge to work with the Socorro Electric Cooperative to bury all transmission lines on the Refuge.

BLM's preferred route (Subroute 1B) and alternative Subroute 1A for the SunZia line cross the Rio Grande in critical habitat for Sandhill Cranes and both routes can be expected to have consideration impact on these bird populations. Because most areas occupied by cranes are known, **the best alternative for the siting of the SunZia line would be to avoid locating this transmission line and associated structures in known crane concentration areas or to bury powerlines** (unless environmental analyses indicate greater environmental impacts). Banded cranes have been known to live for 37 years.

Cranes return to the same areas year after year, so adverse impacts will have long-term effects. To the extent possible, avoid locating transmission lines near major migration or wintering areas. If this transmission line is located in a wintering area for cranes, avoid placing this infrastructure in areas between potential roosting and foraging areas. Additionally, avoid use of guy wires for powerline tower support.

VII. Crossing the Rio Grande

Any crossing of the Rio Grande will entail significant impacts to migrating bird populations and other wildlife. The recent 2009 study on cranes and transmission by Wright et al. recommends immediate mitigation for transmission line placement near major roosting sites. Although Audubon New Mexico feels believes that the potential damage to the Middle Rio Grande valley crane population cannot be fully mitigated, we recommend the following actions to reduce impacts to cranes and partially offset the expected impact of the SunZia line:

1) Set transmission lines and associated infrastructure back from the edges of wetlands and croplands to allow for takeoff and landing by these large birds so that they do not have to pass through lines or facilities.
2) Mark transmission lines with bird flight diverters or other markers so that they can be more easily seen and avoided by cranes. Powerlines marked with markers such as the yellow spiral vibration dampeners or yellow fiberglass swinging plates have been shown to reduce crane mortality by 54% to 63% in different studies (Brown and Drewien 1995). Although a limited number studies have been conducted on the use of markers or "bird diverters" to reduce collisions, BLM should confer with the USFWS to determine and implement best practices for reducing transmission line and guy wire collisions with Sandhill Cranes and all bird species.
3) Bury powerlines and transmission lines in areas where there is high crane use for roosting and foraging and likely potential for collision with takeoff and landings, unless environmental analysis shows that running the line underground in this area would increase environmental impacts. Underground burial of the transmission line is the only effective way to avoid significant impacts to Sandhill Cranes. Although the cost of undergrounding this line was evaluated by SunZia in their Underground Technology and Cost Analysis, this evaluation does not account for total project expense such as the use of diverters and ongoing maintenance or the cost of mitigation.
4) Minimize roads, fences, and other infrastructure.

- ***Recommendations***: In addition to the above, we continue to encourage that the route travel along the east side of the White Sands Missile Range and cross the Rio Grande River near Las Cruces, where impacts would be much lower. All of the alternatives presented in the DEIS would cross the Rio Grande in the Middle Rio Grande region between the Bosque del Apache and Sevilleta National Wildlife Refuges, an area that is particularly important for wildlife.

VIII. General Considerations for Renewable Energy and Transmission Line Development

Pre-decisional information should be gathered concerning the wildlife resources of any area being considered for renewable power and transmission line development. It is important to recognize that in many areas, detailed information is lacking, and that absence of information is not equivalent to indication of the absence of use by wildlife. Surveys adequate to determine the presence of migrants, including nocturnal migrants, must demonstrate that there is no significant use of a proposed site by migrating birds or bats.

As a minimum, survey objectives should include the following:

- Identification of avian and bat species using the area, particularly during migration periods—fall and spring—when large numbers of birds may be moving through the area *(visual and acoustic observations and aerial surveys);*
- Quantitative and qualitative descriptions of the temporal and spatial use of the study area by the identified species, to include data on the altitude at which birds fly over the study area during migration, particularly at night. (*Fine-scale marine radar combined with acoustic monitoring during both fall and spring migrations.);*
- Identification of any high-avian-use areas *(resting or congregating areas, National Wildlife Refuges)* within the overall study area which may pose a higher risk to avian species from development.

Monitoring methodologies should also:

- Be site specific and statistically valid;
- Be peer reviewed by unbiased biometricians and ornithologists who have no financial relationship to the project;
- Include a formal-risk-assessment component that examines the probabilities of and the consequences to wildlife populations of worst-case outcomes;
- Identify the ranges and movement patterns of bird species included on the Partners in Flight Species of Continental Importance as well as state and federal threatened and endangered species and other bird species of management concern.

IX. Mitigation Possibilities in New Mexico

Habitat Equivalency Analysis

Replacement habitat acreage and ratios will vary with habitat type and quality, geography and topography, legal protections, direct and indirect impacts, and permanency of the impact. A Habitat Equivalency Analysis ("HEA") was used to objectively quantify habitat replacement mitigation goals for habitat impacts associated with the Ruby Pipeline from Wyoming to Oregon[6] and is currently being proposed for the Gateway West transmission

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6 http://www.blm.gov/pgdata/etc/medialib/blm/nv/nepa/ruby_pipeline_project/rod/attachment_i.Par.92482.File.dat/Final_USFWS_15%20June_2010_%20Ruby%20MB%20Conservation%20Plan%20Support%20Document.pdf. An HEA requires that habitat is replaced with like habitat so that there is no net loss in ecosystem services and the replacement or compensatory habitats should be of equal or better quality to those disturbed by a given project

project, this latter project specifically includes a Habitat Services Metric ("HSM") model for determining impacts on sage-grouse habitat services. We are in favor of applying a robust and defensible quantitative assessment for this and future projects. We strongly encourage BLM to monitor the use of this tool as Gateway West proceeds, as a possible tool for this proposed transmission line. An HEA or similar transparent and quantitative analytical tool which has been approved by the USFWS should be required to establish habitat mitigation goals for the SunZia project.

Mitigation

The development of projects like the SunZia, can provide energy solutions, but should not unnecessarily damage the public's natural resources. The BLM's Habitat Mitigation Policy, codified at 43 C.F.R. § 1508.20, lists habitat mitigation actions in descending order of preference: avoidance, minimization, and compensation.

Replacement habitats are preferably located in the same geographic area as the impact, which in this case is primarily the Middle Rio Grande corridor. Rather than approach replacing impacted habitat acres with a patchwork of small areas of newly protected land, it can be preferable to assemble and purchase much larger areas and closer to already protected lands to maximize their long term and population benefits. Impacted federal lands providing habitat for endangered, threatened, candidate and sensitive species should be mitigated by the acquisition and/or permanent protection of currently non-federal lands that provide better than equivalent benefits to wildlife. These newly protected lands should be protected in perpetuity and will require endowments to ensure the perpetual protective management of mitigation lands.

If an action alternative is chosen, the project's environmental impacts should be avoided to the greatest extent possible by siting in areas with low resource values and minimized and mitigated to the best degree possible, using best management practices, the best available technology, and innovative strategies for both on and off-site mitigation. The FEIS should develop a mitigation component that provides for no net loss in habitat for wildlife species.

Manipulation of crops within the Middle Rio Grande corridor may diminish collision threats to foraging cranes. The BLM should mandate that SunZia works with the USFWS to study specific foraging preferences and movement of the Middle Rio Grande population of Sandhill Cranes to identify if crops and foraging areas can be changed to reduce collision mortality. BLM could direct SunZia mitigation funds to conservation easements and habitat restoration programs identified by the USFWS as most critical for ensuring a healthy population of cranes and other waterfowl.

As noted previously, this DEIS inadequately addresses mitigation. In the Gateway West DEIS, stakeholders were also presented with proponent-proposed *Environmental Protection Measures* and agency mitigation measures, which are lacking in the SunZia DEIS. Impacts need to be minimized in areas which cannot be avoided and compensation is often used to offset unavoidable impacts. The DEIS lacked any descriptions of specific mitigation measures that may be required for the alternative routes. Some measures, required to be implemented project-wide, are required on federally managed lands or for compliance with the Endangered Species Act. The inclusion of this information would have resulted in more robust analyses of project impacts and improve stakeholder

confidence in reduction of impacts to species. We recommend review of the mitigation measures proposed in the Gateway West DEIS as a minimum, along with close consultation with the USFWS and cooperating state agencies.

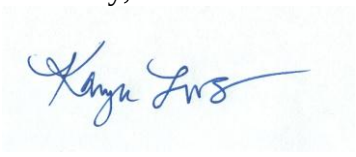
Additionally, the BLM has demonstrated the authority to negotiate for mitigation funds for substantial offsets, in addition to avoidance, minimization, and restoration measures. For instance, on the Ruby Pipeline through Nevada, Utah, and Wyoming, BLM was able to secure $11.6 million in funding to offset the impacts of that gas line for conservation measures to benefit wildlife. Mitigation funding should be under consideration for any unavoidable impacts of the SunZia project.

X. Conclusion

In closing, the American West's natural resources are too precious and unique to sacrifice – in the long term to climate change or in the short term to energy development. As our nation struggles with ways to meet growing energy demands and the challenges of climate change, the ability to balance these will require thoughtful, comprehensive, and pro-active planning. We continue to champion the efforts to identify the most environmentally appropriate sites for clean energy projects and transmission lines.

Thank you for the opportunity to comment on this Draft Environmental Impact Statement of the proposed SunZia Southwest Transmission Project. We will continue to remain engaged in this important project and welcome future dialog.

Sincerely,



Karyn Stockdale
Vice President and Executive Director
Audubon New Mexico, the state office of the National Audubon Society
P.O. Box 9314
Santa Fe, NM 87504
kstockdale@audubon.org

Judy Liddell
President
New Mexico Audubon Council
jliddell@msn.com

About Audubon

As the state field office of the National Audubon Society, Audubon New Mexico's mission is to conserve and restore natural ecosystems, focusing on birds, other wildlife, and their habitats for the benefit of humanity and the earth's biological diversity. Audubon aims to enhance the knowledge of New Mexico citizens to make informed decisions about the protection of wildlife and to empower them to be active stewards of the planet. Audubon is known for its science-based approach to advocacy and its accomplishments in the areas of nature education, conservation including citizen science, and public policy.

In New Mexico, Audubon has over 6,000 members and volunteers. There are four local Audubon chapters throughout New Mexico – Mesilla Valley Audubon Society, Southwestern New Mexico Audubon Society, Central New Mexico Audubon Society, and Sangre de Cristo Audubon Society – which are community-based organizations run entirely by local volunteers with programs that range from field trips to public policy advocacy. These chapters provide Audubon with a local constituency and leadership in many of New Mexico's largest and fastest growing communities including the greater Albuquerque metro area, Las Cruces, Santa Fe, Los Alamos, and Silver City.

Audubon New Mexico and the New Mexico Audubon Council – representatives of our Audubon chapters – have been leaders in environmental advocacy in New Mexico for more than 30 years. Audubon is involved in efforts to reform our energy policies to address climate change, increase funding for conservation and outdoor education opportunities, and preserve the Important Bird Areas across New Mexico. Audubon is working to protect and restore our state's rivers and riparian ecosystems, with on-the-ground volunteer restoration activities, in advocating for additional conservation funding, and in the management of our water.

For more information, please visit http://nm.audubon.org

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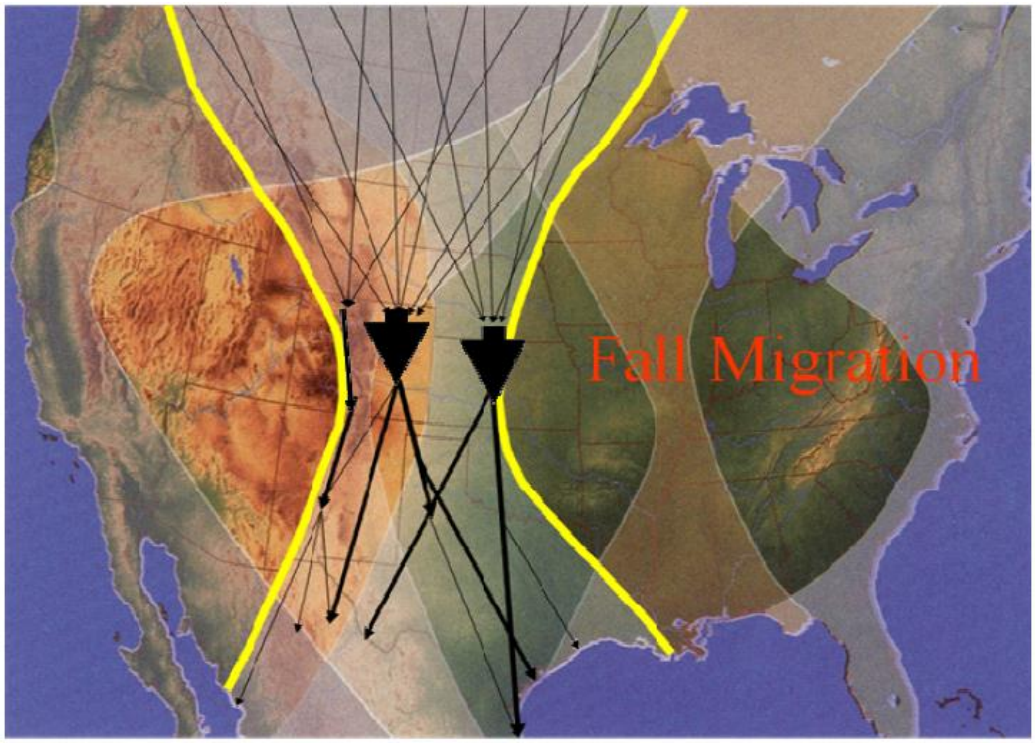
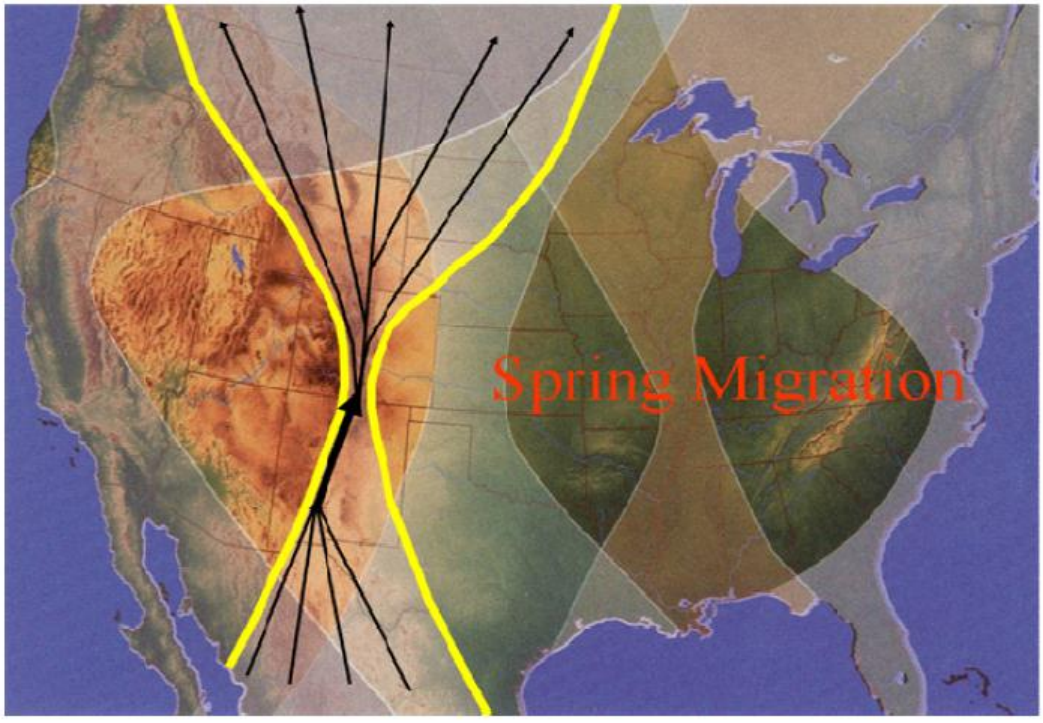
APPENDIX A. Maps depicting waterbird (including Sandhill Cranes) fall and spring migration routes which concentrate in central New Mexico, through the Middle Rio Grande. *Source*: Bosque del Apache National Wildlife Refuge.

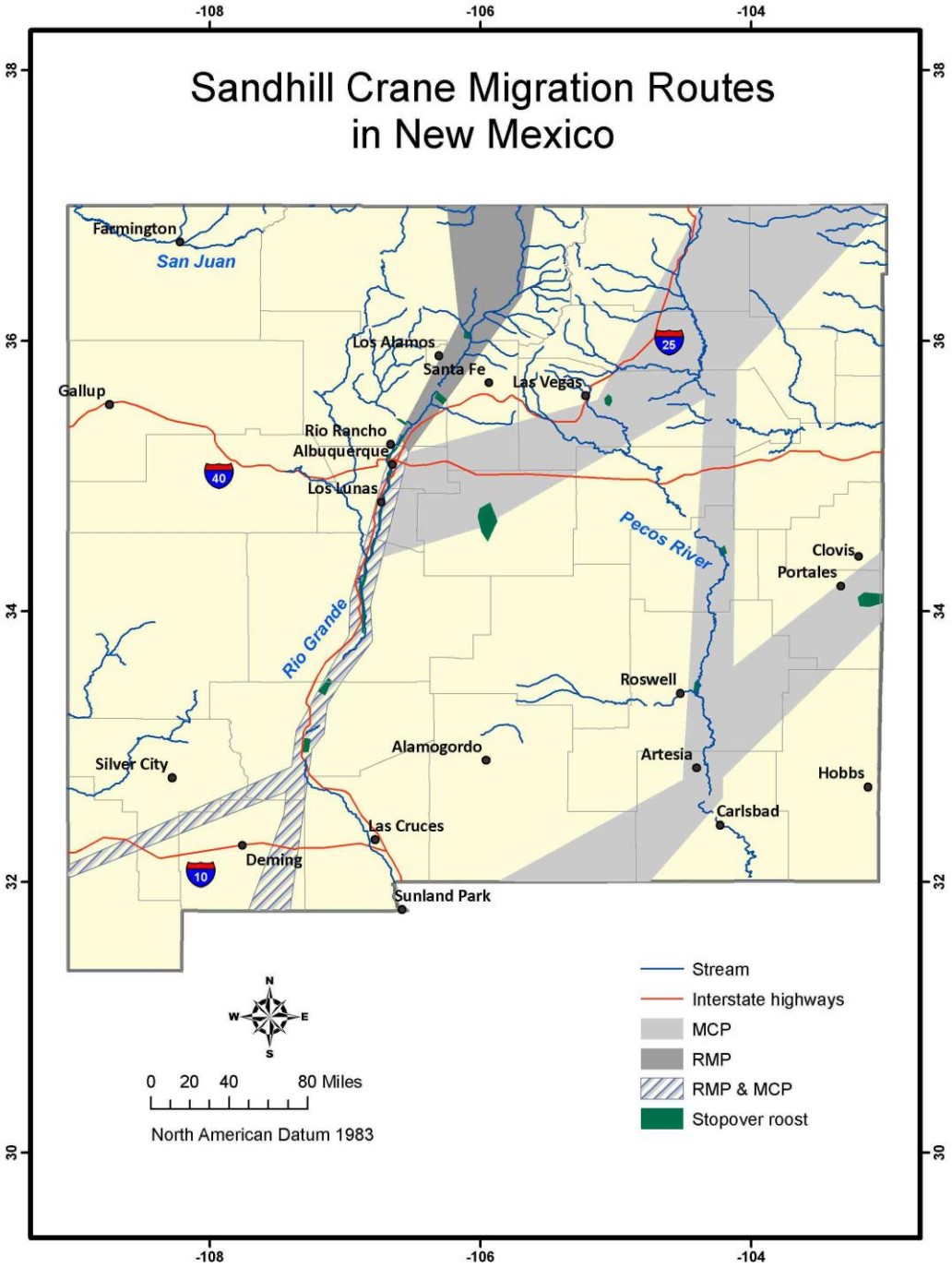


Fall waterbird migration through the Middle Rio Grande showing greater dispersal to east.



Spring waterbird migration through the Middle Rio Grande showing greater constriction "bottleneck" in the area.

APPENDIX B. Map of Sandhill Crane migration routes in New Mexico.
Source: The New Mexico Wind and Wildlife Collaborative (NMWWC)



APPENDIX C. Map of Sandhill Crane wintering sites in New Mexico.
Source: The New Mexico Wind and Wildlife Collaborative (NMWWC)