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Working to protect and restore Western Watersheds and Wildlife

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Submitted via email

RE: Comments on Converse County Oil and Gas Project DEIS

Dear Mr. Robinson:

Western Watersheds Project (WWP), American Bird Conservancy (ABC), and Center for Biological Diversity (CBD) thank you for this opportunity to provide comments in response to the Bureau of Land Management's (BLM's) request for comments on the draft Environmental Impact Statement (DEIS) for the Converse County Oil and Gas Project (Project).

American Bird Conservancy (ABC) is a 501(c)(3) non-profit organization whose mission is to conserve native birds and their habitats throughout the Americas. It achieves this by safeguarding the rarest bird species, restoring habitats, and reducing threats to bird species. ABC has more than 8,000 individual members and 30,000 constituents. ABC's members, supporters, and activists enjoy viewing, studying, and photographing migratory and resident birds.

The Center for Biological Diversity is a non-profit environmental organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center also works to reduce greenhouse gas emissions to protect biological diversity, our environment, and public health. The Center has over 1.3 million members and on-line activists, including those who have visited public lands within the affected Project area for recreational, scientific, educational, and other pursuits and intend to continue to do so in the future, and are particularly interested in protecting the native, imperiled, and sensitive species and their habitats that may be affected by the proposed Project.

Western Watersheds Project is a non-profit organization with more than 5,000 members and supporters. Our mission is to protect and restore western watersheds and wildlife through education, public policy initiatives and legal advocacy. Western Watersheds Project and its staff and members use and enjoy the public lands and their wildlife, cultural and natural resources for health,

recreational, scientific, spiritual, educational, aesthetic, and other purposes. Western Watersheds Project also has a direct interest in mineral development that occurs in areas with sensitive wildlife populations and important wildlife habitat, including this area of Wyoming.

We incorporate by reference prior scoping comments.

In these DEIS comments, we incorporate by reference WildEarth Guardians' scoping comments letter of June 30, 2014. Its primary author was Erik Molvar, who is now Executive Director of Western Watersheds Project.

Site-specific NEPA analysis is necessary and should not be deferred.

Molvar's 2014 scoping comment letter described the importance of site-specific NEPA analysis: "For sage grouse, nesting birds of prey, key habitats for BLM Sensitive Species such as black-tailed prairie dogs, and crucial big game winter ranges, the actual locations of wells, roads, overhead powerlines, pipelines, compressor stations, and other facilities approved under this project will determine whether environmental impacts are significant or not, and the magnitude of significant impacts." Molvar at 1.

However, the DEIS states that site-specific NEPA will be deferred to the Application for Permit to Drill (APD) stage.[1] This is inadequate because in our experience, deferring site-specific NEPA analysis to a later date often results in it never occurring at all. Instead, BLM frequently refers back to prior lease sale or Resource Management Plan (RMP) NEPA analyses and claims that further analysis at the APD stage is unnecessary.

Our concern about deferring site-specific NEPA to the APD stage is particularly strong on this Project because the DEIS's detailed description of what would happen at the APD stage does not include NEPA analysis, public notice, or public comment opportunities:

> APDs would be submitted to the BLM, where appropriate. Per BLM Onshore Order 1, any submitted APD must be technically and administratively complete and include a completed 3160-3 form, well plat, drilling plan, SUPO, bonding, operator certification, and onsite inspection. The SUPO would contain information describing construction operations, access roadways and pipeline corridors, water supply and haul route, well site layout, production facilities, waste disposal, and reclamation associated with the site-specific well development proposal. The drilling plan generally would include information describing the technical drilling aspects of the specific proposal, including subsurface resource protection and royalty accountability. The BLM would determine the suitability of the proposed design, construction techniques, and procedures during the APD-review process. For activity on USFS-administered lands, the BLM

[1] For example, "Construction of individual pads would be requested through subsequent APDs and analyzed in site-specific NEPA." DEIS at 2-7.

> typically would provide a copy of the APD and the SUPO to the USFS for review, the USFS would approve the SUPO with any needed COAs, and BLM would be responsible for reviewing the drilling plan and ultimately approving the APD. Prior to construction and APD approval, the BLM and/or USFS would conduct on-site inspections to assess potential impacts and recommend additional methods to avoid, minimize, and/or compensate impacts as warranted. The BLM and/or USFS may impose mitigation measures as COAs to the APD. These additional environmental protection measures could address all aspects of oil and gas development, including construction, drilling, production, reclamation, and abandonment. The BLM and/or USFS would notify the operator of a date, time, and place to meet to perform on-site inspections for the proposed locations. Survey stakes would be used to indicate the orientation of the well pad and flagging would be used to indicate the routing of access roads, pipelines, or other linear features. Changes or modifications would be made during the inspection if needed to avoid or mitigate impacts to resources. Cut and fill and construction issues also would be addressed, as necessary.

DEIS at 2-5.

As a result, we have three questions. 1) How will BLM and Forest Service guarantee that future site-specific NEPA analysis will occur? 2) How will BLM and Forest Service guarantee that the public can comment in future site-specific NEPA analysis? 3) How will BLM and Forest Service guarantee that the public is notified of future site-specific NEPA public comment opportunities in time to respond to them?

The DEIS fails to analyze reasonable alternatives that were suggested during scoping.

Molvar's 2014 scoping comment letter asked that a range of alternatives be analyzed, but BLM and Forest Service did not include them in the DEIS. In order for BLM and Forest Service to fulfill their responsibilities to protect air quality, water quality, human health, and wildlife, we again ask that these alternatives be developed and analyzed in the EIS. These include

- "[A]t least one action alternative under which the project moves forward will full recovery of fluid mineral resources with the lowest possible impact on all aspects of the human environment (including wildlife, air and water quality, human health and safety, and climate change), and at least one action alternative that requires the cessation of activities if and when Clean Air Act violation(s) occur." Molvar at 2.
- Higher numbers of wells on the wellpads. "In the context of this project, Operators propose wellpads with between 1 and 16 wells. Why only 16? On the Pinedale Anticline, operators have already clustered as many as 72 wells on a single pad." Molvar at 13. The DEIS describes 8 and 16 well scenarios.

- "[A]t least one alternative that requires the use of closed-loop drilling. This obviates the need for reserve pits, which expand the surface footprint of wellpads unnecessarily, and represent a health and safety hazard for avian and terrestrial wildlife. In addition, Operators report that wellpads will be up to 12 acres in size; it is our understanding that wellpads already approach or exceed 20 acres in size in the Project Area." Molvar at 14. The current Plan of Development states that "OG members will generally use closed or semi-closed loop systems." POD at 21. The DEIS states, "[i]n general, semi-closed loop systems would be used" and "[a]lthough not specifically proposed or anticipated, reserve pits could be constructed, as appropriate based on site-specific conditions." DEIS at 2-27. Therefore, we again ask that at least one alternative that requires the use of closed-loop drilling and no reserve pits be analyzed.
- "[A]t least one alternative that forbids the venting or flaring of methane or other products. Venting of methane unnecessarily contributes to climate change, as methane is 23 times as potent a greenhouse gas as carbon dioxide, degrades into carbon dioxide over time, and thus makes an immediate and long-term contribution to climate change without any human benefit in the form of energy." Molvar at 14. We again request an alternative without venting or flaring of methane or other products.
- At least one alternative that analyzes "comprehensive moratoria for project-related vehicle traffic and human activities (except in emergencies) in sensitive wildlife habitat such as sage grouse seasonal habitats, big game crucial winter ranges or migration corridors, and within 2 miles of ferruginous hawk nests or one mile of other raptor nests, during their key season of use for the wildlife species in question. The Bill Barrett Corporation committed to similar measures for their Big Porcupine Coalbed Methane Project on the Thunder Basin National Grassland, adjacent to the current Project Area, therefore demonstrating that such an alternative is reasonable. See Exhibit 5. **BLM should consider at least one alternative that requires these measures to be applied, without exception, for this project**." Molvar at 15. We again request that this alternative be analyzed.

Impacts to wildlife in general require additional analysis.

The DEIS states, "Potential direct and indirect impacts to wildlife species include those that would eliminate, reduce, compromise, or fragment associated habitat, avoidance of areas by wildlife due to noise and human activity, and activity that causes stress, injury, or death to wildlife." DEIS at 4.18-1. This list omits impacts to reproductive success and energetic impacts, which should be analyzed in the EIS.

The wildlife potential occurrence criteria in the DEIS should also be revised. The DEIS states, "Wildlife and aquatic species were considered as having potential to occur within the analysis area if: – Occurrence has been documented for the species; – The species predicted distribution currently exists within the analysis area; and – Suitable habitat is present." DEIS at 4.18-2. This three-part test is a

high bar that will result in underestimating potential occurrence and thus underestimating impacts to wildlife. For example, species can fail to meet the second part of the test ("the species predicted distribution currently exists within the analysis area") if current distribution data are unavailable. The DEIS acknowledges this is the case for some species occurring on private land in the Project Area. For instance, "There is no population estimate for this herd because access to perform ground surveys is inconsistent and highly variable from year-to-year as most white-tailed deer inhabit private lands (WGFD 2013c)." DEIS at 3.18-12. Also, "[Threatened Preble's meadow jumping mouse] Population estimate studies have occurred at a few sites in Colorado; however, no long - term trapping studies have been conducted in Wyoming, which limits the understanding of population densities in this state (78 FR 31680)." DEIS 3.18-39.[2] Furthermore, some wildlife species are difficult to detect even if present. For instance, "A 2011 mist-net survey of bats in eastern Wyoming did not capture any Townsend's big-eared bats within the CCPA [Converse County Project Area]; however, Townsend's big-eared bats are adept at avoiding capture in nets (WGFD 2012a)." DEIS at 3.18-43. In addition, suitable habitat may have been missed since this DEIS relies on habitat estimates rather than ground-truthed data. For example, "Wetlands in the CCPA have not been field-verified" and "Size and extent of riparian habitat also has not been field-verified." DEIS at 3.17-3.

It is important to note that the presence of private lands in this Project is not a valid excuse for failing to conduct site-specific surveys for ESA-listed wildlife. The BLM has the right to request these surveys and the Federal mineral lessee has the right to enter private property to conduct them. Onshore Oil and Gas Order Number One states:

> ***As provided in the oil and gas lease, the BLM may request that the applicant conduct surveys or otherwise provide information needed for the BLM's National Historic Preservation Act consultation with the State Historic Preservation Officer or Indian tribe or its Endangered Species Act consultation with the relevant fisheries agency. The Federal mineral lessee has the right to enter the property for this purpose, since it is a necessary prerequisite to***

[2] In regard to Preble's meadow jumping mouse, the DEIS states that **any** impacts to the species from Project development could result in extirpation from the Project Area: "Similarly for the Preble's meadow jumping mouse, due to the apparent rarity this species in the analysis area and the decline in the extent and quality of its habitat throughout is geographic range (69 FR 17 29101), any impact from Project development to the species potentially would lead to extirpation from the CCPA." DEIS at 4.18-72. If the mouse if extirpated from the Project Area, how will its representation, resiliency, and redundancy be affected? In addition, because Converse County is at the northern end of the mouse's range (*see* USFWS Recovery Plan at 3), extirpation from the Project Area would result in decreasing the mouse's range. How will BLM and Forest Service ensure that the mouse is not extirpated from the Project Area and that its range is not decreased?

> ***development of the dominant mineral estate.*** Nevertheless, the lessee or operator should seek to reach agreement with the surface owner about the time and method by which any survey would be conducted."

Onshore Oil and Gas Order Number One, Part VI, emphasis added.

However, in the absence of full wildlife data for the entire Project Area, we suggest modifying the test of wildlife potential occurrence to meeting any two of the three criteria rather than all three. This will help BLM and Forest Service avoid underestimating impacts to wildlife, which in turn will assist the two agencies in carrying out their public trust responsibilities to conserve wildlife.

These responsibilities include the need to adequately and accurate assess cumulative impacts. Molvar's 2014 scoping comments letter made specific requests in regard to cumulative impacts analysis, which we again request.

> "We expect BLM to assess the cumulative impacts of all BLM-permitted (and other) human activities on sensitive resources such as sage grouse habitats or human-induced climate change, including coal mining, livestock grazing, existing vehicle traffic and road networks, existing fences, and existing and reasonably foreseeable patterns of human habitation and subdivision across the project area. BLM must consider and disclose alternatives for getting product produced to market, including potential impacts to the environment for spills, train derailments, and other reasonably foreseeable events. In order to perform this legally required analysis, it will be critical to gather **comprehensive baseline information** on each and all of these, for both public and private lands.**"**

Molvar at 2.

Currently, the DEIS lists existing sources of impacts to wildlife and calculates surface disturbance as a proxy for cumulative impacts. The DEIS states:

> While surface disturbance generally corresponds to associated wildlife habitat loss, accurate calculations of the full extent of cumulative wildlife habitat loss cannot be determined because the direct impacts of habitat disturbance are species-specific and dependent upon the following factors:
>
> •The status and condition of the population(s) or individual animals being affected;
>
> •Seasonal timing of the disturbances (exceptions to timing limit stipulations allowing for year-round development would result in greater impacts to wildlife resources including occupied raptor and other migratory bird nests and seasonal wildlife habitats under Alternative B);
>
> •The value or quality of the disturbed sites;
>
> •The physical parameters of the affected and nearby habitats (e.g., extent of topographical relief and vegetative cover);

•The value or quality of adjacent habitats; the type of surface disturbance; and

•Indirect impacts that are difficult to quantify, such as increased noise and human presence.

DEIS at 5-58. However, this list of what has been omitted from the DEIS is exactly what needs to be analyzed for this NEPA analysis to be meaningful. These factors should be analyzed in the Final EIS.

The DEIS inadequately analyzes impacts to greater sage-grouse and is not consistent with the Approved Resource Management Plan for Greater Sage-grouse (WY ARMPA).

The DEIS states:

> The BLM Approved Resource Management Plan Amendment establishes the following required design features that mitigate noise impacts in the vicinity of sage-grouse leks and PHMAs (BLM 2015b):
>
> •Limit noise to less than 10 decibels above ambient measures (20 to 24 dBA) at sunrise at the perimeter of a lek during active lek season;
>
> •Require noise shields when drilling during the lek, nesting, brood-rearing, or wintering season;
>
> •Locate new compressor stations outside priority habitats and design them to reduce noise that may be directed toward priority habitat.

DEIS at 4.7-4.

Noise can mask the breeding vocalizations of sage grouse (Blickley and Patricelli 2012), displace grouse from leks (Blickley et al. 2012a), and cause stress to the birds that remain (Blickley et al. 2012b). According to Blickley and Patricelli (2010), "The cumulative impacts of noise on individuals can manifest at the population level in various ways that can potentially range from population declines up to regional extinction. If species already threatened or endangered due to habitat loss avoid noisy areas and abandon otherwise suitable habitat because of a particular sensitivity to noise, their status becomes even more critical."

In addition, it is reasonable to suppose that if noise that mimics oil and gas truck traffic causes elevated levels of stress-related metabolites in grouse on the lek (Blickley et al. 2012b), that this physiological response would be substantially similar during other parts of this bird's life cycle. Indeed, these researchers stated, "Noise at energy development sites is less seasonal and more widespread and may thus affect birds at all life stages, with a potentially greater impact on stress levels."

It is unclear whether the DEIS's many references to 20-24 dBA are intended as the upper maximum for noise at the Project or intended to represent 10 dBA *under* the allowable maximum for noise at the Project.[3] This distinction is important because sage-grouse noise researchers suggest that sage-grouse lek losses occur just over that range. For example, Ambrose et al's 2015 Review of Wyoming Governor's Order 2011-5 discusses problems with using 10 dBA over ambient as a fixed threshold. Ambrose recommends using 25 dBA as a threshold and the median of hourly L_{50} values as a monitoring standard. Ambrose et al 2015 at 2 and 1. BLM itself recently noted concerns about the noise threshold in a 2017 Environmental Assessment for a geothermal project in Nevada:

> However, some research suggests that elevated noise at leks may cause behavioral and physiological impacts to greater sage-grouse that could occur at or below the 10 dB threshold (Patricelli et al. 2013a and 2013b) and that further research is needed to determine if the 10 dB threshold is adequate to protect greater sage-grouse. Additionally, preliminary data provided by NDOW [Nevada Department of Wildlife] as personal communication with Gail Patricelli, suggests that greater sage-grouse lek trends decline after noise levels exceed 25 L_{50} dBA (NDOW 2017c).

BLM, McGinness Hills 3 Environmental Assessment at 114. How will BLM and Forest Service ensure that the noise level at leks in the Project Area remains below 25 L_{50} dBA?

We are also concerned that the DEIS repeatedly states that all Project alternatives could result in the loss of all 54 sage-grouse leks. This is consistent with findings of the Sage-grouse National Technical Team, that sage-grouse respond negatively to oil and gas development and that oil and gas development in Wyoming has led to sage-grouse population declines. The team's Conservation Report states:

> There is strong evidence from the literature to support that surface-disturbing energy or mineral development within priority sage-grouse habitats is not consistent with a goal to maintain or increase populations or distribution. None of the published science reports a positive influence of development on sage-grouse populations or habitats. Breeding populations are severely reduced at well pad densities commonly permitted (Holloran 2005, Walker et al. 2007a). Magnitude of losses varies from one field to another, but findings suggest that impacts are universally negative and typically severe.

Sage-grouse National Technical Team Conservation Report at 19. Other negative impacts of oil and gas develop on sage-grouse are described in the report, which we incorporate by reference. *See especially* 18-24.

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[3] *See for example,* DEIS at 4.7-4: "Limit noise to less than 10 decibels above ambient measures (20 to 24 dBA) at sunrise at the18 perimeter of a lek during active lek season"

We also note that the proposed Converse County project does not follow the WY ARMPA:

- The Proposed Action (Alternative B) does not follow the WY ARMPA's timing limitation stipulations. *See* WY ARMPA at 36. Instead, the Proposed Action would allow year-round development except in the Thunder Basin National Grassland and sage-grouse core areas. DEIS at 2-25. *See also* DEIS at 4.18-27: ("Under Alternative B, exceptions to timing stipulations would be requested in the vicinity of raptor nests and greater sage-grouse leks outside PHMAs. To the extent possible, drilling and development operations within the CCPA would be conducted on a year-round basis").
- None of the Project alternatives follow Management Objective 2: "Maintain and enhance quality/suitable habitat to support the expansion of sage-grouse populations on federally-administered lands within the planning area." WY ARMPA at 23. Instead, the Project will result in the functional loss of sage-grouse habitat through habitat destruction, fragmentation and abandonment.
- None of the Project alternatives follow Management Objective 3: "Manage sage-grouse seasonal habitats and maintain habitat connectivity to support population objectives set by the State of Wyoming in cooperation with the agencies." WY ARMPA at 23. Although the DEIS asserts that habitat connectivity corridors have been identified within Wyoming (DEIS at 3.18-47), the DEIS does not discuss how the Project will avoid, minimize, and mitigate impacts to them.
- None of the Project alternatives follow Management Objective 4: "Identify and prioritize opportunities for habitat enhancement and conservation within sage-grouse core habitat areas based on threats and the ability to manage sage-grouse habitat." WY ARMPA at 24. The Converse County DEIS does not identify nor prioritize these opportunities, which are necessary in order to avoid, minimize, and mitigate impacts.
- None of the Project alternatives follow Management Objective 13: "Protect PHMAs and GHMAs from anthropogenic disturbance that will reduce distribution or abundance of GRSG." WY ARMPA at 24. The DEIS states that even the No Action Alternative (which will itself result in development, just at a lower level than the other Project alternatives) could result in the loss of all 54 leks in the Project Area. *See* DEIS at 4.14-48. Greater sage-grouse in the Project Area are already experiencing population loss: "As discussed under Alternative A and shown on Table 4.18-27, the 54 leks within the CCPA and the 22 2-mile buffer around the CCPA have experienced a reduction in peak male attendance of 83.9 percent between 2006 and 2016." DEIS at 4.18-63. "Despite the recent upward trend in peak male attendance, all greater sage-13 grouse leks in

the analysis area are at risk of being abandoned as development continues to increase." DEIS at 3.18-57. *See also* DEIS at 4.18-78.

It is not enough for the DEIS to simply disclose that sage-grouse in this Project Area are in trouble under all of the alternatives the agencies have chosen to develop in this DEIS. To fulfill their public-trust responsibilities, BLM and Forest Service must actively protect sage-grouse, including developing a Project alternative that does not potentially result in the loss of all 54 leks. Similarly, instead of proposing to reduce sage-grouse protections in the Project Area as Alternative B does, BLM and Forest Service should be doing everything they can to reduce threats to sage-grouse in this area and protect sage-grouse. Indeed, given ongoing sage-grouse population declines in the area, why have BLM and Forest Service not already implemented adaptive management under MD SSS13 of the Wyoming ARMPA? Furthermore, how will allowing this Project in an area that already has decreasing greater sage-grouse population affect the species' representation, resilience, and redundancy?[4] This is all the more important given that the DEIS states, "Four of the five DDCT assessment areas have existing disturbance totaling greater than 5 percent." DEIS at 3.18-51. *See also* DEIS at 4.9-6.

- None of the Project alternatives follow Management Objective 14: "Priority will be given to leasing and development of fluid mineral resources, including geothermal, outside of PHMAs and GHMAs. When analyzing leasing and authorizing development of fluid mineral resources, including geothermal, in PHMAs and GHMAs, and subject to applicable stipulations for the conservation of GRSG, priority will be given to development in non-habitat areas first and then in the least suitable habitat for GRSG." WY ARMPA at 24. The DEIS provides no evidence of any prioritization having been undertaken to site development outside of sage-grouse habitat. Following Management Objective 14 is necessary in order to avoid and minimize impacts, as well as to decrease the need for compensatory mitigation.

By not following the provisions of the Wyoming ARMPA, this Project will move the greater sage-grouse closer to being listed under the Endangered Species Act. After all, the USFWS's 2015 decision to remove the greater sage-grouse from the ESA candidate list was based in part on the sage-grouse plans, of which the Wyoming ARMPA is a part. The Converse County project does not stand alone but instead adds to other recent government actions throughout the bird's range

[4] The DEIS states that the Project Area contains 199,281 acres of PHMA and 284,375 acres of PHMA within the greater sage-grouse analysis area. It also states that the Project Area contains 1,287,429 acres of GHMA and 1,752,212 acres of GHMA within the greater sage-grouse analysis area. 3.18-47.

that also chip away at the basis of the USFWS's 2015 decision, such as the recent cancellation of the mineral withdrawal.

Failing to follow the conditions of the WY ARMPA also breaks the explicit promise the BLM made in that document: "All future resource authorizations and actions in GRSG habitat will conform to, or be consistent with, the decisions contained in this ARMPA." WY ARMPA at 23. This is of great concern because the Wyoming ARMPA lists the fragmentation of sage-grouse habitat due to oil and gas exploration as the top major threat to sage grouse on BLM-administered lands in the Wyoming sub-region. WY ARMPA at 17.

In addition, the DEIS states that compensatory mitigation is warranted for sage-grouse under Alternative B (Proposed Alternative):

> Compensatory mitigation would be warranted for greater sage-grouse because avoidance and minimization of residual impacts to the species and its habitat may be inadequate or impossible based on the amount of existing disturbance within PHMA. This concept of utilizing compensatory mitigation is based on EO 2015-4 and the BLM and USFS complementary strategy for which, subject to valid existing rights and consistent with applicable law, land management agencies require mitigation that provides a no net loss or a net conservation gain to the species, including accounting for any uncertainty associated with the effectiveness of such mitigation.

DEIS at 4.18-72. However, the DEIS states that compensatory mitigation would not be warranted for sage-grouse under Alternative C. DEIS at 4.18-84. This seems imprudent since the DEIS says that all sage-grouse leks are at risk of loss under Alternative C. Furthermore, we would like to know:

- How will the Project's sage-grouse compensatory mitigation be constructed to be durable and timely?
- How will BLM and Forest Service ensure the Project's sage-grouse compensatory mitigation takes place, and how will the agencies monitor its effectiveness?
- How will BLM and Forest Service ensure that the Project's sage-grouse compensatory mitigation is in addition to any other mitigation that would take place? (In other words, how will the agencies know that it is truly compensatory?)

The DEIS fails to take a hard look at impacts to ungulate species and inadequately analyzes impacts to them.

The DEIS fails to take a hard look at significant new research showing adverse effects to mule deer and pronghorn[5] habitat use, migration corridors, and ultimately survival and abundance resulting from indirect effects energy development. It further fails to justify BLM's refusal to engage in actual site-specific assessment of effects on particular deer subpopulations, winter use areas, and/or migration corridors. Merely describing the "the *category* of impacts anticipated from oil and gas development" fails to meet NEPA's hard look requirement when it is reasonable for BLM to do more. *See New Mexico ex rel Richardson v. BLM*, 565 F.3d 683, 707 (10th Cir. 2009) (emphasis in original). "NEPA does not permit an agency to remain oblivious to differing environmental impacts, or hide these from the public, simply because it understands the general type of impact likely to occur. Such a state of affairs would be anathema to NEPA's 'twin aims' of informed agency decisionmaking and public access to information." *Id.*

The DEIS acknowledges that "the increase in densities of project components would result in the habitat becoming progressively less effective until most animals would no longer use these areas or be subjected to increased physiological stress." DEIS at 4.18-7. It fails completely, however, to acknowledge recent, peer-reviewed research showing that these displacement and stress effects cause significant, measureable decreases in not just habitat use, but in population abundance. Moreover, the DEIS attempts to obscure the magnitude of differences in impact between Alternative A (no action) and the proposed alternative, by asserting that a difference of approximately 1500 pads and 3500 miles of roads, see DEIS at Tables 4.18-2, 4.18-5, means only that "big game species would be subject to indirect disturbance in most of the CCPA and at a comparatively greater degree than under Alternative A." DEIS at 4.18-11. Given reasonably available, high-quality scientific information regarding impacts on mule deer and pronghorn from oil and gas development, the meaningless assertion, without more, that the impact of 1500 wells and 3500 miles of roads would be "comparatively greater," fails to meet BLM's obligation to take a hard look at the foreseeable consequences of development.

Research shows that residential and energy development has reduced all ungulates across the West. The low-elevation valleys and mountain foothills, once important habitat for ungulates, are filled with cities and towns.[6] The same is true

[5] *See* Beckmann, Jon P., et al. Human-mediated shifts in animal habitat use: Sequential changes in pronghorn use of a natural gas field in Greater Yellowstone. Biological Conservation 147 (2012) 222–233.

[6] Polfus, J. L., and P. R. Krausman. 2012. Impacts of residential development on ungulates in the Rocky Mountain West. Wildlife Society Bulletin 36:647-657.

particularly on winter ranges.[7] For example, between 1980 and 2010, western Colorado saw a 37% increase in residential land-use in mule deer habitat, primarily on their winter range.[8] The resulting lack of high-quality winter range is limiting robust mule deer population growth.[9]

Although an earlier lack of high-quality, long-term, and controlled studies made it difficult to evaluate with precision the role of oil and gas development in mule deer habitat and population decline,[10] newer studies show a clear link between oil and gas development, displacement from habitat, and population abundance. Although BLM cites only a 1979 study offering a wide range of possible displacement distances from roads, DEIS at 4.18-5, newer empirical data clearly shows mule deer avoid roads and oil and gas infrastructure by an average of 913 meters: "Mule deer consistently avoided energy infrastructure through the 15-year period of development and used habitats that were an average of 913 m further from well pads compared with predevelopment patterns of habitat use."[11] Clearly, mule deer demonstrate avoidance of roads and oil and gas infrastructure, with as-yet inadequately-understood consequences for migration, energy budgets, adult and fawn survival, and population.[12]

Some of the best available long-term, controlled studies evaluate mule deer population density before and after oil and gas development in the Sublette mule deer herd.[13] The Sublette mule deer study has compared mule deer density in control and development zones, and found mule deer densities declined 30% in the development area, as opposed to 10% in the control area.[14] Sawyer and Strickland found that "the observed decline of mule deer in the treatment area was likely due to gas development, rather than drought or other environmental factors that have affected the entire Sublette Herd unit."[15]

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[7] Johnson, H.E., et al. 2016. Increases in residential and energy development are associated with reductions in recruitment for a large ungulate. Global Change Biology, doi: 10.1111/gcb.13385 ("Johnson et al. 2016").
[8] Johnson et al. 2016.
[9] Bergman, E. J.,et al. 2015. Density dependence in mule deer: a review of evidence. Wildlife Biology 21:18-29; Johnson et al. 2016.
[10] Hebblewhite, Mark. 2011. Effects of Energy Development on Ungulates. Energy Development and Wildlife Conservation in Western North America 71-94. Island Press, Washington D.C.
[11] Sawyer, Hall et al., Mule Deer and Energy Development—Long-term trends of habituation and abundance, Global Change Biology 2017:1-9, *available at* http://onlinelibrary.wiley.com/doi/10.1111/gcb.13711/epdf
[12] Hebblewhite 2011; Sawyer, H., et al. 2013. A framework for understanding semi-permeable barrier effects on migratory ungulates. Journal of Applied Ecology 2013:50, doi:10.1111/1365-2664.12013; Lendrum, P.E. et al.. 2012. Habitat selection by mule deer during migration: effects of landscape structure and natural-gas development. Ecosphere 3(9):82.
[13] Sawyer, H., R. Nielson, and D. Strickland. 2009. Sublette Mule Deer Study (Phase II): Final Report 2007. Western Ecosystems Technology, Inc. Cheyenne, Wyoming, USA.
[14] *Id.*
[15] *Id.*

The Sublette example is particularly important when considering energy development's effects on mule deer populations, their winter range, and their migration patterns in sagebrush habitats of the west. For example, even in its relatively early stages compared to Wyoming, the most recent spatial analysis of already-occurring effects on mule deer in western Colorado finds energy development has the second-largest effect on deer recruitment, exceeded only by residential development.[16]

Most recently, Hall Sawyer and colleagues published their conclusions from seventeen years of telemetry data on mule deer exposed to energy development in Pinedale area, and found that, despite the using of timing stipulations and other, more aggressive, mitigation measures, development of oil and gas infrastructure within seasonal habitat and migration corridors has massive and long-term adverse effects on mule deer population levels:

> Mule deer consistently avoided energy infrastructure through the 15-year period of development and used habitats that were an average of 913 m further from well pads compared with predevelopment patterns of habitat use. Even during the last 3 years of study, when most wells were in production and reclamation efforts underway, mule deer remained >1 km away from well pads. The magnitude of avoidance behavior, however, was mediated by winter severity, where aversion to well pads decreased as winter severity increased. Mule deer abundance declined by 36% during the development period, despite aggressive onsite mitigation efforts (e.g. directional drilling and liquid gathering systems) and a 45% reduction in deer harvest. Our results indicate behavioral effects of energy development on mule deer are long term and may affect population abundance by displacing animals and thereby functionally reducing the amount of available habitat.[17]

It is demonstrated that oil and gas development affects mule deer habitat use and migration patterns by causing site avoidance, particularly in daytime,[18] and creating "semi-permeable" barriers to migration routes.[19] In addition, it is well-documented that human development causes direct habitat loss and fragmentation through the construction of infrastructure, and indirect habitat loss through deer avoidance of infrastructure and related activities; these consequences likely reduce the carrying capacity of the landscape.[20] A recent study shows that oil and gas development causes significant habitat loss:

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[16] Johnson et al. 2016.
[17] Sawyer, Hall et al., Mule Deer and Energy Development—Long-term trends of habituation and abundance, Global Change Biology 2017:1-9, *available at* http://onlinelibrary.wiley.com/doi/10.1111/gcb.13711/epdf.
[18] Lendrum 2012.
[19] Sawyer et al 2013.
[20] Johnson et al. 2016.

> Energy development drove considerable alterations to deer habitat selection patterns, with the most substantial impacts manifested as avoidance of well pads with active drilling to a distance of at least 800 m. Deer displayed more nuanced responses to other infrastructure, avoiding pads with active production and roads to a greater degree during the day than night. In aggregate, these responses equate to alteration of behavior by human development in over 50% of the critical winter range in our study area during the day and over 25% at night.[21]

Additionally, mule deer may suffer higher mortality rates in developed landscapes because of increased vehicle collisions and accidents (i.e., entrapment in fences); moreover, increased road densities expose mule deer to more hunters, poachers and predatory domestic pets.[22]

The DEIS also fails completely to disclose any information regarding patterns of ungulate migration within the affected area. Absent disclosure and analysis of migration routes, BLM can neither take a hard look at the effects of proposed development on migration corridors, nor engage in effective mitigation of potential adverse effects.[23] Mule deer and pronghorn require migration corridors that are protected from human development. An ongoing mule deer study by members of the Wyoming Migration Initiative has found that mule deer migration patterns are altered by human development – herds will move faster, stop less to feed, and detour around developed portions of their route.[24] This increased physiological stress and reduced access to highest-quality forage, particularly during harsh winters, will foreseeably affect deer and pronghorn survival, reproduction, and ultimately abundance.

The EIS also makes conclusory and wholly unsubstantiated assertions to claim that "[t]hrough the application of avoidance and minimization mitigation, OG-committed design features, and the additional mitigation measures (Section 4.18.1.3), the level of residual impacts resulting from development under Alternative B would be low enough that compensatory mitigation would not be warranted." DEIS at 4.18-15. This assertion is both unsupported by evidence and

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[21] Northrup, J. M. et al. Quantifying spatial habitat loss from hydrocarbon development through assessing habitat selection patterns of mule deer, Global Change Biology (Aug. 2015), available at http://onlinelibrary.wiley.com/doi/10.1111/gcb.13037/epdf.
[22] Johnson et al. 2016.
[23] Disclosure and analysis of migration routes will also help BLM carry out recent Secretarial Order 3362, Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors. E.O. 3362 directs the BLM, U.S. Fish and Wildlife Service, and National Park Service to take actions "avoiding development in the most crucial winter range or migration corridors during sensitive seasons"; "minimizing development that would fragment winter range and primary migration corridors"; "limiting disturbance of big game on winter range"; and "utilizing other proven actions necessary to conserve and/or restore the vital big-game winter range and migration corridors across the West." E.O. 3362 at 5. How will BLM implement E.O. 3362 in regard to this Project?
[24] Sawyer 2013.

logically inconsistent. How can BLM determine what is the "level of residual impacts," when it declines to quantify or describe impacts in the first place? What, if any, scientific basis does BLM have for either predicting or monitoring the effectiveness of its proposed mitigation measures? How did BLM determine what level of "residual impacts" is "low enough" to make compensatory mitigation "not warranted"? Will BLM monitor for population-level impacts from the project, and will the project be modified if "residual impacts" exceed its (apparently undisclosed) threshold?

The DEIS fails to take a hard look at impacts to migratory birds and inadequately analyzes impacts to them.

The Project Area is staggeringly rich in avian biodiversity. According to the DEIS, more than two-thirds of Wyoming's 437 bird species have been documented in the Project Area vicinity. DEIS at 3.18-20. In addition, more than a quarter of Wyoming's bird species have been documented to breed in the Project Area vicinity, and there is circumstantial evidence that more than a third do. DEIS at 3.18-20. Yet the BLM proposes allowing the Project to not comply with standard timing measures that protect migratory birds. In such a biologically diverse area, exemptions, waivers, and modifications of migratory bird-related stipulations will result in losses of sensitive bird species, birds that are protected by the Migratory Bird Treaty Act, and birds that are the focus of international conservation plans with governmental partners in Canada and Mexico.[25]

Two Audubon Important Bird Areas are within the Project Analysis Area (Rochelle Hills, Wagonhound Ranch), and one is within the Project Area itself (Rochelle Hills).[26] Birds will have to travel over or through the Project Area to move between these IBAs, and birds at the Wagonhound Ranch IBA will have to travel into the Project Area in order to reach the North Platte River. The Rochelle Hills Important Bird Area is one of three Important Bird Areas in the Thunder Basin National Grasslands Important Bird Area Complex, which Audubon describes as follows:

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[25] For decades, under both Republican and Democratic Presidents, the U.S. government prosecuted companies that did not take sufficient steps to protect birds protected by the Migratory Bird Treaty Act, even if the companies did not purposefully set out to kill those birds (also called incidental take). That long-standing federal policy and related case law are documented in a January 2017 Department of the Interior Solicitor's Memo (Appendix P). Furthermore, in 2015, the U.S. Fish and Wildlife Service published a Notice of Intent to Prepare a Programmatic Environmental Impact Statement to analyze the environmental impacts of creating an incidental take permitting system for MBTA-listed birds. Thus, the current Administration has chosen to ignore decades of federal prosecution of companies for incidental take and to discontinue the development of the MBTA incidental take permitting system, but until very recently the U.S. government considered the non-purposeful deaths of MBTA-listed birds at oil and gas facilities to be a violation of law.

[26] The DEIS states, "An estimated 66.4 acres of surface disturbance would occur within the Rochelle Hills IBA." 4.18-28.

> The Thunder Basin National Grasslands IBA Complex is highly important for many species of our grassland and shrubland bird species. Some of which include:
>
> - Northern Sage-grouse Breeding 40+ leks
> - Ferruginous Hawk Breeding 200+ known nest sites
> - Bald Eagle Breeding/Winter 1-2 breeding, winter roost sites
> - Prairie Falcon Breeding 7 known eyrie nest
> - Red-tailed Hawk Breeding 100+ known nest sites
> - Swainson's Hawk Breeding 10+ known nest
> - Mountain Plover Breeding 10-15 individuals
> - Merlin Breeding 1 known nest
> - Burrowing Owl Breeding 40-50+ nest sites
> - Great Horned Owl Breeding

Audubon, Thu[n]der Basin National Grasslands Complex Report at 1.

In addition, American Bird Conservancy has identified Thunder Basin National Grassland (TBNG) as a globally important bird area, one of about 500 in the United States. TBNG is "one of the three or four most important areas [in the United States] for the Mountain Plover" ABC at 152. Moreover, TBNG "also supports a very high density of Golden Eagles" and "also has several important breeding, wintering, and passage species, including the Swainson's Hawk, Long-billed Curlew, Marbled Godwit, Franklin's gull, Sprague's pipit, Red-headed Woodpecker, Baird's Sparrow, Harris's Sparrow, Sage Sarrow, Clay-colored Sparrow, Brewer's Sparrow, and McCown's Longspur. Other species of interest include the Ferruginous Hawk, Burrowing Owl, Greater Sage-Grouse, Sharp-tailed Grouse, and Prairie Falcon." American Bird Conservancy at 152.

The presence of an American Bird Conservancy globally important bird area inside the Project Area, one Audubon Important Bird Area inside the Project Area and a second Audubon Important Bird Area near the Project Area (and inside the Project's Analysis Area) shows all the more why site-specific NEPA analysis is necessary. The actual locations of this Project's wells, roads, overhead powerlines, pipelines, compressor stations and other facilities will be the key factor in how much this Project will actually impact birds because some of those locations are a lot more important to birds than others, receiving different levels of use and types of use (e.g., breeding, nesting, brood rearing, foraging, roosting, winter concentration, migration passage). Without knowing those site-specific Project locations, BLM cannot adequately assess impacts and alternatives, including Project impacts to migratory bird survivorship and local populations of individual species such as ESA-listed species, eagles, agency and Wyoming sensitive species, and species that are the subject of government conservation efforts (e.g., North American Waterfowl Management Plan and Partners in Flight Landbird Conservation Plan species).

The presence of globally important and U.S. Important Bird Areas in and very near the Project Area is of concern because as the U.S. Fish and Wildlife Service

has documented, oil and gas production facilities are full of hazards that can result in the deaths of migratory birds, such as dehydrator tanks, reserve pits, production skim pits, flare pits, emergency spill catchment pits, open-topped tanks, small containers containing exposed oil or hydrocarbons.[27] In fact, the risk is so great that in 2013, USFWS recommended that

> Multiple inspections should be conducted throughout the year, especially between the spring and fall, to document most bird mortality in oil and gas facilities. Inspections should not be limited to production skim pits, reserve pits, and open-topped tanks but should include all hazards such as leaking valves, pipes, and wellheads. Detailed field notes by oil and gas facility inspectors should include the specific location and probable cause of the mortality incident (i.e. reserve pit, production skim pit, dehydration tank, open-topped tank, etc.).

USFWS Migratory Bird Oil and Gas Report at ii. Additional threats to birds include surfactants and other chemicals in evaporation ponds (can result in drowning)[28] gas flaring at any time (can burn birds),[29] and night-time gas flaring.

Moreover, this Project's impacts on birds in the Platte River need to be analyzed in detail at this stage, in this EIS, not later at the individual APD stage. The DEIS acknowledges that that this Project, by taking water from the North Platte River systems, has potential to affect birds on the Platte River, but the DEIS does not provide detailed analysis of those impacts: "Migratory bird species occurring in downstream riparian habitats of the Platte River in Nebraska could be affected by water depletions in the North Platte River systems resulting from Project-related activities." DEIS at 3.18-23. This statement in the DEIS also does not take into account the enormous importance of the Platte River for birds. American Bird Conservancy has identified the Central Platte River Valley and Rainwater Basin Area as a globally important bird area.

> The Platte River and Rainwater Basin form a staging area during spring migration for millions of waterfowl and hundreds of thousands of cranes and shorebirds. . . . . the Platte River and the Rainwater Basin marshes form a wetland complex of inestimable value to waterfowl. No other stopover area between wintering grounds and nesting grounds can replace the combination of wetlands and grain fields found in close proximity in south-central Nebraska.

American Bird Conservancy at 164.

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[27] See USFWS, Migratory Bird Oil and Gas Report at ii and USFWS, Entrapment, Entanglement & Drowning.
[28] *See* USFWS, Migratory Bird Mortality in Oilfield Wastewater Disposal Facilities at 1.
[29] *See* USFWS, NOI Programmatic EIS Migratory Bird Permits at 30035. *See also* CBC, 7,500 songbirds killed at Canaport gas plant in Saint John *and* Smith, Connell, Canaport LNG pleads guilty in bird kill case.

Furthermore,

> The importance of the Rainwater Basin-Platte River complex for waterfowl cannot be overstated. Fat reserves acquired during their stay here mean the difference between nest success and failure, influencing both the size and viability of the clutches and broods produced. Recognizing its importance, the North American Waterfowl Management Plan[30] has designated the Rainwater Basin as critical migration habitat for waterfowl, one of only 15 such areas on the continent.

American Bird Conservancy at 165. It is important to note that impacts to migratory birds caused by Project-related water depletion in the Platte River will have an impact on international bird conservation, not just U.S. bird conservation.

Migratory birds using the Platte River and Rainwater Basin during spring migration include

- More than ten million waterfowl, 500,000 cranes, and 200,000 to 300,000 shorebirds of 30 species, including white-rumped sandpiper, Baird's sandpiper, buff-breasted sandpiper, and pectoral sandpiper.
- Most of the midcontinent population of approximately 300,000 white-fronted geese, as well as 500,000 Canada geese, more than two million snow geese
- About half of the midcontinent population of mallard and a third of the continental population of northern pintail ducks
- Breeding species include least tern, piping plover, red-headed woodpecker, Bell's vireo, dickcissel, bobolink

American Bird Conservancy at 164-165.

Project activities that result in less water in the Platte River could not only impact birds, marshlands and riparian areas, but also the people who travel to this globally important bird area to see them. In addition, some of the waterfowl species that use the Platte River are hunted species, so impacts to them could impact hunting, not just along the Platte River, but in other locations along the Central Flyway. How will Project-related water reductions in the Platte River impact hunters and birdwatchers? How will the Project avoid, minimize and mitigate for those impacts?

Additional clarification in the EIS is needed.

The EIS should clarify road reclamation requirements on private land because they are unclear in the DEIS, which states, "However, development of new roads could create conveniences for livestock operators, so it is not uncommon for

[30] The North American Waterfowl Management Plan is an international conservation plan to which the governments of the United States, Canada, and Mexico are all partners. The current plan dates to 2012, and the Plan's objectives were updated in 2014.

landowners to request that roads remain un-reclaimed on their lands." DEIS at 4-9.3. If BLM does not plan to require the Project Proponents to reclaim all roads on private land, then the EIS needs to spell out the additional mitigation measures that will be added to benefit wildlife in general and the additional compensatory mitigation measures that will be added for greater sage-grouse when roads on private land are not reclaimed. Roads cause habitat fragmentation, noise, greater human access that can result in unwanted events such as wildfires and edge effects such as the spread of invasive nonnative plants.

Thank you again for this opportunity to assist the BLM and Forest Service. If you have any questions or would like additional information, please contact us per the information below. Please add Western Watersheds Project, American Bird Conservancy, and Center for Biological Diversity to the notification list for this Project if we are not already on it.

Sincerely yours,

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