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1	**Carmel Kail:** This is to request that the data presented throughout the AQ section be updated to include 2012-2014 design values -- which came out in mid-August and are posted here http://www3.epa.gov/airtrends/values.html Presumably such a revised / updated EA section would thus be ready for use for the next set of lease parcels.	Thank you for your comments. The AQ section has been updated to include the new design values.
2	**Wyoming Outdoor Council:** We support the decisions made by the State Director to defer leasing several parcels that encompass identified Greater sage-grouse Priority Habitat Management Areas as identified in the Wyoming Greater Sage-grouse Land Use Plan Amendment Record of Decision and Final Environmental Impact Statement. We ask that the BLM also defer ten other parcels: WY-1605-15, -16, -17, -18, -19, -20, -21, -22, -31, and-32.	Thank you for your comments. No response needed.
3	**Wyoming Outdoor Council:** WY-1605-15 This 122-acre parcel just north of the remarkable Adobe Town Wilderness Study Area should be deferred from the May 2016 oil and gas lease sale. Adobe Town is replete with astounding natural and cultural values. It is a backcountry area sought by adventurers, hunters, and rock hounds. Its intricate and beautiful geologic formations, expansive and wild landscapes, and wilderness character make it a true gem within the BLM's National Conservation Lands. The environmental assessment (EA) correctly identifies this parcel inside the Desolation Road Unit. To date, the BLM has not completed the environmental analysis of two applications for permit to drill within this Unit. This analysis will be crucial in determining the suitability of oil and gas development at this site and will address how the impacts to the adjacent wilderness study area might be mitigated or avoided. Additional leasing during this ongoing analysis will only complicate the BLM's Unit before deciding to lease additional parcels in the Unit. Although the Wilderness Study Manual 6330 allows land uses (like oil and gas leasing) outside of Wilderness Study Area boundaries, it nevertheless requires the agency to disclose those impacts on the area's wilderness character. The Manual states that BLM is to "protect the wilderness characteristics of all WSAs in the same or better condition	All parcels, including 15, offered for the May 2016 proposed sale are being offered in conformance with the existing land use plans as required by 43 CFR 1610.5. Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis and as stated in Section 1.3 of the EA, BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. As further stated in Section 1.3 of the EA, "additional NEPA documentation would be prepared at the time an APD(s) or field development proposal is submitted, including cumulative impacts from past and reasonably foreseeable future actions. The impairment standard does not apply to lands, or actions taken outside of a delineated Wilderness Study Area. The BLM has adequately analyzed the proposed action associated with the proposed parcels and it is tiered to the base RMPs, as amended.

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	than they were on October 21, 1976 [when the Federal Land Policy and Management Act (FLPMA) was enacted] until Congress determines whether or not they should be designated as wilderness." BLM Manual 6330 at 1-6. This high standard requires BLM to ensure WSAs are managed "in a manner so as not to impair the suitability of such areas for preservation as wilderness" subject to prior existing rights. 43 U.S.C. § 1782(c). Congress entrusted the BLM to ensure the wilderness values defined in the Wilderness Act are met and maintained for Adobe Town and other public land WSAs now and into the future. These wilderness values include a landscape condition that is untrammeled by humans and that retains its primeval character and influence (without permanent improvements or human habitation) and that is protected and managed "to preserve its natural condition, and which (1) generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable; (2) has outstanding opportunities for solitude or a primitive and unconfined type of recreation; (3) has at least five thousand acres of land . . .; and (4) may also contain ecological, geological, or other features of scientific, educational, scenic, or historical value." 16 U.S.C. § 1131(c). All uses or facilities affecting a WSA "must meet the non-impairment standard (i.e. must be both temporary and not create surface disturbance)," unless the use is one of several enumerated exceptions to the non-impairment standard. BLM Manual 6330 at 1-10. We ask the BLM to take a close look at this non-impairment standard and determine whether and how future management of the Desolation Road Unit and leasing parcel WY-1605-15 will be consistent with the standards that apply to WSA management. The EA for the May 2016 lease sale does not adequately analyze the impacts of leasing on the WSA and until this analysis is complete, WY-1605-15 should be deferred.	
4	**<u>Wyoming Outdoor Council:</u>** <u>WY-1605-16, -17, -18, -19, -20</u> These five parcels are found along the impressively vast and ecologically important Kinney Rim. Like the nearby Adobe Town, the Rim is eagerly sought by backcountry enthusiasts, particularly hunters and bird watchers. Parcels -16, -17, -18, and -20 have been identified to be Lands with Wilderness Character through a citizen-submitted inventory (Biodiversity Conservation Alliance, 2012). The Rock Springs Field Office is currently in the process of evaluating this citizen inventory in accordance with manual 6310, but it has not yet made a public determination. Thus, the agency has not verified or refuted	We incorporate by reference Protest responses specific to this same issue from May 2012 and November 2012. Parcels 20 and 19 are not within what is identified by the BLM as the Kinney Rim North and/or South Units. All but 19 of the subject parcels are within the CWP submitted by BCA in the Rock Springs and Rawlins Field Office has previously evaluated the areas containing parcels 16, 17, 18, 19, and 20 in the past and has determined that they do not meet the criteria for lands with wilderness characteristics. In 2011 an interdisciplinary review reconfirmed these finds. No new information has been received that would change the previous

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	these parcels' wilderness character. We, and our colleagues from other conservation organizations, have formally engaged the agency regarding the necessary re-evaluation of Rock Springs Field Office inventories, which do not conform with Manual 6310 and its requirement to respond to the citizen inventories. We have been told to expect a response in 2016. The submitted citizen inventories, which include these parcels in the Kinney Rim North Unit, adhere to the guidance in Manual 6310. We are not asking that this oil and gas lease sale EA determine the legitimacy of the agency's inventories or the citizen wilderness inventories. What we are asking is that the process designed to determine wilderness character—to correctly inventory, respond to citizen inventories, and seek public comment on management—not be limited or constrained by the decisions to lease these parcels in the May sale. The BLM has the discretion to defer these leases in order to not impede a public process the agency itself has designed to evaluate lands with wilderness character. During other land-use plan revisions (and in the November oil and gas lease sale protest resolution) the agency deferred leasing while the inventory process was pending. In the November 2015 oil and gas lease sale environmental assessment public comment and protest process, other parcels were offered in the Rock Springs Field Office that included citizen-documented lands with wilderness character pending a formal determination from the agency. In the November 2015 oil and gas lease sale protest resolution, the BLM, citing Manual 6310, noted: "Because the BLM has not yet reviewed the CPW for parcel-015, the BLM will GRANT this portion of the protest and we will defer parcel-015, in compliance with Manual 6310." We appreciated this decision. Because the same circumstances are present for these May 2016 lease sale parcels (i.e., a citizens' Lands with Wilderness character inventory has found wilderness character and the agency has not yet evaluated this new information in accordance with Manual 6310), we ask the BLM to make the same decision: defer parcels WY-1605-16, -17, -18, and -20. Also along the Kinney Rim, WY-1605-19 has been partially deferred in the lease sale. We ask that this parcel be deferred in its entirety until the full impacts and values of the Kinney Rim have been evaluated both through the Lands with Wilderness Character inventory process and in the Rock Springs Resource Management Plan revision. A roadless analysis has highlighted this site with high potential for wilderness character, though it is not yet inventoried. This important landscape deserves to be evaluated for oil and gas leasing through the updated	determination that these lands do not have wilderness characteristics. Further, those portions of parcels WY-1605-19 and -20 which are located in PHMA have been deferred at the discretion of the State Director. The remainder of parcel -19 and 20 are not in PHMA nor identified to have Lands with Wilderness Character. Offering these parcels (including -19) without waiting for the RMP Revision to be completed is in compliance with the BLM Land Use Planning Handbook H-1601-1, Section VII.E. which states, "Existing land use plans decisions remain in effect during an amendment or revision until the amendment or revision is completed and approved. The decisions of existing land use plans do not change. For example, if current land use plans have designated lands open for a particular use, they remain open for that use. Land use plan decisions may be changed only through the amendment or revision process." All parcels for the May 2016 proposed sale are offered in conformance with the existing land use plans as required by 43 CFR 1610.5 and the May 2016 Lease Sale EA has adequately analyzed the issues raised by this comment. Site specific NEPA analysis will occur at the development stage that will analyze resource conflicts and identify mitigation for specific impacts. In accordance with IM 20040-110, Change 1 and Lease Notice No. 3 any new standards/mitigation/ stipulations coming forth from that process can be applied to post-lease actions (i.e., APDs, Sundry Notices, Rights-of-Way, etc.).

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	land-use plan, which will take into account new nformation and changing ecological and cultural values for the Rim.	
5	**<u>Wyoming Outdoor Council:</u>** <u>WY-1605-21 and -22</u> We believe that parcels WY-1605-21 and -22 in the Pinedale Field Office should also be deferred. These parcels are implicated by the proposed Normally Pressured Lance (NPL) oil and gas field and parcel -21 is within documented winter concentration areas for the greater sagegrouse. We ask that the BLM defer these two parcels pending the release of the Environmental Impact Statement (EIS) for this development proposal. That EIS, which is being developed now, will identify the full slate of concerns with oil and gas development in this region, and it is premature to offer leases in this area while the EIS is pending. There is a fundamental precept reflected in the National Environmental Policy Act (NEPA), and the BLM's oil and gas leasing regulations (including the oil and gas lease reform instruction memorandum, IM 2010-117), that the agency should "look before it leaps" or more specifically, "look before it leases." It is impossible to adhere to this precept if the agency makes leasing decisions while it is in the midst of preparing the environmental document that will govern the terms and conditions under which oil and gas development occurs in this area. Until this EIS is finalized BLM cannot know what new mitigation measures should apply to this area, and therefore the stipulations attached to the proposed lease parcels may or may not comply with what will be needed, and required, in the future. Additionally, WY-1605-021 is located within the Alkali Creek Winter Concentration Area (WCA). This WCA has been delineated by Wyoming Game and Fish Department and is shown on Attachment A to Wyoming Executive Order 2015-4. The proposed lease, which encompass 1,040 acres, contains a timing limitation stipulation (TLS) that prohibits disturbance from December 1 to March 14, but otherwise contains few limitations on development. Under the stipulations proposed for this parcel, major industrial developments could be constructed inside the WCA during the non-winter months (from March 15 to November 30), and then operate year-round, including the critical winter months, potentially causing severe and unacceptable impacts to wintering sage-grouse. Jonah Energy has voluntarily pledged to suspend developing NPL wells inside the Alkali Creek WCA until the EIS process is	Parcels WY-1605-021 and 022, located within the Alkali Creek Winter Concentration Area (WCA), have been deferred in their entirety at the discretion of the State Director pending additional environmental review.

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	completed, reasoning that, "this will allow all agencies involved time to develop an appropriate level of science based protections with consideration of our valid existing rights." See letter from Paul Ulrich, Jonah Energy LLC, to Governor Matt Mead, dated April 16, 2015, (attached). Moreover, in concert with Jonah Energy's pledge, the State of Wyoming committed in Executive Order 2015-4 to developing "science-based standards to manage disturbance in identified and mapped winter concentration areas." EO 2015-4, 12. We request that the BLM defer offering this (and all other future parcels) located in the Alkali Draw WCA until such time that science-based standards have been developed. It is appropriate to defer the leasing inside this important habitat until more information is available to guide future management options including how much development, if any, can occur within the WCA without harming the sage-grouse populations that rely on that habitat. Existing information and science shows that wintering sage-grouse are very sensitive to anthropogenic disturbance, suggesting that the proposed TLS lease stipulation that simply prohibits disruptive activities during the winter months may not be adequate. We have attached a "Literature review of the science on wintering grouse ecology and anthropogenic influences" prepared by Dr. Matt Holloran and Holly Copeland. The literature review, which examined 15-peer reviewed studies addressing wintering sage-grouse ecology and movement, concludes with a recommendation to land managers to avoid disturbance in wintering areas: There is considerable science to support the conclusion that wintering sagegrouse avoid areas that 1) have high densities of infrastructure, 2) are within 1.9 km of infrastructure and 2) have high levels of human activity. Furthermore, there is evidence to suggest that the removal of sagebrush in winter concentration areas could lead to population declines. However, for management purposes, an exact threshold for disturbance levels and the amount of sagebrush required on the landscape is not yet fully understood. Lacking data for a specific threshold, authors repeatedly caution managers to avoid or greatly minimize disturbances in wintering areas due to the reliance and fidelity of grouse on these areas (Moynahan et al. 2006, Carpenter et al. 2010, Dzialak et al. 2013a, Holloran et al. 2015). Dzialak et al. (2013) summarize the current state of knowledge well: 'A conservation plan...should aim to retain big sagebrush throughout large areas and constrain human activity to the greatest extent feasible within patches that have been identified as critical habitat.'	

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	For these reasons, parcel WY-1605-21 should be deferred from leasing, or if leasing is going to occur, a no surface occupancy (NSO) stipulation should be attached to the entire lease. Depending on the outcome of future scientific investigations, the stipulation could be modified or waived at a later time, or replaced with appropriate CSU or TLS stipulations to allow for some development consistent with science-based recommendations. If this parcel is leased as is, and a proposal for development is received, the BLM may not be able to implement a full suite of necessary and effective conservation measures due to lease rights granted by the federal lease. There is precedent for deferring leases within the Alkali Draw winter concentration area. In comments submitted on the November 2015 oil and gas lease sale we asked that parcels nominated within this important habitat and within the NPL field be deferred. The agency did so and we are grateful. We again ask for a consistent decision to defer the parcels in question in this instance.	
6	**<u>Wyoming Outdoor Council:</u>** <u>WY-1605-31 and -32</u> We have concerns with two other parcels in the Pinedale Field Office: WY-1605-31 and - 33. These parcels are two to three miles from the boundary of the Bridger-Teton National Forest (BTNF) and are located about 15 miles west of the town of Big Piney. This area is replete with important environmental values, including crucial big game habitats, raptor habitats, important visual resources, sage-grouse habitats, Canada lynx habitat, and rare native cutthroat trout habitats. We recognize that both of these parcels contain significant stipulations in order to protect environmental values and we appreciate that. We urge the BLM to maintain these stipulations if these parcels are offered for sale. Not only are these stipulations justified, they are also required by the provisions of the Pinedale RMP. That said, we believe that before these parcels are offered for sale, additional environmental protections should be considered. To fully consider these additional protections—in the form of new stipulations—we believe these parcels should be deferred from the lease sale at this time. These parcels are adjacent to the BLM Beaver Creek Area of Critical Environmental Concern (ACEC). Parcel -32 is partially located within the ACEC and a portion of parcel -31 is located immediately adjacent to the ACEC, on its border. Parcel -32 includes stipulations that would help	Parcels 31 and 33 for the May 2016 proposed sale are offered in conformance with the existing land use plans as required by 43 CFR 1610.5 and have had the appropriate lease stipulations added as required by the RMP. Attaching stipulations that are specific to the Beaver Creek ACEC to areas that are not within the ACEC would not be in conformance with the RMP. Site specific NEPA analysis will occur at the development stage that will analyze resource conflicts and identify mitigation for specific impacts. In accordance with IM 20040-110, Change 1 and Lease Notice No. 3 any new standards/mitigation/ stipulations coming forth from that process can be applied to post-lease actions (i.e., APDs, Sundry Notices, Rights-of-Way, etc.).

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	protect the ACEC, but parcel -31 contains no such stipulations. This should be corrected. Parcel -32 would include a controlled surface use (CSU) stipulation restricting or prohibiting surface occupancy or use unless an acceptable plan is developed to protect the values of the Beaver Creek ACEC. The parcel would also contain two NSO stipulations to protect streams in the ACEC and protect slopes of 25 percent or greater in the ACEC. Given that parcel -31 immediately borders the ACEC, at a minimum the CSU stipulation included for parcel -32 should also be attached to parcel -31, at least in its southeastern portion. But in addition to the stipulations that are currently attached to parcel -32, we believe the provisions for the Beaver Creek ACEC found in the Pinedale RMP should be more completely reflected in the stipulations attached to both parcels. A requirement should be included that all vehicle use will be limited to designated roads and trails, as the Pinedale RMP mandates. See Record of Decision and Approved Pinedale RMP at 2-55. In addition, roads and rights-of-ways should be required to follow existing alignments unless design and implementation can preclude adverse impacts to trout and elk calving habitat. Id. at 2-56. Another issue of concern is the relative proximity of these parcels to the Lander Cutoff of the Oregon Trail. These parcels are within a mile or two of that National Historic Trail. Therefore, in addition to Lease Notice No. 2 and Lease Stipulation No. 1, which are currently attached to the lease parcels and provide for the protection of historic trails, more specific protection for the trail should also be considered for these parcels. In particular, a CSU providing that surface occupancy and use may be restricted or prohibited if the setting contributing to the National Register of Historic Places eligibility of this corridor was impacted by a development proposal, as provided for on other parcels in this lease sale. National Historic Trails are resources of the greatest value and the BLM should ensure adequate protection for them.	
7	**<u>Wyoming Outdoor Council:</u>** <u>Air Quality Impacts</u> In addition to deferring these ten parcels, we ask the agency to consider addressing the inadequate disclosure in the EA of Air Quality Related Values. The analysis fails to properly disclose and mitigate impacts to sensitive alpine lakes in the Wind River Range, including documented lake acidification and eutrophication attributed to emissions from oil and gas development. In Section 3.2 – Resource Values Common to All Parcels,	Thank you for your comment. The EA has been updated to reflect more recent monitoring information regarding lake acidification and deposition (please see Figures 3-9, 3-10 and 3-11). This information is used to estimate dry deposition that can impact high altitude lakes. From this information (as discussed on page XX), monitoring data shows a statistically significant downward trend in average annual wet deposition of both nitrogen and sulfate at both Pinedale and Sinks Canyon and ammonium has remained relatively constant with no statistically significant

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	the BLM's leasing EA summarizes the physical process and environmental effects of atmospheric deposition of nitrogen and sulfur compounds. The EA discloses that deposition of these compounds can cause acidification of lakes and streams. Due to their natural inability to resist, or buffer, the effects of atmospheric deposition, referred to as "acid neutralizing capacity" or ANC, high mountain lakes in Wind River wilderness areas are particularly sensitive to acidification. Table 3-9 shows seven "acid sensitive" lakes in the Bridger, Fitzpatrick and Popo Agie wilderness, two of which, Lazy Boy and Upper Frozen Lakes, are considered to be extremely sensitive to acidification. The EA reports that, "the USFS has identified a specific methodology to determine acceptable changes in ANC, which are used to evaluate potential air quality impacts from deposition at acid sensitive lakes. The USFS has established a level of acceptable change (LAC) of no greater than a 1 ueq/l change in ANC (from human causes) for lakes with existing ANC levels less than or equal to 25 ueq/l. A limit of 10 percent change in ANC reduction was adopted for lakes with an ANC greater than 25 ueq/l." See EA at 39. This section of the EA does not disclose whether any of the acid sensitive lakes in the Wind River Range monitored by the Forest Service have exceeded the level of acceptable change set by that agency. One would expect to find that information in the EA's discussion of environmental impacts in Section 4, specifically in 4.2.1 Air Resources. Unfortunately, that is not the case. Although impacts to visibility (an air quality related value) are briefly discussed in section 4.2.1.2, no information is presented disclosing the health and condition of these lakes or the trends in lake chemistry. Instead, for information on air quality, the EA refers the reader to Section 4.2 of the FEIS prepared for the Wyoming Greater Sage-Grouse RMP Amendments. Section 4.2 Air Quality, of the Wyoming Greater Sage-Grouse RMP Amendments FEIS contains a discussion (page 4-5 to page 4-57) of air impacts. Section 4.2.2 lists "indicators of impacts on air quality" as follows: • Attainment status of air quality in a given area • Number and types of wells constructed and operated in a given area • Amount of road traffic from construction, daily operation, inspections, and road maintenance Most notably, despite their status as AQRV, neither atmospheric deposition, nor lake chemistry, is listed as an impact indicator. In addition, there is no information disclosed in this entire 52- page section on the impacts of	change. There are no direct impacts from the sale of lease parcels. Identifying and addressing impacts through the application of mitigation from development, especially for air quality, are more appropriately addressed at the lease development stage, should the parcels actually be sold and leases issued. Addressing these impacts will be through site specific NEPA, and as required, would occur under the Memorandum of Understanding on the Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the National Environmental Policy Act (NEPA)" between DOI, USDA and EPA . To that end, several modeling analysis are underway that will further address this comment including but not limited to the Normally Pressured Lance and the Continental Divide Creston (CDC). The draft CDC Environmental Impact Statement cumulative impacts discussion indicates that future regional nitrogen deposition and lake acidification will decrease over time from current levels primarily due to current and future regulatory requirements for emission sources. The BLM agrees that nitrogen deposition and lake acidification are important concerns and continues to work with the EPA, National Park Service and Forest Service to address impacts to air quality from BLM permitted actions in accordance with the Memorandum of Understanding on the Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the National Environmental Policy Act (NEPA)".

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	oil and gas operations on the ecological health or condition of sensitive Wind River alpine lakes. For information on atmospheric deposition and its effects, the reader must independently find her way to Section 3.2.5 (Air Quality Related Values) of the Wyoming Greater Sage-Grouse RMP Amendments FEIS--a section that was not referenced in the leasing EA. A few things stand out. First, the levels of total deposition of nitrogen compounds near Pinedale exceeded the National Park Service's level of concern (LOC) of 1.5 kg/ha year in 1995, 2002, 2005 and 2007. See 9 Plan FEIS at 3-13. Second, long-term lake monitoring shows that Black Joe Lake experienced increases of NO3 and SO4 at the inlet and is "showing signs of nutrient enrichment tending toward eutrophication." Id. Further, "Hobbs Lake is truly showing signs of eutrophication…" and "also shows a decrease in ANC or less ability to buffer the addition of acids to the lake." Id. The EA goes on to note that "[s]ignificant increasing trends were present in the hypolimnion at Black Joe and Deep Lakes, the inlet and outlet at Hobbs Lake, and the outlet at Black Joe Lake. The major concern associated with increasing inorganic N in aquatic ecosystems is the potential to cause acidification (via increasing hydrogen ions) and/or eutrophication through increased primary producers" (Camargo and Alonso 2007). The Wyoming Greater Sage-Grouse RMP Amendments FEIS concludes its discussion of this topic with the following assessment: These observations lead us to conclude that the chemistry and function of our long-term lakes are changing due to increased deposition of N and SO42-. Increases in hypolimnion and outlet NH4+ means there is some eutrophication occurring (Black Joe, Hobbs and Deep Lakes). Nitrogen and sulphur concentrations are much higher in inlets than in outlets (indicating nutrient uptake in the lakes). A N spike in the inlet compared to the outlet meets the definition of eutrophication and represents a build-up in N entering the lakes. All of these are of concern since minor changes in lake chemistry can change the function and survival of biotic communities within the lake ecosystem and even downstream. Biota within the lake ecosystem that can be affected include algae, diatoms, macroinvertebrates, and fish. Future deposition of N and sulphur compounds must be reduced to avoid even more drastic changes from occurring, so Federal Land Managers can fulfill their obligations under the Clean Air Act (CAA) and Wilderness Act (WA) to protect AQRVs in Class I and Class II Wilderness areas. Id. at 3-16 (emphasis added).	

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	Unfortunately, there is no information provided in the leasing EA to address the question why nitrogen deposition is increasing. This information is also not disclosed in the Wyoming Greater Sage-Grouse RMP Amendments FEIS. There is nothing to even remotely suggest that emissions of atmospheric pollutants from oil and gas operations and other industrial development may have a role in lake acidification and eutrophication. However, information provided by the Forest Service suggests that emissions from oil and gas operations and related activities in southwest Wyoming may be contributing to the increasing nitrogen deposition levels in Wind River Lakes. As discussed in the attached slides, "Nitrogen Deposition: Trends and Impacts in the Greater Yellowstone Area (GYA)": An increasing weight of evidence points to declining health in aquatic and terrestrial ecosystems in the GYA, concurrent with increasing nitrogen in air and water chemistry in sensitive areas. • Some GYA lakes may be at the early stages of eutrophication (nitrate concentrations are at thresholds for algal species shifts); • Some lakes are beginning to acidify (lose acid neutralizing capacity); • Lake sediment cores in Grand Teton NP show increasing influences of anthropogenic nitrogen; • Degraded lichen communities are present in areas of higher nitrogen deposition; • Deposition and ambient air monitors indicate that nitrogen compounds in air, rain, and snow are increasing in several areas of the GYA. A second slide, "Using Lichens to Monitor Nitrogen Deposition Near Natural Gas Drilling in the Wind River Range, WY" summarizes a recent study that looked at nitrogen concentration in lichens. The study established that nitrogen concentrations were highest in lichens located closest to gas fields. Among the conclusions were: • N concentrations in lichen thalli can be used to estimate N deposition in the Wind River Range. • N deposition in the Boulder drainage is elevated (>4.0 kg ha-1year-1) with clear empirical evidence of damaged lichen thalli. • All other drainages are near background conditions which suggests a local and not a long-distance source of N pollution. Oil and gas operations and related activities on federal	

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	properties in Wyoming are no doubt having an additive and perhaps significant impact on lake chemistry and the ecological health of sensitive lakes in the GYA. Under NEPA, the BLM has a responsibility to disclose this information to the public and to analyze whether its actions—in this case, the proposed offering and sale of federal oil and gas leases--may be causing or contributing to the acidification and eutrophication of sensitive alpine lakes. The BLM also has an obligation under NEPA to discuss opportunities to mitigate these impacts; for example, by requiring the use of Tier 4 low NOX engines in drilling rigs.	
8	**<u>Wyoming Game and Fish Department:</u>** The staff of the Wyoming Game and Fish Department has reviewed the Environmental Assessment for May 2016 Oil and Gas Lease Parcels. We off the following comments for your consideration. It is our understanding that: All leases in PHMAs should have the following • 5% CSU, 1/640 acres CSU • 0.6 mile NSO around PHMA leks • March 15-June 30 TLS within core All leases in GHMA should have the following • 0.25 mile NSO around GHMA leks • March 15-June 30 TLS within 2 miles of GHMA leks Winter timing stipulations should only be applied to defined and mapped winter concentration areas. Below is a brief synopsis of what we believe might be missing or incorrect stipulations: • Parcel 1 needs core 5% CSU and core TLS if core is not deferred • Parcel 2 needs non-core TLS (portions of lease within 1.88 miles of non-core lek) • Parcel 4 needs core 5% CSU, 0.6 mile NSO, core TLS if not deferred (lek within 0.50 miles) • Parcel 5 needs core 5% CSU and core TLS if core is not deferred • Parcel 7 needs core 5% CSU, core TLS if core is not deferred • Parcel 8 needs core 5% CSU, core TLS if is core not deferred • Parcel 19 needs core 5% CSU and core TLS if core is not deferred	Thank you for your comments. The parcels information that WGFD reviewed appears to be the preliminary parcel information sent to them before publication of the EA. From the parcel list Appendix B attached to the EA: Parcel 1 portions within PHMA are deferred and has GHMA TLS applied to the remainder. Parcel 2 has GHMA TLS applied. Parcel 4 is entirely deferred. Parcel 5 portions within PHMA are deferred and has GHMA TLS applied to the remainder. Parcel 7 portions within PHMA are deferred and has GHMA TLS applied to the remainder. Parcel 8 portions within PHMA are deferred and has GHMA TLS applied to the remainder. Parcel 19 portions within PHMA are deferred and has GHMA TLS applied to the remainder. (The description above Parcel 23) Parcel 20 portions within PHMA are deferred and has GHMA TLS applied to the remainder. Parcel 33 portions within PHMA are deferred and has GHMA TLS applied to the remainder. Parcel 34 has winter habitat TLS applied as per Decision 4041 of the KFO RMP ROD: Greater sage-grouse winter habitats: Avoid

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	• The description above Parcel 23 needs core 5% CSU and core TLS if core is not deferred • Parcel 33 needs core 5% CSU and core TLS if core is not deferred • Parcel 34 should not have a winter TLS for sage grouse, this is not a designated winter concentration area • Parcel 35 should not have a winter TLS for sage grouse, this is not a designated winter concentration area. It is our understanding that should a new lek be added to the database, appropriate stipulations may be added at the time of issuing an APD. If this is correct, then the appropriate core and non-core NSO and non-core TLS stipulation should be added to all parcels. Thank you for the opportunity to comment.	surface disturbance and disruptive activities in occupied greater sage-grouse winter habitats from November 15 through March 14. Parcel 35 has winter habitat TLS applied as per Decision 4041 of the KFO RMP ROD: Greater sage-grouse winter habitats: Avoid surface disturbance and disruptive activities in occupied greater sage-grouse winter habitats from November 15 through March 14. Site specific NEPA analysis will occur at the development stage that will analyze resource conflicts and identify mitigation for specific impacts. In accordance with IM 20040-110, Change 1 and Lease Notice No. 3 any new standards/mitigation/ stipulations coming forth from that process can be applied to post-lease actions (i.e., APDs, Sundry Notices, Rights-of-Way, etc.). Should a new lek be added to the database, appropriate Conditions of Approval be added at the time of issuing an APD in conformance with the base RMP, as amended.
9	**<u>Milleg Partnership:</u>** Milleg Partnership protests the offering of parcel WY-1605-031 comprising of 2240 acres. A portion of this parcel is underlying privately held surface rights. We do not believe that the BLM has adequately addressed the impact to private property when leasing these mineral rights. The surface right holder's ability to receive adequate mitigation is severely compromised once the mineral rights have been sold. At that time, the owner of the mineral rights has the ability to acquire easements on the property through the use of eminent domain laws. While these laws do require the mineral right holders to "negotiate in good faith", these issues are many times settles in court and rarely does the property holder receive compensation relative to the actual damage. One well pad with the associated access road and pipeline right of way on agricultural land can have a significant adverse effect on both the operation and value of the property. While the oil and gas companies only desire to compensate for the actual easements they require, significantly more land is adversely affected. If the intensity of the oil and gas activity is of a great enough extent, a parcel of land can be	Thank you for your comments. Stipulations have been added to these parcels to mitigate for resource impacts, as appropriate. The stipulations are based on the current RMPs, as amended. Per 43 CFR 3160 and Onshore Order #1, prior to granting an Application for Permit to Drill, the Operator must negotiate a Surface Access Agreement and a Surface Use Agreement where lease operations would occur on private surface estate. If a landowner and a lease holder fail to negotiate a Surface Use Agreement, the leaseholder may post a bond under 43 C.F.R. Subpart 3814 and the adequacy of the bond, amount may be subject appeal. As well, during the APD review process, the BLM must consult with and include the private landowner in reviewing on the ground surface-disturbing proposals to determine the surface owner's interests related to the project and will incorporate those interests to the extent required to comply with law.

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	rendered to be of little or no value as an agricultural property and effectively render it unsaleable. Additionally. The development of BLM held surface right adversely affects the value of the private property, when that development is in a close enough proximity to the private lands. The BLM places restrictions on surface occupancy for a variety of reasons. One reason being to protect the view shed of areas such as historic trails. This is purely for aesthetic purposes. The actual development does not harm the historic property of the trail unless it crosses the trail, but it does affect the experience a person receives. It is hard to place a value on aesthetics. However, there is an adverse effect associated with the development of oil and gas to the value of the aesthetics of federally held property adjacent to the privately held property. How much would the value of a privately held property be diminished if for instance there was a well pad in view between private land and a view of the Tetons? We believe that it would be significant. We do not have a view of the Tetons, but the federal property around us is relatively undisturbed thereby creating value that would be diminished if oil and gas development were to occur. We do not believe that the impacts to privately held property have been adequately addressed in the determination to include this parcel in the oil and gas lease sale. Therefore, we request that parcel WY-1605-031 be removed from the May 2016 sale.	Negotiation of a surface use agreement and compensation is a matter for the surface owner and the mineral right holder to resolve. Absent a definitive development proposal it is not possible analysis and as stated in Section 1.3 of the EA, BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. As further stated in Section 1.3 of the EA, "additional NEPA documentation would be prepared at the time an APD(s) or field development proposal is submitted In addition, the portion of this parcel underlying Milleg Partnership has been leased five times previously, from 1972 through 2014.
10	**<u>The Wilderness Society:</u>** Thank you for the opportunity to comment on the Draft Environmental Assessment prepared for the May 2016 Wyoming Oil and Gas Lease Sale. The Wilderness Society (TWS) is writing to express our concern that the sale of several proposed parcels within the Rock Springs Field Office (RSFO) would conflict with provisions of the Federal Land Policy Management Act (FLPMA) and the National Environmental Policy Act (NEPA) that provide important protections for wilderness quality lands and resources. Specifically, BLM does not appear to have met its statutory obligations under these Acts for parcels WY-1605-16, 17, 18, 19, and 20, all of which fall within the Kinney Rim North Unit of a citizen wilderness inventory conducted and submitted by Biodiversity Conservation Alliance (BCA Inventory). As described below, both NEPA and FLPMA require that BLM, under these circumstances, more fully consider how the sale of the parcels in question would affect wilderness resources within the RSFO. BLM should therefore defer these parcels until the agency updates its wilderness inventory to	Thank you for your comment. Please see response to Comment #4

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	comply with BLM policy and makes management decisions for lands with wilderness characteristics in the Rock Springs RMP.	
11	**<u>The Wilderness Society:</u>** I. BLM did not meaningfully consider updating its existing wilderness inventory in light of citizen-submitted inventories and other relevant information, as required by FLPMA. FLPMA requires that the BLM maintain a current wilderness inventory for public lands under its jurisdiction. See 43 U.S.C. § 1711(a). This obligation requires that the agency, in certain situations, at least consider updating its existing wilderness inventory before proceeding with project-level decisions. See BLM Manual 6310 at § .06(A). For example, BLM is required to consider an update whenever "new information concerning resource conditions, including wilderness characteristics information [is] submitted by the public..." Id. at § .06(A)(3). Additionally, BLM is required to consider an update whenever a "project that may impact wilderness characteristics is undergoing NEPA analysis." Id at § .06(A)(4). Although both of these circumstances apply here, the Draft EA suggests that BLM failed to consider updating its existing wilderness inventory for this lease sale. Instead, BLM appears to have merely compared the results of its most recent inventory with the conclusions of the BCA Inventory. Finding the two inventories inconsistent, the analysis ended there, with the conclusion that the lands did not contain wilderness characteristics. See Draft EA at p. 49 ("BLM inventory information, in consideration of the Citizens' Proposed Wilderness proposals, continue to confirm that these lands do not contain lands with wilderness characteristics.") p. 69 ("Portions of parcels 16, 17, and 18 are inside the Kinney Rim South Citizens' Proposed Wilderness Area. BLM inventory information indicates that these lands do not contain lands with wilderness characteristics."). Yet, it is precisely these types of inconsistencies that the obligation to consider an update is designed to address. Surely, the obligation to consider the BCA Inventory in this case requires that the agency do more than verify that the conclusions of its most recent inventory differ from that of a citizen-submitted inventory. Instead, Manual 6310 requires that BLM actually consider whether it should update its inventory in light of the different findings of the BCA Inventory, and nothing in the Draft EA suggests that the BLM actually considered such an update.1	Lands with wilderness characteristics are adequately addressed in Sections 3.2.3 and 4.2.3 of the EA. The EA and the maintenance of LWC inventories are in compliance with BLM Manuals 6310, "Conducting Wilderness Characteristics Inventory on BLM Lands" and Manual 6320, "Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process." A 2002 inventory concluded that "due to the abundance of human impacts the area was determined not to have wilderness characteristics"; this was corroborated by a 2011 interdisciplinary review. Recent inventories (2011) located on the Rawlins FO website (http://www.blm.gov/wy/st/en/field_offices/Rawlins/LWCI.html) conclude that while the unit meets the size requirements, the area does not appear to be natural, does not provide outstanding opportunities for solitude or a primitive and unconfined type of recreation, but does have supplemental values. No portion of the inventory unit was found to contain wilderness characteristics as a result. As part of the lease sale process, all parcels were visited, where accessible, to ensure there was no new information; the potential for parcels to contain LWC was reviewed for this lease sale, see Appendix C. Manual 6310 states: "…the preparation and maintenance of the inventory shall not, of itself, change or prevent change of the management or use of public lands. As such, parcels that have been found to possess wilderness characteristics will be managed according to the applicable RMP. We have properly disclosed this information in the record. As detailed on page 48 of the EA, parcels or portions of parcels 21 and 22 have been determined to have lands with wilderness characteristics (Appendix D). Information on lands with wilderness characteristics inventories may be found http://www.blm.gov/wy/st/en/field_offices/Pinedale/LWC.html for PFO. Approximately 40% of the lands with wilderness characteristics inventory areas in the PFO have existing oil and gas leases.

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		Parcels 21 and 22in PFO are within the Normally Pressured Lance (NPL) Natural Gas Development Project Area where an EIS is in progress. The lands with wilderness characteristics falling within the NPL project boundary currently have existing leases covering approximately 85% of the acreage. Lands with wilderness characteristics would only apply to the BLM surface of this parcel. That being said, these parcels are deferred at the discretion of the State Director, pending additional environmental analysis. All inventories are in compliance with WO IM -2011-154. WO IM-2011-154 is the current BLM policy and is compliant with Sections 201and 202 of the Federal Land Policy Management Act. IM 2011-154 supersedes all previous guidance on LWCs.
12	**<u>The Wilderness Society:</u>** II. Even if the administrative record were to disclose that BLM considered an inventory update, the decision not to update would likely be found arbitrary and capricious under the APA. Even if the agency were found to have considered, and decided against, an inventory update, the decision would likely be found arbitrary and capricious under these circumstances. See 5 U.S.C. § 706. Since its most recent wilderness inventory update, the RSFO has failed to respond to multiple citizen-submitted wilderness inventories for lands under its jurisdiction, all of which meet the "minimum standards for further review" as defined by Manual 6310. See Manual 6310 at § .06(B) (1). Additionally, the RSFO has yet to respond to comments submitted by TWS in March 2015 that identified broad, serious deficiencies in the RSFO wilderness inventory that BLM is relying upon. See Exhibit A. Nor has the most recent inventory for the RSFO been incorporated into the land use plan that was applied to the May 2016 Lease Sale. See Draft EA at § 1.1. Surely, the RSFO cannot conduct a deficient wilderness inventory, ignore citizen inventories and comments submitted in response to its inventory, and then rely on its inventory to make project-level decisions that could compromise wilderness quality lands within its jurisdiction. Since the agency has no obligation to involve the public during its inventory process, the duty to maintain a current inventory, which includes the obligation to consider updates before project-level decisions, was doubtlessly designed to safeguard wilderness lands, as well as the public interest in protecting those lands. Given the volume of comments and inventories that the RSFO has	Please see Response to Comments #4 and #11 The BLM does not have any recently submitted CWP that have not been evaluated covering parcels in this sale. Comments submitted to the RSFO regarding actions that may be considered under the pending RMP revision are outside of the scope of this leasing environmental assessment.

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	yet to respond to, any agency decision not to update its existing inventory in light of this information would likely constitute an abuse of agency discretion under the Administrative Procedure Act. See 5 U.S.C. § 706.	
13	**<u>The Wilderness Society:</u>** III. The EA does not take the requisite "hard look" at how the lease sale would affect wilderness resources on the parcels at issue, as required by NEPA. The decision to ignore public input on affected wilderness resources also likely contravenes the "hard look" requirement of NEPA. See 42 U.S.C. § 4332(2) (C). Numerous courts have applied the hard look mandate to overturn agency decisions that ignored substantive, relevant wilderness information provided by the public, including citizen-submitted wilderness inventories. See, e.g., Or. Natural Desert Ass'n v. Rasmussen, 451 F. Supp. 2d 1202, 1211-13 (D. Ore. 2006) (holding that BLM violated the hard-look requirement of NEPA when it dismissed a citizen-submitted inventory "[w]ith a broad brush"); SUWA v. Norton, 457 Supp. 2d 1253 1263-65 (D. Utah 2006) ("…Utah BLM ignored significant new information…information provided by the Southern Utah Wilderness Alliance…presented a textbook example of significant new information about the affected environment (the wilderness attributes and characteristics…)"); Biodiversity Conservation Alliance, 183 IBLA 97, 2013 IBLA Lexis *1, *28-*29 (2013) (rejecting a claim that BLM violated the hard-look requirement where BLM "specifically evaluated citizens' wilderness proposals [so that the citizens' proposals had] become administratively final…"). Here, BLM has not taken the requisite "hard look" at how the sale of parcels WY-1605-16, 17, 18, 19, and 20 would affect wilderness resources in the RSFO, as required by the cases cited above. The RSFO has disregarded a significant volume of substantive new information, submitted by the public in the form of comments and inventories, describing wilderness values that would be affected by the lease sale. For example, the BCA Inventory specifically identified lands with wilderness characteristics that would be compromised by the proposed sale of parcels WY-1605-16, 17, 18, 19, and 20. And, as discussed previously, TWS	Please see Response to Comments # 4 and #11 Lands with wilderness characteristics are adequately addressed in Sections 3.2.3 and 4.2.3 of the EA. The EA and the maintenance of LWC inventories are in compliance with BLM Manuals 6310, "Conducting Wilderness Characteristics Inventory on BLM Lands" and Manual 6320, "Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process."

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	submitted extensive comments that pointed out deficiencies in the most recent BLM wilderness inventory prepared for RSFO. Although BLM is not obligated to agree with any public assessment of the wilderness values affected by the lease sale, NEPA requires that the agency at least take a hard look at a complete and accurate inventory of wilderness values in the planning area. The BLM cannot be said to have taken the requisite hard look where, as here, the agency ignored a significant volume of new information and substantive criticism of existing information regarding wilderness values that would be affected by the sale of parcels WY-1605-16, 17, 18, 19, and 20	
14	**<u>The Wilderness Society:</u>** IV. Conclusion For the foregoing reasons, we ask that the BLM defer parcels WY-1605-16, 17, 18, 19, and 20 from the Wyoming May 2016 Oil and Gas Lease Sale. Furthermore, we recommend that the BLM not reconsider or offer these parcels for lease until the RSFO has completed its inventory and management decisions for lands with wilderness characteristics through a public planning process.	Thank you for your comments.
15	**<u>Coalition of Local Governments:</u>** Thank you for the opportunity to submit these comments. The Coalition of Local Governments (Coalition), on behalf of its local government members, submits these comments on the May 2016 Lease Sale Environment Assessment (EA). The Coalition members include Lincoln, Sublette, Sweetwater, and Uinta Counties and the Little Snake River, Lincoln, Sublette, Sweetwater, and Uinta County Conservation Districts. The Coalition members have participated as cooperating agencies for the resource management plan (RMP) revisions for the Greater Sage Grouse, Kemmerer, Pinedale, and Rawlins land use plans, as well as for the Ashley and Bridger-Teton National Forests. In addition, the Coalition members are cooperators on the Rock Springs Resource Management Plan (RMP) revision, as well as several project level environmental impact statements (EIS) and environmental assessments (EA) across southwestern Wyoming.	Thank you for your comments. No response needed.
	<u>Coalition of Local Governments:</u> *1. Decreasing Number of Acres Offered for Sale* The Coalition members support oil and gas leasing and this support is documented in the land use plans for each	The acres deferred at the State Director's discretion located in sage grouse Priority Habitat Management Areas. (PHMA), remain open to leasing. However, the BLM has exercised its discretion and determined that it is appropriate to defer these parcels from the set of the preliminary

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	member. For the November, 2016 lease sale, the EA proposes to offer 29,736 acres from the four field offices that comprise the High Desert District. EA at 2. This represents a sharp drop when compared to 76,502 acres in November 2015 and 79,491 acres in November 2014. This decrease cannot be entirely attributed to pressure from lower oil and natural gas prices. The EA indicates that more than 12,000 acres were deferred at the State Director's discretion because they are located in sage grouse priority habitat. EA at 2. The Coalition notes that the Sage Grouse Record of Decision and the FEIS did not close these areas to oil and gas leasing. By taking these lands off the list based on the Sage Grouse plan amendment, BLM violates the representations of little or no economic harm from the sage grouse habitat designations. Instead, it is increasingly clear that BLM deliberately understated and thus misrepresented the impacts of the plan amendments. Absent another independent reason, these parcels should not have been deferred.	parcels analyzed in detail in the Environmental Assessment for the May 2016 oil and gas lease sale. These deferrals are consistent with the BLM's sage grouse conservation plans and strategy, which direct the BLM to prioritize oil and gas leasing and development in a manner that minimizes resource conflicts in order to protect important GSG habitat and reduce development time and costs. Based on the foregoing, those portions of 8 parcels and 5 whole parcels within PHMA are deferred through State Director discretion.
	<u>Coalition of Local Governments:</u> 2. *Reclamation Discussion Should Be Improved* The EA assumes that BLM's current reclamation policy is sufficient. EA at 70-72. CLG members' observations are that this assumption is often at odds with reality. Especially in the high desert areas, reclamation does not succeed and BLM has done little to enforce effective long-term reclamation. Halogeton has fully infested disturbed areas in the field offices. In some cases, BLM is proposing livestock grazing reductions due to these infestations. This situation cannot be allowed to continue. CLG helped to lead the effort for a better reclamation policy for the Continent Divide Creston EIS. That direction should be adopted for all surface disturbing projects and BLM needs to commit to ensuring that reclamation succeeds. The premise that grading and seeding will lead to effective reclamation has proven false. The loss of habitat values and forage is significant. At a minimum, operators should be required to aggressively control non-native invasive species and further required to achieve reclamation fully. The EA discussion of reclamation is insufficient. There is no direction to control halogeton and no direction to coordinate with livestock operations, especially when the surface disturbance facilitates halogeton and other non-native or noxious weeds.	Thank you for your comments. Discussion of the CDC EIS is outside the scope of this document. Consistent with IM 2004-110, Change 1 more extensive/ expansive/ restrictive mitigation, including adaptive management, could be developed during the site-specific NEPA analysis that would be required to address any specific post-lease exploration or development actions that are proposed. Further, all surface disturbing proposals must comply with WY BLM Instruction Memorandum 2012-032, WY BLM Reclamation Policy and the recently completed Greater Sage Grouse Approved Resource Management Plan Amendment (ARMPA) ROD (2015) for WY. We agree that reclamation and weed control are important issues. Onshore Order #1 requires a thorough site inspection by interdisciplinary team prior to a decision, to determine the specific characteristics of the site including soil and vegetation, and potential resource conflicts. These will be described in the site specific NEPA document should the parcel be sold and development proposed.
13	**<u>Rocky Mountain Wild:</u>**	Thank you for your comments.

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	The following are the lands and wildlife comments Rocky Mountain Wild on the Wyoming BLM's May 2016 Lease Sale EA. For many years, the BLM has prioritized oil and gas leasing and development over other multiple uses such as wildlife, wilderness quality lands, watersheds, public health and public recreation. It is time for the BLM to restore some balance among resource uses in Wyoming, and render extractive industries more compatible with maintaining healthy ecosystems and public enjoyment of the land. Generally speaking, we would support a modified version of the BLM Preferred Alternative adjusted to address our concerns. BLM attaches a number of stipulations, most notably timing stipulations, and relies upon them to reduce impacts to sensitive wildlife resources without ever analyzing the effectiveness of these stipulations. Many of these stipulations are known to be ineffective as outlined below. See Attachment one (Rocky Mountain Wild's Assessment of Biological Impacts (ABI) GIS Screen) for a full list of values impacted by this proposed leasing decision.	Values impacted by this proposed leasing decision are adequately addressed in the Environmental Assessment and were thoroughly analyzed in the base RMP Environmental Impact Statements and the recently completed ARMPA (2015).
14	**<u>Rocky Mountain Wild:</u>** **<u>Sage Grouse</u>** We agree with BLM's recommendations to defer in whole or in part the offering of Parcels 001, 004, 005, 007, 008, 009, 010, 011, 019, 020, 029, 030, 033 which fall entirely or partially within Core Areas. Under NEPA, BLM must consider a range of reasonable alternatives, including those that are outside the agency's authority to implement. In this case, an alternative deferring all parcels within 4 miles of a lek would be fully within BLM's authority to analyze and implement. We request that all parcels listed herein be deferred from the lease sale. BLM should do its best to keep largely unleased areas of public land in Core Areas unleased, regardless of mineral ownership patterns. Wyoming sage grouse populations are some of the largest left in the nation and were relatively stable until the last decade, when sage grouse populations experienced major declines range-wide. The Wyoming Game and Fish Department reported that since 1952, there has been a 20% decline in the overall Wyoming sage grouse population, with some fragmented populations declining more than 80%; one of WGFD's biologists reported a 40% statewide decline over the last 20 years. As of 2014, WGFD data reports a 60% population decline statewide since 2007. See also Attachment 1. Since these figures were published, grouse populations have continued to decline over the long term. These declines are	This Environmental Assessment conforms to the approved Kemmerer, Pinedale, Rawlins, and Green River RMPs (43 CFR 1610.5) RODs, as amended (2015) and Bureau of Land Management Casper, Kemmerer, Newcastle, Pinedale, Rawlins, and Rock Springs Field Offices September 21, 2015 Approved Resource Management Plan Amendment (ARMPA) for Greater Sage-Grouse (GRSG). The Kemmerer, Pinedale, Rawlins, and Green River RMPs, as amended (2015), identify lands as either open or closed to fluid mineral leasing, and provide specific stipulations that would be attached to new leases offered in certain areas. The proposed actions that RMW would like us to consider were analyzed in detail in the 2015 Greater Sage Grouse Amendment. To do so again in this leasing EA would be redundant and is not required under NEPA. Portions of 8 parcels and 5 whole parcels, as discussed in Appendix A attached to the EA were deferred from sale at the discretion of the State Director. Any consideration of designating ACEC's is outside the scope of this EA. Wyoming Game and Fish Department and the U.S. Fish and Wildlife Service support the timing

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	attributable at least in part to habitat loss due to mining and energy development and associated roads, and to habitat fragmentation due to roads and well fields. Oil and gas development poses perhaps the greatest threat to sage grouse viability in the region. The area within 2 to 3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. In a study near Pinedale, sage grouse from disturbed leks where gas development occurred within 3 km of the lek site showed lower nesting rates (and hence lower reproduction), traveled farther to nest, and selected greater shrub cover than grouse from undisturbed leks. According to this study, impacts of oil and gas development to sage grouse include (1) direct habitat loss from new construction, (2) increased human activity and pumping noise causing displacement, (3) increased legal and illegal harvest, (4) direct mortality associated with reserve pits, and (5) lowered water tables resulting in herbaceous vegetation loss. These impacts have not been thoroughly evaluated with full NEPA analysis. Lease parcels should also be screened against Sage Grouse ACECs proposed in the context of the statewide Sage Grouse Plan Amendments EIS process. Many of the proposed ACECs have for proposed management withdrawal from future oil and gas leasing. Parcels in each of these areas should be deferred pending the outcome of the Sage Grouse Plan Amendments process, so that a proper decision can be made regarding whether or not to lease them and/or appropriate stipulations can be attached, per IM 2004-110 Change 1. BLM should also consider whether any parcels fall within proposed Sage Grouse ACECs. In the forthcoming RMP revisions, it is our expectation that the BLM will be considering the designation of several Core Areas as Sage Grouse ACECs, to be managed for no future leasing for oil and gas development. In addition, many parcels are at least partially within designated Preliminary General Habitat (PGH) under the Wyoming Sage-grouse RMP Amendment DEIS, including Parcels 002, 003, 006, 012, 013, 014, 015, 016, 017, 018, 021, 022, 023, 024, 025, 026, 027, 028, 031, 032, 034, 035, 037, and 038 according to our lease screens. All portions of these parcels falling within PGH should be deferred as well. It is important to note that the significant new information that has arisen regarding greater sage grouse (Candidate Species designation, National Technical Team report, and numerous scientific and technical reports) apply also to Preliminary General Habitats. Current BLM sage grouse protections (quarter-mile NSO and 2-mile TLS stipulations) have been shown by this new information to	limitation, surface occupancy, and surface use Stipulations developed in the ARMPA as they are consistent with the State's Core Area Strategy as identified in multiple Executive Orders (2015-004). Absent a definitive development proposal it is not possible to conduct a more specific impact and/or cumulative effects analysis and as stated in Section 1.3 of the EA, BLM cannot determine at the leasing stage whether or not a nominated parcel will actually be leased, or if leased, whether or not the lease would be explored or developed or at what intensity development may occur. As further stated in Section 1.3 of the EA, "additional NEPA documentation would be prepared at the time an APD(s) or field development proposal is submitted. Consistent with IM 2004-110, Change 1 more extensive/ expansive/ restrictive mitigation, including adaptive management, could be developed during the site-specific NEPA analysis that would be required to address any specific post-lease exploration or development actions that are proposed and could include additional measures to mitigate impacts to wintering big game from production related activities. With appropriate site-specific analysis, restrictions on production related activities could be imposed.

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	be inadequate to maintain this BLM Sensitive Species. In addition, Garton et al. (2015) performed a population persistence analysis that indicates a 65.3% chance that the sage grouse population will drop below 50 in the Wyoming Basin Management Zone (encompassing Lander and Bighorn Basin parcels) in 100 years. See Attachment 1. This population level equates to functional extinction for the largest remaining sage grouse population in the world, and BLM is required by its Sensitive Species policy to take all measures necessary to avoid this outcome, including withdrawing the sage grouse parcels in this sale. Parcels 012, 013, 014, 015, 016, 017, and 018 fall within the 4-mile buffer around an occupied lek. These parcels should also be considered for deferral based on the impacts to the greater sage-grouse. The lands within 4 miles of active leks are typically used for nesting, a sensitive life history period when sage grouse are sensitive to disturbance from oil and gas drilling and production activities. The current standard sage grouse stipulations that apply outside Core Areas are biologically inadequate, and their effectiveness has not been established by BLM. Indeed, scientific studies demonstrate that these mitigation measures fail to maintain sage grouse populations in the face of full-field development, and significant impacts in terms of displacement of sage grouse from otherwise suitable habitat as well as significant population declines have been documented. BLM should not issue these sage grouse parcels unless a rigorous set of stipulations, far stronger than those provided in the EA (such as NSO stipulations), are applied to the parcels. This should include 4-mile No Surface Occupancy stipulations around active leks. If these stipulations are implemented together with even stronger measures for Core and Connectivity Areas, the BLM could make a credible case that impacts from leasing would not result in significant impacts. Outside Core Areas, current sage grouse lease stipulations provide an NSO stipulation of ¼ mile around active sage grouse leks. This is inadequate amount of protection for the lekking grouse during the breeding period, never mind for hens nesting on lands surrounding the lek. Studies have shown that the majority of hens nest within 3 miles of a lek, and that a 5.3-mile buffer would encompass almost all nesting birds in some cases. For Core Areas, the most scientifically supportable metric for NSO buffers would be 2 miles from the lek to protect breeding birds (after Holloran 2005, finding impacts from post-drilling production extend 1.9 miles from the wellsite) 4 and 5.3 miles to protect nesting birds, with the understanding that the impacts of drilling and production activity would extend into the NSO buffer area from wells arrayed along	

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	its edge. Because leks sites are used traditionally year after year and represent selection for optimal breeding and nesting habitat, it is crucially important to protect the area surrounding lek sites from impacts. In his University of Wyoming dissertation on the impacts of oil and gas development on sage grouse, Matthew Holloran stated, "current development stipulations are inadequate to maintain greater sage grouse breeding populations in natural gas fields."4 (Notably, these exact stipulations are being applied by BLM in this lease sale for non-Core Area sage grouse habitat parcels). The area within 2 or 3 miles of a sage grouse lek is crucial to both the breeding activities and nesting success of local sage grouse populations. Dr. Clait Braun, the world's most eminent expert on sage grouse, has recommended NSO buffers of 3 miles from lek sites, based on the uncertainty of protecting sage grouse nesting habitat with smaller buffers.5 Thus, the prohibition of surface disturbance within 3 miles of a sage grouse lek is the absolute minimum starting point for sage grouse conservation. Other important findings on the negative impacts of oil and gas operations on sage grouse and their implications for the species are contained in three studies recently accepted for publication.6 Sage grouse mitigation measures have been demonstrated to be ineffective at maintaining this species at pre-development levels in the face of oil and gas development by Holloran (2005) and Naugle et al. (2006). This study found an 85% decline of sage grouse populations in the Powder River Basin of northeastern Wyoming since the onset of coalbed methane development there. BLM has repeatedly failed to provide any analysis, through field experiments or literature reviews, examining the effectiveness of the standard quarter-mile buffers where disturbance would be "avoided." There is substantial new information in recent studies to warrant supplemental NEPA analysis of the impacts of oil and gas development to sage grouse. It is incumbent upon BLM to consider the most recent scientific evidence regarding the status of this species and to develop mitigation measures which will ensure the species is not moved toward listing under the Endangered Species Act. It is clear from the scientific evidence that the current protections are inadequate and are contributing to the further decline of the bird's populations. This information constitutes significant new information that requires amendment of the Resource Management Plans before additional oil and gas leasing can move forward. Wyoming Game and Fish Department biologists have	

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	reached a consensus that the Timing Limitation Stipulations proposed for sage grouse in this lease sale are ineffective in the face of standard oil and gas development practices. These stipulations have likewise been condemned as inadequate by the U.S. Fish and Wildlife Service and renowned sage grouse expert Dr. Clait Braun. The BLM itself has been forced to admit that "New information from monitoring and studies indicate that current RMP decisions/actions may move the species toward listing…conflicts with current BLM decision to implement BLM's sensitive species policy" and "New information and science indicate 1985 RMP Decisions, as amended, may not be adequate for sage grouse."7 Continued application of stipulations known to be ineffective in the face of strong evidence that they do not work, and continuing to drive the sage grouse toward ESA listing in violation of BLM Sensitive Species policy, is arbitrary and capricious and an abuse of discretion under the Administrative Procedures Act. The vague stipulations included in BLM's Notice of Competitive Oil and Gas Lease Sale for particular parcels do little to clarify to the interested public or potential lessees what restrictions might actually apply to protect sage grouse populations. For example, for some parcels, BLM imposes a Timing Limitation Stipulation and a Controlled Surface Use Stipulation. Such acceptable plans for mitigation of anticipated impacts must be prepared prior to issuing the lease in order to give the public full opportunity to comment, and to abide by the Department of Interior's stated new policy to complete site-specific environmental review at the leasing stage, not the APD stage. Without site-specific review and opportunity for comment, neither the public nor potential lessees can clearly gauge how restrictive or lax "acceptable plans for mitigation" might be, and whether they comply with federal laws, regulations, and agency guidelines and policies. Thus, absent such review, the leases should not issue at all. BLM has the scientific information needed to recognize that any use of these parcels will result in further population declines. Again, it is in all interested parties favor (conservation groups, potential lessees, BLM and other federal agencies) for BLM to determine specific "modifications" prior to issuing leases, such as NSO restrictions. We recommend against the sale of any lease parcels which contain sage grouse leks, nesting habitat, breeding habitat, wintering habitat and brood-rearing habitat. We request that these parcels be withdrawn from the lease sale. Failing	

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	withdrawal of the parcels, parcel-by-parcel NEPA analysis should occur, and NSO stipulations must be placed on all lease parcels with sage grouse leks. In addition, three-mile buffers must be placed around all leks. It is critical that these stipulations be attached at the leasing stage, when BLM has the maximum authority to restrict activities on these crucial habitats for the protection of the species, and that no exceptions to the stipulations be granted. BLM's failure to do so will permit oil and gas development activities which will contribute to declining sage grouse populations and ultimately could result in listing by the U.S. Fish and Wildlife Service as a threatened or endangered species, in violation of BLM's duty to take all actions necessary to prevent listing under its Sensitive Species Manual. We remain concerned that development activities on the sage grouse parcels noted above will result in significant impacts to sage grouse occupying these parcels and/or the habitats nearby, and the BLM's programmatic NEPA underlying this lease sale does not adequately address these significant impacts in light of new information. Therefore, the requisite NEPA analysis to support the leasing of the sage grouse parcels listed above in the absence of an Environmental Impact Statement does not exist.	
15	**Rocky Mountain Wild:** **ACEC** BLM should not lease parcels that are within Areas of Critical Environmental Concern ("ACEC"). A portion of parcel 32 is within the Beaver Creek Area of Critical Environmental Concern. "long-term species sustainability and functioning habitats and to support the Conservation Agreement and Strategy (CAS) for Colorado River Cutthroat Trout (CRCT) in the States of Colorado, Utah, and Wyoming, and to ensure that elk parturition areas are available for use by calving elk." EA at 51. Even with NSO stipulations accessing and developing this parcel will impact this ACEC. The resource values warrant and deserve better protection than that being afforded. With low demand for resource extraction, it would be wise and proper to defer this parcel. The EA fails to adequately analyze the impacts of accessing the resources below this parcel or an alternative that would defer this parcel. Failure to conduct this analysis is arbitrary and capricious.	All parcels offered for the May 2016 proposed sale are offered in conformance with the existing land use plans as required by 43 CFR 1610.5. Additionally, site specific NEPA analysis which would include an analysis of cumulative impacts, will occur at the development stage should the parcel be sold and issued, that will analyze resource conflicts and identify mitigation for specific impacts. In accordance with IM 20040-110, Change 1 and Lease Notice No. 3 any new standards/mitigation/ stipulations coming forth from that process can be applied to post-lease actions (i.e., APDs, Sundry Notices, Rights-of-Way, etc.). Alternative A of the EA is a No Action Alternative where BLM Wyoming would not offer thirty-two (32) parcels containing 29,736.220 acres for lease at the May 3, 2016 lease sale. This would mean that the Expressions of Interest would be denied or rejected and no lease parcels would be offered at the May 3, 2016 Oil and Gas Competitive Lease Sale.

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16	**Rocky Mountain Wild:** **Lands with Wilderness Characteristics** BLM should not lease lands with wilderness characteristics. Parcels 21 and 22 have been determined to have lands with wilderness character. Parcel 15 is inside the Adobe Town Citizens' Proposed Wilderness Area. Parcel 15 also falls within the Adobe Town area lands designated by the State of Wyoming as a "very rare or uncommon" area. The EA fails to adequately analyze the impacts of leasing these parcels or consider an alternative that would defer these parcels due to their wilderness characteristics. Failure to conduct this analysis is arbitrary and capricious.	Pending additional NEPA analysis, parcels 21 and 22 will be deferred at the discretion of the State Director and will not be offered for sale at the May 2016 lease sale. Lands with wilderness characteristics are adequately addressed in Sections 3.2.3 and 4.2.3 of the EA. The EA and the maintenance of LWC inventories are in compliance with BLM Manuals 6310, "Conducting Wilderness Characteristics Inventory on BLM Lands" and Manual 6320, "Considering Lands with Wilderness Characteristics in the BLM Land Use Planning Process." BLM inventory information, in consideration of the Citizens' Proposed Wilderness proposals, continues to confirm that these lands do not contain lands with wilderness characteristics. The designation of the Adobe Town Rare and Uncommon Area by the Wyoming Environmental Quality Council applies State of Wyoming protection only as related to non-coal mining operations and does not limit the development of oil and gas resources. Please see Response to Comment #16.
17	**Rocky Mountain Wild:** **Hydraulic Fracturing** The EA fails to consider the impacts of hydraulically fracturing these oil and gas wells. There is not adequate analysis of wildlife impacts, seismic activity, health impacts, or many of the other known impacts of hydraulic fracturing. Around 90 percent of wells have used hydraulic fracking to get more gas flowing, according to the drilling industry.8 Appendix D of the EA is a "white paper" from 2013 that discusses general and outdated information about hydraulic fracturing. With the very high probability that this practice will occur on the specific parcels it is arbitrary and capricious of BLM to neglect this highly controversial and impactful practice in its environmental analysis. The section of the EA focused on Public Health and Safety (p. 53) fails to adequately analyze the impacts of hydraulic fracturing. This section merely refers readers to "information under Air Resources and Water Resources in the attached Hydraulic Fracturing White Paper for additional information regarding management of air quality emissions and water quantity/quality in WY." Id. Specific	Hydraulic Fracturing is a specific well completion method that will be analyzed at the appropriate APD or project stage with the necessary NEPA document when a discrete proposal is received. The impacts to resources affected will also be analyzed under that site specific NEPA document. See page 4, Section 1.3 of the lease sale EA, for a general discussion of development in relations to leasing. Also see Sections 3.2.9 and 4.2.9 for a discussion of water resources. As well, incorporated by reference and summarized as appropriate in the lease sale EA is Appendix D a Hydraulic Fracturing White Paper. Since development cannot be reasonably determined at the leasing stage, any site specific impacts cannot realistically be analyzed at this time. At the time of APD proposal, should the parcels be sold and development proposed, an analysis of these resources will be completed.

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	parcels will present differing levels and types of impacts when hydraulic fracturing takes place. Site specific analysis is possible and necessary at this point in the decision making process. The EA discloses that "potential for waste impact would not occur until post-lease development activities are initiated. Impacts could be in the form of drilling or completion fluid spills, formation fluid spills, dry material or chemical spills, fuel spills, trash scatter on and off the well pads, and hydrocarbon or gas releases." EA at 72. However, the EA fails to adequately analyze how this type of impact would affect the specific parcels. At a minimum, "the agency's [Environmental Assessment] must give a realistic evaluation of the total impacts and cannot isolate a proposed project, viewing it in a vacuum." Grand Canyon Trust v. F.A.A., 290 F.3d 339, 342 (D.C. Cir. 2002). More specifically, "an environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts." Utahns for Better Transp. v. U.S. Dep't of Transp., 305 F.3d 1152, 117 (10th Cir. 2002) (citing Custer County Action Assoc. v. Garvey, 256 F.3d 1024, 1035 (10th Cir. 2001)) (internal quotation omitted); see also 40 C.F.R. § 1509.25(a)(2) (2009) (scope of EIS is influenced by cumulative actions and impact); Greenpeace v. Nat'l Marine Fisheries Serv., 80 F. Supp. 2d 1137, 1149 (W.D. Wash. 2000) (management plans were unlawful for failing to consider cumulative impacts on species). Conner v. Burford holds that the inability at the lease sale stage to fully ascertain effects of development "is not a justification for failing to estimate what those effects might be." Conner v. Burford, 848 F.2d 1441 (9th Cir. 1988); see also Methow Valley Citizens Council, 490 U.S. 332 (1989). Cumulative impact is defined as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7 (2009). The Tenth Circuit recently noted that the BLM's own Handbook for Fluid Mineral Resources recognizes that "BLM has a statutory responsibility under NEPA to analyze and document the direct, indirect and cumulative impacts of past, present and reasonably foreseeable future actions resulting from Federally authorized fluid minerals activities." Pennaco Energy Inc., v. U.S. Dep't of Interior, 377 F.3d 1147, 1160 (10th Cir. 2004).	

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	BLM must conduct a thorough analysis of hydraulic fracturing to comply with its NEPA responsibilities. The reference to this practice and attachment of a generalized "white paper" does not fulfill the agency's duties to take a hard look at the impacts of its action. The analysis of hydraulic fracturing should require an Environmental Impact Statement due to its significant environmental impacts that have heretofore never been analyzed in the programmatic EISs underlying oil and gas leasing in these Field Offices	
18	**Rocky Mountain Wild:** **Conclusion** Thank you for considering our comments on the May 2016 Leasing EAs. For the reasons outlined in this comment BLM should consider a broader range of alternatives and conduct further analysis about the impacts of leasing these parcels. BLM is tasked with managing its lands for multi-use and leasing within sensitive and wilderness quality lands violates that mandate.	Thank you for your comments. No response needed.
19	**WildEarth Guardians:** The following are the comments of WildEarth Guardians on the Draft Environmental Assessment ("EA") for the Bureau of Land Management ("BLM") Wyoming May 2016 oil and gas lease sale. Pursuant to 40 C.F.R. § 1506.6(b)(1), we request that you please provide written notice to tream@wildearthguardians.org when further action related to this lease sale, including but not limited to issuance of a finding of no significant impact, is taken on this lease sale. Please also provide notice when any period for a formal protest or pre-decisional objection is set or changed. WildEarth Guardians made the following comments in regards to the last BLM Wyoming lease sale but it seems to have been ignored. In the future, BLM Wyoming should publish the address to which comments must be sent in the same location it publishes the EAs. The appropriate addresses belong on the BLM website in the same location where the EAs can be accessed. We were only able to identify the proper address for sending comments after finding links to press releases. In the absence of any clearly stated address connected to the EAs themselves, BLM Wyoming conveys the impression that it is uninterested in what the public has to say about the public environmental review it is engaged in. It creates the impression BLM is only interested in pushing through lease sales regardless of the consequences to the human environment.	Thank you for your comments. We are however, unable to find where this issue was raised previously but thank you for bringing it forward. In response, tream@wildearthguardians.org has been added to the High Desert District interested public email list. The news release which contains the address to which comments must be sent will be posted on the BLM website in the same location where the EAs can be accessed. The FONSI is signed the same day as the DR for the lease sale. Per Leasing Reform Instruction Memorandum 2010-117, offices are to do this prior to the lease sale. For WY, this is generally the day before the lease sale. The subject EAs are tiered to the Greater Sage Grouse ARMPAs and the EA refers the reader to the disclosure of expected GHG emissions calculated from the Reasonably Foreseeable Development Scenario that was prepared for the RMP Amendments.

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	Turning to issues of substance, for many years, the BLM has prioritized coal, oil, and gas leasing and related development over other uses, such as protecting wildlife, watersheds, and public recreation. The error of this approach is increasingly obvious. In this EA and throughout the agency's work, BLM fails to recognize that already existing federal coal, oil, and gas leases, if fully developed, will result in climate emissions that far exceed a safe and livable global temperature rise and will render our oceans too acidic for much existing marine life. With every new set of leases, like the ones proposed here, BLM further breaks the global carbon budget, signals that other countries can behave just as irresponsibly, and increases the intensity of current and future catastrophic climate impacts. See The Potential Greenhouse Gas Emissions of U.S. Federal Fossil Fuels, Ecoshift (August 2015) Ex 1. As detailed below, the problems with this proposed lease sale and its compliance with the National Environmental Policy Act ("NEPA"), especially in regard to climate impacts, are so pervasive that BLM should scrap the entire effort and adopt a no action alternative. In any case, it is clear that this NEPA analysis is so inadequate it cannot support project approval without supplemental analysis.	
20	**<u>WildEarth Guardians:</u>** **BLM Fails to Follow the Council on Environmental Quality Guidance on Climate Change and NEPA** Well before this EA was completed, a December 2014 release of the Council on Environmental Quality's ("CEQ") "Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts" ("CEQ Guidance") was provided to BLM. Ex. 2. Despite the intervening months, BLM Wyoming continues to ignore most of the requirements set forth in the guidance. That such behavior is widespread in Wyoming and throughout BLM's oil and gas program suggests a failure of leadership at the highest levels of the Department and the Administration.	As noted in your comments, the Council on Environmental Quality (CEQ), which oversees NEPA compliance for all federal agencies, has issued " Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts " (Dec 2014). To date this draft guidance has not been formalized. If and when final guidance is received, BLM will comply. BLM has adequately disclosed reasonably foreseeable impacts resulting from climate change whether positive or negative, as required by NEPA.
21	**<u>WildEarth Guardians:</u>** <u>A programmatic EIS is necessary</u> Put simply, BLM is failing to describe or to analyze climate impacts from its oil and gas program and this EA is no exception. The repeated pattern and practice of such failure suggests that only a programmatic analysis at the national level can address this shortcoming. In fact, a	The preparation of this leasing EA was done in compliance with all Federal rules, regulations, and laws. See our response to Comment #19. Because anticipated production from a particular lease parcel is speculative, and the resulting CO2 emissions from eventual combustion of that production are even more speculative, a qualitative evaluation of climate change at the lease sale stage

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	programmatic analysis is exactly what the DEQ Guidance calls for. The Guidance suggests that for "long-range energy" actions, "it would be useful and efficient to provide an aggregate analysis of [greenhouse gas] emissions or climate change effects in a programmatic analysis and then incorporate by reference that analysis into future NEPA review." CEQ Guidance at 29. The lack of climate analysis in this long-range energy EA demonstrates that the Wyoming office, along with other state offices as demonstrated in other recent oil and gas leasing EAs, is incapable or unwilling to undertake adequate review of greenhouse gas ("GHG") emissions or climate change effects. This is exactly why the CEQ Guidance is correct in calling for programmatic analysis of climate emissions and effects for programs like the BLM oil and gas leasing program.1 In fact, when listing examples of "site-specific actions that can benefit from a programmatic NEPA review," authorizing leases for oil and gas drilling is specifically mentioned. CEQ Guidance at 30. Thus, the CEQ Guidance creates an expectation that BLM would undertake a programmatic EIS of its oil and gas program, which it has thus far failed to do. Where an agency has chosen to ignore programmatic analysis in favor of site-specific climate analysis, it is required to "set forth a reasoned explanation" for that failure. CEQ Guidance at 4. BLM has not done so in the relevant Resource Management Plans or this EA, claiming only that it might do so in the future. Absent programmatic analysis, BLM is required to adequately analyze climate impacts and to "apply fundamental NEPA principles to the analysis of climate change through assessing GHG emissions" as per the Guidance and the law itself. CEQ Guidance at 30. The failures to apply fundamental NEPA principles in analyzing climate emissions and effects in this leasing EA or the tiered RMP are obvious and unfortunate.	is appropriate. Should expected impacts be outside the scope of the ARMPAs, additional quantitative analysis may be appropriate at that time.
22	**<u>WildEarth Guardians:</u>** <u>BLM does not have the discretion to ignore existing information and tools and simply wave away emissions as insignificant or incremental</u> The touchstone of any NEPA analysis is to take a hard look at impacts and provide useful information to decision makers and the public; the analysis of climate impacts is no different. CEQ Guidance at 2. Such analysis does not require the development of new information or tools for analysis, but does require that existing information and tools are applied appropriately. CEQ Guidance at 4. BLM should heed CEQ's advice that providing climate change analysis will not only satisfy the critically important mandates of NEPA, but will also reduce the risk of	The BLM currently has no formal policy which provides an accepted method for calculating emissions of Greenhouse Gases or policy that provides direction for incorporating these emissions into a meaningful environmental analysis. If and when this direction is received, BLM-WY will comply with it. In the meantime, this EA has tiered to, and incorporated by reference, the projected GHG emissions calculated for the Greater Sage Grouse ARMPA; these emissions were calculated for each FO's Reasonably Foreseeable Development scenario which is the expected number of wells based on reservoir potential. Because anticipated production from a particular

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	litigation. CEQ Guidance at 2. It is true that agencies have discretion in how to apply available information and tools, but the depth of this discretion is a function of the agency's "expertise and experience" with climate change and its impacts. CEQ Guidance at 5. It is clear that such experience and expertise is largely absent in state BLM offices, including the Wyoming Office, which until recently had serious problems even admitting that climate change exists, let alone adequately describing it with up-to-date science. Given this lack of experience and expertise, agency discretion to ignore the CEQ Guidance is at its low ebb, especially at the district or field office level, again suggesting the need for national programmatic analysis of the BLM oil and gas leasing program. To address its lack of experience and expertise with climate analysis, it is not unusual, including in this EA, to find BLM offices relying on outdated and inapplicable boilerplate text to cover the gaps in analysis. "It is essential, however, that Federal agencies not rely on boilerplate text to avoid meaningful analysis, including consideration of alternatives or mitigation." CEQ Guidance at 5-6. Unfortunately, that is exactly what has happened in the EA in question.	lease parcel is speculative, and the resulting CO2 emissions from eventual combustion of that production are even more speculative, a qualitative evaluation of climate change at the lease sale stage is appropriate. Should expected impacts be outside the scope of the ARMPAs, additional quantitative analysis may be appropriate at that time. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. *WildEarth Guardians v. Jewell*, 738 F.3d 298, 309 n.5 (D.C. Cir. 2013) *WildEarth Guardians v. BLM*, , 8 F. Supp. 3d 17; 34 (D.D.C. 2014) The preparation of this leasing EA was done in compliance with all Federal rules, regulations, and laws. The commenter's desire for national guidance is outside the scope of this EA and is a policy issue, not a NEPA issue.
23	**<u>WildEarth Guardians:</u>** <u>Actual emissions, including from oil and gas use, must be analyzed for lease sales</u> The core of any climate change NEPA analysis is an actual analysis of emissions. BLM fails here to provide one. Actual estimates of emissions are required even when they are uncertain and can at best be "projected." CEQ guidance at 8. When an agency ignores this guidance and does not choose to project emissions, "the agency should document the rationale for that determination." CEQ Guidance at 10. Here, BLM has failed to estimate emissions and failed to document its rationale for that failure.2 This is inadequate and illegal. All estimates of future project emissions are speculative to some degree, but nonetheless required by NEPA whenever reasonably foreseeable. To estimate emissions here would not be difficult and has been and is being done by other BLM offices. BLM seems to think that fossil fuel leasing is a special example that absolves it of this requirement to estimate emissions. CEQ, however, makes a specific point, to state that such estimates are required when leasing fossil fuels. For example, the "development of a coal resource"	Please see Response to Comments #20, 21 & 22.

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	requires an estimate of resulting emissions. CEQ Guidance at 12. Moreover, not just emissions, but the long-term climate effects of such an action must be analyzed to fulfill NEPA's mandate. CEQ Guidance at 12. Please note, the Guidance is applicable to site-specific actions, like an individual lease, but also to "Federal land and resource management decisions," like resource management plans. CEQ guidance at 8. Thus, GHG emissions and climate impacts should be analyzed in a Resource Management Plan, which was not done here, at the oil and gas leasing stage, which was not done here, and, at the application for permit to drill stage, which is not being done by BLM Wyoming either.3 Put simply, NEPA analysis is required for all proposed Federal actions, 40 CFR § 1508.18, and the analysis of climate impacts is no different, CEQ Guidance at 8. Further, such effects are not limited, as BLM supposes, only to the climate pollution that results from construction and production of fossil fuel projects. The "reasonably foreseeable effects" on our climate that must be analyzed under NEPA include those that come from "using the resource." CEQ guidance at 12. Downstream emissions should be accounted for in NEPA analysis. CEQ Guidance at 11. Thus, the analysis of emissions from the burning of oil and gas must be included in oil and gas leasing NEPA analysis, which was not done here. There is a presumption that climate emissions are quantitatively analyzed; if BLM chooses to do otherwise, it must "explain its basis for doing so." CEQ guidance at 16. One basis for providing no more than a qualitative analysis is that the tools and information for producing quantitative analysis are not available. CEQ Guidance at 15. If, however, such tools and information are available, BLM "should conduct and disclose quantitative estimates of GHG emissions." CEQ Guidance at 15. Again, such emissions estimates must include those from fossil fuel combustion. CEQ Guidance at 15. It is clear that BLM has the tools and information to estimate project emissions. For years, BLM state offices have estimated fossil fuel production from lease sales so that they could tout the economic impacts of the proposed projects. See, e.g., Ex. 3 – Utah BLM May 2015 Oil and Gas Lease Sale Environmental Assessment (December 2014) at 30-31. The U.S. Forest Service is also capable of estimating emissions from a BLM lease sale. See, e.g., Ex. 4 – Pawnee National Grassland Oil and Gas Leasing Analysis Draft Environmental Impact Statement (August 2014) at 277-87.	

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	Once BLM has an estimate of possible fossil fuels produced from a project, it is quite simple to calculate the climate emissions that will result from the combustion of those fuels. Likewise, BLM has the information to estimate construction and production emissions and can easily apply the existing and widely known scientific literature to estimate methane releases. If uncertainty must be handled by presenting a range of possible estimates, that is an acceptable practice under NEPA. The EA in question here does not utilize these available tools and information to estimate emissions, in clear contradiction to CEQ's Guidance. BLM does appear to have the tools to estimate oil and gas production here. Here, BLM reasonably estimates lost revenues from selecting the no action alternative. BLM uses past sale data to estimate bids for the proposed action. EA at 56. Doing so is not deemed to be too speculative to provide reasonable information to the public and to the decision maker. So benefits from the proposed action are reasonably foreseeable and reasonable to estimate, but costs or impacts are viewed as too speculative. BLM has put its thumb on the scale and deceives the public and decision maker with this kind of one-sided analysis Please note, although the CEQ Guidance suggests agencies' should apply a rule of reason when determining the level of effort expended in analyzing GHG emissions, this is not a justification for avoiding a quantitative analysis for the project in question. First, as noted above, "[i]f tools or methodologies are available, . . . agencies should conduct and disclose quantitative emissions." CEQ Guidance at 15. Second, the rule of reason means "reasonably proportionate to the importance of climate change related considerations to the agency action being evaluated." CEQ Guidance at 14. Climate emissions from the BLM oil and gas leasing program have never been adequately evaluated at the programmatic, resource management plan, leasing, or applications for permit to drill levels. Onshore fossil fuels other than coal are currently responsible for a whopping 19% of federal leasing emissions. Ex. 5 - Cutting Greenhouse Gas From Fossil-Fuel Extraction on Federal Lands and Waters (CAP Report), Center for American Progress (March 19, 2015) at 4. That represents approximate 6% of all energy-related emissions in the U.S. See CAP Report at 1 noting total federal lands and waters energy-related emissions at 24% and multiplying by 19%. This is a huge and nationally important volume of emissions that has never been analyzed under NEPA in any fashion. Until BLM completes a quantitative analysis of emissions of its oil and	

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	gas leasing program at the programmatic level, there can be no doubt that emissions from individual federal lease sales warrant a quantitative estimate. Finally, the rule of reason still demands that BLM "ensure the professional and scientific integrity of [its] decisions and analysis." CEQ Guidance at 14, citing 40 CFR § 1502.24. BLM offices are still denying the basic conclusions of climate science and still to this day cannot always admit of basic climate science conclusions. Any such office has sacrificed any appearance of professional and scientific integrity if it follows earlier climate denial by now refusing to estimate the carbon emissions of its projects. For each of these reasons, the CEQ Guidance makes clear that the rule of reason provides no rationale for avoiding a quantitative estimate of emissions for the projects in question.	
24	**WildEarth Guardians:** Estimates of climate emissions need to be put in context and the social cost of carbon is an appropriate tool for doing so An estimate of emissions presented, without any context, means little to decision makers or the public. A ton or a gigaton of carbon dioxide equivalent ("CO2e") has little meaning to all but those most deeply steeped in climate science. Thankfully, a simple tool that contextualizes emissions by translating tons of carbon into estimates of the costs to society of emitting that carbon is readily available. This social cost of carbon ("SCC") evaluation tool is discussed in more depth in later sections. BLM has suggested various reasons why the SCC is not an appropriate tool for contextualizing climate emissions. The CEQ Guidance recognizes that SCC estimates "vary over time, are associated with different discount rates and risks, and are intended to be updated as scientific and economic understanding improves." CEQ Guidance at 16. These shortcomings, however, do not disqualify the methodology from use under NEPA or otherwise render it useless. Id. The CEQ Guidance discusses SCC solely in terms of cost-benefit analyses. Id. This discussion does not, however, in any way suggest that the SCC is an inappropriate tool for other aspects of NEPA analysis. These comments do not call for a cost-benefit analysis. Instead, we merely contend that once emissions estimates for a project exist, it is a simple calculation to cast those emissions estimates in terms of the costs to society from resulting climate change. Failure to do so is a failure to provide decision makers and the public with a critical	Please see Response to Comment #20, 21, and 22. The Council on Environmental Quality (CEQ) regulations at 40 CFR 1502.23, state (in part), "…for the purposes of complying with the Act, the weighing of the merits and drawbacks of various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." The Social Cost of Carbon (SCC) protocol was developed by the Office of Management and Budget using an interagency working group in response to Executive Order 12866, which requires federal agencies, to the extent permitted by law, "to assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs." SCC estimates the monetary cost incurred by the emission of one additional metric ton of carbon dioxide (CO2), and is not applicable to non-CO2 GHG emissions, such as methane. Estimating SCC is challenging because it is intended to model effects on the welfare of future generations at a global scale caused by additional carbon emissions occurring in the present and does not account for the complexity of multiple stressors and indicators. The SCC was developed to support agencies in responding to EO 13514, not for use in making land management decisions. The May 2016 Oil and Gas Lease Sale is not a

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	context for understanding the importance of a particular amount of climate emissions. However, the relevant RMP did undertake a costbenefit analysis, further implicating the need for a SCC analysis. In summary, the CEQ Guidance provides a meaningful roadmap for a BLM office that is clearly struggling with it ability to present meaningful analysis of the climate impacts of its fossil fuel projects. Unfortunately, BLM Utah, whether willfully or by ignorance, has failed to employ nearly every relevant point presented by CEQ. This alone renders the DNA inadequate to meet the requirements of NEPA.	rulemaking action but rather a contract action through the offering, sale, and issuance of a Federal lease. The act of leasing land for oil and gas development in itself does not emit any carbon or greenhouse gasses. It is BLM's determination that in this particular instance, calculating the SCC from CO2 emissions from the combustion of an unknown quantity of produced oil and gas would be highly speculative but likely would be negligible in relation to the impacts from oil and gas burned on a nationwide or global basis. NEPA does not require a benefit-cost analysis, although CEQs NEPA regulations allow agencies to use it in NEPA analyses in certain circumstances (40 CFR § 1502.23). BLM's socioeconomic impact analysis acknowledges the monies received from leasing the parcels but because of the speculative nature of development does not attempt to quantify costs and benefits associated with drilling, possible production or eventual combustion of fluid minerals from the lease parcel. In contrast, SCC provides one element of a benefit-cost analysis: the monetization of all meaningful economic benefits and costs. Monetizing only certain effects on social welfare can lead to an unbalanced assessment. Reporting the SCC in isolation could be misleading. As a federal District Court in Oregon recently held in League of Wilderness Defenders/Blue Mts. Biodiversity Project v. Connaughton, 2014 U.S. Dist. LEXIS 170072 (D. Or. Dec. 9, 2014), a SCC analyses is not required to comply with NEPA where there is no clear way to quantify costs and benefits. Because anticipated production from a particular lease parcel is speculative, and the resulting CO2 emissions from eventual combustion of that production are even more speculative, a qualitative evaluation of climate change is appropriate. Finally, BLM Wyoming has prepared a leasing EA, not a DNA. This comment appears to relate to a different action in Utah and is out of context and will not be addressed.
25	**<u>WildEarth Guardians:</u>** **BLM Fails to Analyze Climate Emissions or Their Impacts** In a change from past practice, BLM Wyoming appears to finally acknowledge that climate change is happening and its consequences for Wyoming and globally will be dire. It	Please see Response to Comments #20, 21, and 22. BLM has signed a Record of Decision for the Wyoming Greater Sage Grouse Land Use Plan Amendment (ARMPA) (September 21, 2015). The EA supporting the offering of parcels at the November 3, 2015 CLS has been updated to tier to, and incorporate by reference information

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	even does so without citing discredited information or out-of-date science to undermine those conclusions. This is certainly an improvement, but it is not enough. An analysis of climate emissions and impacts from this project is also required. For an example of climate denial earlier this year, see Ex. 3 at at 62-62 and https://www.blm.gov/ut/enbb/files/RFO.EA.Final.2.13.2015.pdf at 68. These effective expressions of climate denial by BLM Utah brought a sharp rebuke from the Washington office in a memo written earlier this year which has not been formally released to the public but has been acknowledged by BLM. Ex. 6. That memo instructs offices to use quantitative estimates of GHG emissions "as a reasonable proxy for the effects of climate change" in NEPA analyses. Please note: that instruction was the result of a failure to analyze emissions in a lease sale. That instruction was again ignored here by the exclusion of any such analysis from the EA. At best, BLM suggests it might evaluate impacts, perhaps including the unstated impacts of climate change when APDs are sought. EA at 63. That approach raises several problems. First, NEPA has a mandate to assess impacts at the earliest opportunity. Having already ignored such analysis by failing to include it in a programmatic analysis or in the analysis for RMPs, BLM is now claiming it will undertake analysis at the last possible moment, not the earliest opportunity. This is happening despite the fact that BLM asserts that an oil and gas lease conveys a right to extract all oil and gas covered by the lease. EA at 5. This is clearly an "irretrievable commitment of resources." Thus, BLM effectively admits that analysis at a later stage may well be too late to mitigate impacts. BLM Wyoming does not post its NEPA analyses for APDs on its website for public review. Thus, if BLM were analyzing these impacts, it would take a tremendous level of effort on the part of the public to review and comment on these many APDs. Given past analysis, it is obvious that public review would be critical to assuring adequate analysis. However, a few BLM Wyoming APD EAs can be located on line. Two recent BLM Wyoming NEPA analyses showed no effort whatsoever to analyze climate impacts. Ex. 7 – Bridle Bit 1 POD APD Environmental Assessment and Decision Record (April 29, 2015) and Ex. 8 – Fleicshman APD Categorical Exclusion and Decision Record (May 28, 2015). BLM's failure to analyze climate impacts even at the most site-specific level undercuts all of its claims as to why it cannot do so sooner. "We will do it later" doesn't cut it under NEPA, even the less so when that claim is not true.	contained within the ARMPA. The EA acknowledges that the Federal action under consideration -leasing of the oil and gas for possible exploration and development could eventually result in a variety of impacts to air quality (including the generation of GHG emissions) if the parcels were offered, if the parcels were successfully issued under lease, if the lessee or its operator proposed drilling projects on the leases, if the BLM approved them, and if the projects were initiated and hydrocarbons are produced in economical quantities, and eventually combusted. In addition to the EA, the ARMPA also included estimates of the potential GHG emissions that could result from the Reasonably Foreseeable Development prepared for the ARMPA. These estimates can be found generally in section 4.2.4 starting on page 4-10 of the ARMPA Final EIS. The EA also discussed air quality, specifically GHG and climate change, in its disclosure of the affected environment (at pages 49-53), and noted (at page 29): Currently, the WDEQ-AQD does not have regulations regarding greenhouse gas emissions, although these emissions are regulated indirectly by various other regulations. The HDD's EA discussed air quality, specifically GHG and climate change, in its disclosure of the affected environment (at pages 47 thru 49) and also identified appropriate mitigation for use at the development stage should the parcels be sold, issued and development proposed. The EA acknowledges that oil and gas development, and other activities ongoing in these Field Offices, can generate GHG emissions (at page 28, and section 3.2.1.3 at page 53): Some authorized activities within the Kemmerer, Pinedale, Rock Springs, and Rawlins field offices generate GHG emissions. Oil and gas development activities can generate C02 and NH4 (during processing). Carbon dioxide emissions result from the use of combustion engines for OHV and other recreational activities. Wildland fires also are a source of C02 and other GHG emissions, and livestock grazing is a potential source of methane. Other activities in the Kemmerer, Pinedale, Rock

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	Thus, BLM Wyoming has again ignored its own Headquarters office, ignored the White House's Council on Environmental Quality, ignored the plain meaning of NEPA, and ignored common sense. The EA must be supplemented to include an analysis of climate change and project effects on climate change using the best available science and following agency and government-wide guidance and the law.	Springs and Rawlins Field Office areas with the potential to contribute to climate change include soil erosion from disturbed areas and fugitive dust from roads, which have the potential to darken snow covered surfaces and cause faster snow melt. The EA's analysis of impacts for the subject Alternatives explained, however, that quantifying the potential GHG emissions from possible oil and gas activities on the Federal leases is precluded given the uncertainties with whether, and how, the Federal leases would be explored or developed (at page 71) : A number of pollutants associated with the combustion of fossil fuels are anticipated to be released during drilling/completion operations include: CO, NOx, SOx, PM, C02, CH-1 and N20. Venting may release VOCs/HAPs, H2S, and CH-1 The amount of increased emissions cannot be quantified at this time since it is unknown how many wells or what type (oil, gas or both) may be proposed for development, the types of equipment needed if a well were to be put into production (e.g., compressor, separator, dehydrator), or what technologies may be employed by a given company. The degree of impact will also vary according to the characteristics of the geologic formations from which production occurs. The EA also addressed GHG emissions and potential impacts in its treatment of cumulative effects (at page 75), including: The inconsistency in results of scientific models used to predict climate change at the global scale coupled with the lack of scientific models designed to predict climate change on regional or local scales, limits the ability to quantify potential future impacts of decisions made at this level. The BLM issued an IM in 2008 that included draft guidance for the BLM offices to use in addressing potential impacts related to climate change. The IM expired in 2009, and its effectiveness not been extended by the BLM. In 2011, the BLM circulated internal draft guidance to its offices entitled "Integrating Climate Change into the NEPA Process" (BLM's 2011 Draft Guidance). On April 3, 2015, the BLM - Washington Office sent an e-mail notifying the

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		BLM's leadership and management teams that the BLM's 2011 Draft Guidance document "remains in effect." Acknowledging the "unique challenges" posed by addressing GHG and climate change in NEPA documents, the BLM's 2011 Draft Guidance provided draft, interim direction to the BLM that the agency has used until further guidance can be finalized. As the BLM's 2011 Draft Guidance notes (at page 2) : ... it is beyond the scope of existing science to relate a specific source of greenhouse gas emission or sequestration with the creation or mitigation of any specific climate-related environmental effects. . . . it is currently impossible to determine what specific effect greenhouse gas emissions resulting from a particular activity might have on the environment. Further, since the specific effects of a particular action ... cannot be determined, it is equally impossible to determine whether any of these particular actions will lead to significant climate-related environmental effects. The BLM ' s 20 11 Draft Guidance goes on to state, however (at page 3): The fact that the cause and effect of specific greenhouse gas emissions on specific climate changes cannot be clearly delineated does not mean that analysis of greenhouse gas emissions and climate change is not relevant and appropriate under NEP A. To this end, the BLM' s 2011 Draft Guidance indicates (at page 3): As with the assessment of other issues, the decision of whether and to what extent climate change warrants analysis in the NEP A process is left to the expertise and discretion of the agency. On December 18, 2014, CEQ issued revised draft guidance for assessing greenhouse gas emissions and climate change impacts (CEQ's 2014 Draft Guidance)?' This guidance acknowledges that evaluating GHG emissions and climate change is a "particularly complex challenge" (at page 2), and states (at page 3):

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		Agencies continue to have substantial discretion in how they tailor their NEP A processes to accommodate the concerns raised in this guidance, consistent with the CEQ Regulations and their respective implementing regulations and policies, so long as they provide the public and decision makers with explanations of the bases for their determinations. The CEQ's 2014 Draft Guidance emphasizes use of the "rule of reason" which (at page 5, footnote omitted): ... ensures that agencies are afforded the discretion, based on their expertise and experience, to determine whether and to what extent to prepare an analysis based on the availability of information, the usefulness of that information to the decision-making process and the public, and the extent of the anticipated environmental consequences. When addressing the extent of the anticipated environmental consequences, the CEQ' s 2014 Draft Guidance also indicates the agency should (at page 10) " consider both the context and intensity." In our review of the May 2016 Sale EAs, we find that the HDD appropriately disclosed that GHG emissions could result from Federal lease exploration and development activities (and that such emissions would result in "an incremental contribution" to local and global GHG emissions (HDD EA at page 57), but acknowledge that there remains substantial uncertainty whether and how exploration and development of the Federal oil and gas resources would occur. As a result, it is extremely difficult to estimate with accuracy or precision the quantity of GHGs that could be emitted, if a lease is issued, if a proposal to explore or develop the lease is approved by the BLM, if actual operations take place and the ultimate end use and combustion of produced Federal minerals The EA describes the substantial uncertainty that exists at the time the BLM offers a lease for sale regarding crucial factors that will affect potential GHG emissions at a site-specific level (or even at a regional level), including: well density;

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		geological conditions; development type (vertical, directional, horizontal); hydrocarbon characteristics; equipment to be used during construction, drilling, production, and abandonment operations; and potential regulatory changes pertaining to GHGs over the life of the 10-year primary lease term. Implicit in this acknowledgement is that – when actual operations are proposed on an issued lease through an Application for Permit to Drill (APD) or Sundry Notice (SN) --information related to potential GHG emissions will be less speculative. In this case, that is the appropriate point in time to estimate GHG emissions, if necessary and appropriate. Whenever BLM determines it is appropriate to estimate GHG emissions, those emissions levels cannot be translated from the global phenomenon to actual on the ground impacts (either beneficial or not) within the project area. In the EA, BLM has provided a qualitative discussion of GHG emissions and the expected changes in the region based on current climate models. The proposed parcels in the May 2016 Sale are located in four field offices in Wyoming, which encompasses 41 percent of the State of Wyoming and which include existing oil and gas fields with remarkably different conditions, characteristics, operators, well densities, and operational natures. While WEG believes that estimates of GHG emissions at the leasing stage for this sale would be helpful to inform the public and the decision-maker, we disagree and believe the conclusions in the EA explaining the substantial uncertainties about whether and how the May 2016 Sale lease parcels will be developed. This limits the usefulness of estimating GHG emissions at the leasing stage when those emissions cannot be translated into specific impacts that would more importantly inform the Authorized Officer. In addition," the EA has been modified (on page 72) to refer the reader to recently completed analysis within the ARMPA FEIS, specifically section 4.2.4 (beginning on page 4-7) for a discussion of potential impacts to Air Quality resulting from oil and gas development, including potential greenhouse gas emissions which were specifically estimated for each Field Office based on the relevant RFD. While WEG's comments appear to primarily focus

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		on GHG emissions from construction and production operations to the extent that WEG may believe the BLM should consider potential "downstream" effects from oil and gas leasing, the BLM's 201 1 Draft Guidance noted that evaluation of the potential indirect effects arising from GHG emissions generated by commodity production occurring on public lands is not warranted, stating (at page 6): The consumption of commodities produced on BLM lands (e.g. coal, oil and gas), would typically not constitute an indirect effect of the proposed action because it is not reasonably foreseeable how those commodities will be used. It is also difficult to discern if the consumption of those or any commodities is actually caused by the BLM's action. For example, how crude oil and gas will be used, whether any or all of the oil will be refined for plastics or other products that will not be burned; the possible mix of ultimate uses with disparate carbon emissions (e.g., auto fuel, bunker oil, diesel, kerosene); and the market forces that may replace lost BLM production with production from other sources are all uncertain. Therefore, the greenhouse gas emissions that may ultimately result from the consumption of products derived from the oil and gas generated on BLM lands would not be reasonably foreseeable, and thus would not constitute an indirect effect of a BLM decision to approve the leasing, development, or production of oil and gas in that area.
26	**<u>WildEarth Guardians:</u>** **The Social Cost of Carbon Has Been Ignored** The high costs to society from the leasing and subsequent burning of public lands fossil fuels must be properly analyzed and presented to the public and agency decision makers. Historically, BLM has ignored the costs of fossil fuel leasing on public lands, especially the costs to society that result from global warming. Proper consideration of these social costs of carbon is simply good governance and good stewardship of public resources, and such consideration is legally required.	Comment acknowledged. The preparation of this leasing EA was done in compliance with all Federal policies, rules, regulations, and laws. From Ex 6 submitted by WEG, BLM states: (3) Using the social cost of carbon (SCC). The SCC estimates the cost to future generations incurred by the emission of one additional metric ton of carbon dioxide. For federal agencies the authoritative estimates of SCC are provided by the 2013 technical report of the Interagency Working Group on Social Cost of Carbon, which was convened by the Council of Economic Advisers and the Office of Management and Budget. No court case or existing guidance currently

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		requires that estimates of the SCC associated with potential GHG emissions are included in a NEPA context, although SCC is currently used for rulemaking, which was why it was developed.
27	**<u>WildEarth Guardians:</u>** ***Global warming is responsible for extreme costs to society already, and it will only get worse in the future.*** A recent consensus report, joined by more 190 countries, makes the basic science on global warming crystal clear. Global warming is unequivocal: since the 1950s the atmosphere and oceans have warmed, snow and ice have diminished, and seas have risen. Ex. 9, Climate Change 2013 – The Physical Science Basis - Summary for Policymakers, United Nation Intergovernmental Panel on Climate change (2013) ("AR5 summary") at 4. There is little doubt that pollution from human activities is the cause of this warming. Id. at 17. The U.S. government's own more recent report concludes that global warming is now affecting our country in far-reaching ways. Ex. 10, National Climate Assessment 2014 – Overview ("National Climate Assessment"). Climate pollution has warmed the U.S. almost 2°F, mostly since 1970, with another 2°F to 4°F expected in the next few decades. Id. Much greater warming in future decades is also possible, possibly up to an increase of 10°F above current temperatures by the end of the century. Id. These are not the estimates of "environmentalists." This is the scientific consensus accepted both in the U.S. and around the world. The burning of coal, oil, and gas is the principle source of the largest contributor to global warming, carbon dioxide. Id.; see also AR5 summary at 13. At this time, approximately 25% of the carbon dioxide from fossil fuels produced in the U.S. comes from public lands leases. Ex. 11, Greenhouse Gas Emissions from Fossil Energy Extracted from Federal Lands and Waters, Stratus Consulting (February 1, 2012) at 15; see also, Ex. 12, Sales of Fossil Fuels Produced from Federal and Indian Lands – FY 2003 through FY 2013, U.S. Energy Information Administration (June 2014) at 2. Fossil fuels extracted from public lands release more than one and one-half billion metric tons of carbon dioxide equivalent per year. Id. at 12. That is the equivalent of more than 31 million passenger cars' annual climate pollution, just from producing and burning fossil fuels from our public lands alone. Greenhouse Gas Equivalencies Calculator,	Executive Order 13514 required Federal agencies to submit a 2020 greenhouse gas pollution reduction target within 90 days, and to increase energy efficiency, reduce fleet petroleum consumption, conserve water, reduce waste, support sustainable communities, and leverage Federal purchasing power to promote environmentally-responsible products and technologies. This EO does not apply to land management decisions. For a full copy of the EO, see http://www.whitehouse.gov/administration/eop/ceq/sustainability The Executive Order requires agencies to meet a number of energy, water, and waste reduction targets, including: •30% reduction in vehicle fleet petroleum use by 2020; •26% improvement in water efficiency by 2020; •50% recycling and waste diversion by 2015; •95% of all applicable contracts will meet sustainability requirements; •Implementation of the 2030 net-zero-energy building requirement; •Implementation of the stormwater provisions of the Energy Independence and Security Act of 2007, section 438, and; •Development of guidance for sustainable Federal building locations in alignment with the Livability Principles put forward by the Department of Housing and Urban Development, the Department of Transportation, and the Environmental Protection Agency. None of the requirements of these Executive Orders have bearing on land management decisions which is what this EA is evaluating through implementation of the availability of lands

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	U.S. Environmental Protection Agency at http://www.epa.gov/cleanenergy/energyresources/calculator.html (last checked July, 9 2015). BLM manages federal mineral rights, including the leasing and approval of extraction of public lands fossil fuels, on all federal lands. Therefore, BLM decision makers play a critical role in determining how much more climate pollution the U.S. will emit to the atmosphere, the extent that that pollution will exacerbate global warming, and the extent that society and future generations will have to bear the myriad related social costs of those decisions. Global warming is exacting costs on society in numerous ways. Agricultural productivity, including crops, livestock, and fisheries have been negatively impacted by global warming. National Climate Assessment – Overview. This has resulted from extreme weather events, changes in temperature and precipitation, and increasing pressure from pests and pathogens. Id. Both water quality and water quantity are being affected by global warming. Id. The degradation has resulted from changes in snowpack, extreme weather events, coastal flooding affecting aquifers, and from changes in temperature and precipitation. Id. Heat-related deaths and illnesses have grown and are growing. Id. Impacts to forest resources from increased forest fires and the resulting impacts to air quality put additional costs on society. Id. A wide variety of critical ecosystem functions are degraded by global warming, including habitat for fish and wildlife, drinking water storage, soils, and coastal barriers. Id. Carbon dioxide pollution is also responsible for increasing ocean acidification. This list represents only a subset of the social costs of carbon pollution from burning fossil fuels extracted from our public lands. Nonetheless, "[l]ower emissions of heat-trapping gases and particles mean less future warming and less-severe impacts; higher emissions mean more warming and more severe impacts." Id.	for oil and gas leasing and development designation in the RMP and triggered by receipt of an Expression of Interest in accordance with 43 CFR 3100. The Council on Environmental Quality (CEQ) regulations at 40 CFR 1502.23, state (in part), "…for the purposes of complying with the Act, the weighing of the merits and drawbacks of various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations." The Social Cost of Carbon (SCC) protocol was developed by the Office of Management and Budget using an interagency working group in response to Executive Order 12866, which requires federal agencies, to the extent permitted by law, "to assess both the costs and the benefits of the intended regulation and, recognizing that some costs and benefits are difficult to quantify, propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs." SCC estimates the monetary cost incurred by the emission of one additional metric ton of carbon dioxide (CO2), and is not applicable to non-CO2 GHG emissions, such as methane. Estimating SCC is challenging because it is intended to model effects on the welfare of future generations at a global scale caused by additional carbon emissions occurring in the present and does not account for the complexity of multiple stressors and indicators. The SCC was developed to support agencies in responding to EO 13514, not for use in making land management decisions. The May 2016 Oil and Gas Lease Sale is not a rulemaking action but rather a contract action through the offering, sale, and issuance of a Federal lease. The act of leasing land for oil and gas development in itself does not emit any carbon or greenhouse gasses. It is BLM's determination that in this particular instance, calculating the SCC from CO2 emissions from the combustion of an unknown quantity of produced oil and gas would be highly speculative but likely would be negligible in relation to the impacts from oil and gas burned on a nationwide or global basis. NEPA does not require a benefit-cost analysis, although CEQs NEPA regulations allow agencies to use it in NEPA analyses in certain circumstances (40 CFR § 1502.23). BLM's socioeconomic impact analysis

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		acknowledges the monies received from leasing the parcels but because of the speculative nature of development does not attempt to quantify costs and benefits associated with drilling, possible production or eventual combustion of fluid minerals from the lease parcel. In contrast, SCC provides one element of a benefit-cost analysis: the monetization of all meaningful economic benefits and costs. Monetizing only certain effects on social welfare can lead to an unbalanced assessment. Reporting the SCC in isolation could be misleading. As a federal District Court in Oregon recently held in League of Wilderness Defenders/Blue Mts. Biodiversity Project v. Connaughton, 2014 U.S. Dist. LEXIS 170072 (D. Or. Dec. 9, 2014), a SCC analyses is not required to comply with NEPA where there is no clear way to quantify costs and benefits. Because anticipated production from a particular lease parcel is speculative, and the resulting CO2 emissions from eventual combustion of that production are even more speculative, a qualitative evaluation of climate change is appropriate. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with the approach that federal courts have upheld when considering NEPA challenges to BLM federal coal leasing decisions. WildEarth Guardians v. Jewell, 738 F.3d 298, 309 n.5 (D.C. Cir. 2013) WildEarth Guardians v. BLM, , 8 F. Supp. 3d 17; 34 (D.D.C. 2014)
28	**<u>WildEarth Guardians:</u>** ***BLM decision makers must consider the social cost of carbon from all proposed land management projects***. The requirement to analyze the social cost of carbon is supported by the general requirements of the National Environmental Policy Act ("NEPA") and specifically supported in federal case law. NEPA requires agencies to take a "hard look" at the consequences of proposed agency actions. 42 U.S.C. § 4321 et seq.; Morris v. U.S. Nuclear Regulatory Commission, 598 F.3d 677, 681 (10th Cir. 2010). Consequences that must be considered include direct, indirect, and cumulative consequences. 40 C.F.R. §§ 1502.16, 1508.7, 1508.8. A cumulative impact is the	Please see Response to Comments #20, 21, and 22, 25, 26, and 27. WEG also argues that the BLM did not comply with NEPA because the agency did not determine the potential costs to society from the potential GHGs emitted from lease operations, particularly through the use of Social Cost of Carbon (SCC) protocol. As for addressing potential costs to society from GHG emissions, the CEQ's 2014 Draft Guidance explains (at page 16): Monetizing costs and benefits is appropriate in some, but not all, cases ...

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	"impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7. Analysis of site-specific impacts must take place at the lease stage and cannot merely be deferred until after receiving APDs to drill. See New Mexico ex rel. Richardson v. Bureau of Land Management, 565 F.3d 683, 717-18 (10th Cir. 2009); Conner v. Burford, 848 F.2d 1441 (9th Cir. 1988); Bob Marshall Alliance v. Hodel, 852 F.2d 1223, 1227 (9th Cir. 1988). Any NEPA analysis of a fossil fuel development project that fails to use the government-wide protocol for assessing the costs to society of carbon emissions from the proposed action has failed to take the legally required "hard look." Courts have ordered agencies to assess the social cost of carbon pollution, even before a federal protocol for such analysis was adopted. In 2008, the Ninth Circuit Court of Appeals ordered the National Highway Traffic Safety Administration ("NHTSA") to include a monetized assessment of carbon emissions reductions in an EA prepared under NEPA. Center for Biological Diversity v. National Highway Traffic Safety Administration, 538 F.3d 1172, 1203 (9th Cir. 2008). NHSTA had proposed a rule setting corporate average fuel economy standards for light trucks. A number of states and public interest groups challenged the rule for, among other things, failing to monetize the benefits that would accrue from a decision that led to lower carbon dioxide emissions. NHTSA's EA had monetized the employment and sales impacts of the proposed action. Id. at 1199. The agency argued, however, that valuing the costs of carbon emissions was too uncertain. Id. at 1200. The court found this argument to be arbitrary and capricious. Id. The court noted that while estimates of the value of carbon emissions reductions occupied a wide range of values, the correct value was certainly not zero. Id. It further noted that other benefits were monetized by the agency although also uncertain. Id. at 1202. More recently, a federal court has done likewise for a proposed coal lease modification. High Country Conservation Advocates v. U.S. Forest Service, 2014 WL 2922751 (D. Colo. 2014), Slip Op. at 3, citing 40 C.F.R. § 1502.23. That court began its analysis by recognizing that a monetary cost-benefit analysis is not universally required by NEPA. High Country Conservation Advocates v. U.S. USFS, ---F. Supp.2d---, 2014 WL 2922751 (D. Colo	Highlighting the transformative nature of climate change impacts assessment, such as SCC estimates, the CEQ' s 2014 Draft Guidance instructs agencies (at page 16, footnote omitted) : When using the Federal social cost of carbon, the agency should disclose the fact that these estimates vary over time, are associated with different discount rates and risks, and are intended to be updated as scientific and economic understanding improves. ' The BLM Washington Office 's April3, 2015 e-mail noted that: As these statements demonstrate, there remain uncertainties involved with estimating the SCC for GHG emissions. While we agree that some level of uncertainty is unavoidable in assessing impacts from complex environmental systems, in this case that uncertainty is compounded by basing any potential SCC estimates on speculative GHG emissions, especially when SCC estimates only consider one component of the equation (primarily by ignoring the contribution of methane).

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	2014), citing 40 C.F.R. § 1502.23. However, when an agency prepares a cost-benefit analysis, "it cannot be misleading." Id. at 3 (citations omitted). Here, the EA, like the case above, included a quantification of benefits of the project. EA at 56. The quantification of the social cost of carbon was never prepared. BLM cannot rely on the stated benefits of the project in the RMP to justify project approval while wholly ignoring the costs to society that will accrue through climate change. This, the High Country court explained, was arbitrary and capricious. At 3. Any such approval would be based on a NEPA analysis with misleading economic assumptions, an approach long disallowed by courts throughout the country. Id. at 19-20.	
29	**<u>WildEarth Guardians:</u>** ***The social cost of carbon will be significant whenever fossil fuel leasing, or mining, or drilling is proposed.*** According to the U.S. Environmental Protection Agency ("EPA"), the social cost of carbon is "an estimate of the economic damages associated with a small increase" in emissions. Ex. 13, The Social Cost of Carbon, U.S. Environmental Protection Agency at http://www.epa.gov/climatechange/EPAactivities/economics/scc.html. "This dollar figure also represents the value of damages avoided for a small emission reduction." Id. Thus, it would be incorrect to assert that the social cost of carbon cannot be calculated for a project that represents a tiny fraction of global or even a tiny fraction of U.S. emissions. Estimates of the social cost of carbon are designed to do exactly that. In fact, the social cost of carbon is generally expressed in terms of the costs tolled by emitting or the benefits realized by avoiding a single ton of carbon dioxide emissions. However, it is very likely that the social cost of carbon protocol actually underestimates the true damages exacted on society by carbon pollution. Id. citing the IPCC Fourth Assessment Report. In particular, damages related to social and political conflicts, weather variability, extreme weather, and declining growth rates are either ignored or underestimated. Ex. 14, Omitted Damages: What's Missing from the Social Cost of Carbon, Peter Howard, the Cost of Carbon Project (March 13, 2014). In fact, more recent studies have reported significantly higher carbon costs. For instance, a report published this year found that current estimates for the social cost of carbon should be increased six times for a mid-range value of $220 per ton. See Ex. 15, Moore, C.F. and B.D. Delvane, "Temperature impacts on economic growth warrant stringent mitigation	Please see Response to Comments #20, 21, and 22, 25, 26, 27, and 28. WEG notes that (depending upon other factors) estimates of SCC by EPA range from $12 to $235 per metric ton (a mid-range of approximately $116). This range represents a 2,000% difference in potential SCC estimates. Given the confusion that this speculation and wide range of uncertainties introduces, we find that it is prudent for the BLM to avoid quantifying and analyzing specific estimates of GHG emissions from possible exploration or development of the lease parcels in the May 2016 Sale. If it is later determined to be necessary and appropriate, quantified analysis of GHG emissions and SCC would be less speculative once the BLM receives a discrete development proposal to conduct actual operations on the leases, if issued, from the May 2016 Sale.

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	policy," Nature Climate Change (January 12, 2015) at 2. Thus, any application of the current social cost of carbon protocol is very likely a significant underestimate of the true cost of carbon pollution. Acknowledging the known tendency to underestimate costs, the federal government has been using its cost-benefit assessment tool since February 2010. See Ex. 16, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866 - Interagency Working Group on Social Cost of Carbon, United States Government (May 2013, Revised July 2015). In the last year alone, the Departments of Agriculture, Energy, Transportation, and Housing and Urban Development and the Environmental Protection Agency and National Highway Traffic Safety Administration have all utilized the Social Cost of Carbon Protocol in public decision making documents. Although often utilized in the context of agency rulemakings, the protocol has been recommended for use and has been used in project-level decisions. For instance, the EPA recommended that an EIS prepared by the U.S. Department of State for the proposed Keystone XL oil pipeline include "an estimate of the 'social cost of carbon' associated with potential increases of GHG emissions." Ex. 17, EPA, Comments on Supplemental Draft EIS for the Keystone XL Oil Pipeline (June 6, 2011). The BLM has also utilized the social cost of carbon protocol in the context of oil and gas leasing. In recent Environmental Assessments for oil and gas leasing, the agency estimated "the annual SCC [social cost of carbon] associated with potential development on lease sale parcels." Ex. 18, BLM, "Environmental Assessment DOIBLM-MT-C020-2014-0091-EA, Oil and Gas Lease Parcel, October 21, 2014 Sale" (May 19, 2014) at 76. In conducting its analysis, the BLM used a "3 percent average discount rate and year 2020 values," presuming social costs of carbon to be $46 per metric ton. Id. Based on its estimate of greenhouse gas emissions, the agency estimated total carbon costs to be "$38,499 (in 2011 dollars)." Id. The U.S. Government Accountability Office recently reviewed the process employed to develop the federal government's assessment of the social cost of carbon. Ex. 19, Regulatory Impact Analysis – Social Cost of Carbon Estimates (July 2014). The GAO found that the process employed to develop the 2013 social cost of carbon estimates "used consensus-based decision making," "relied on existing academic literature and models," and "took steps to disclose limitations and incorporate new	

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	information." Id. In short, while the social cost of carbon protocol, like other economic models, provides only estimates and is subject to further updates as new information becomes available, the federal government's social cost of carbon protocol is a legitimate tool for performing a thorough and honest assessment of both costs and benefits of proposed actions as required under NEPA. EPA lists the current social costs of carbon in the following format: **Social Cost of CO2, 2015-2050 a (in 2011 Dollars)** **Discount Rate and Statistic** **Year** **5% Average** **3% Average** **2.5% Average** **3% 95th percentile** **2015** $12 $39 $61 $116 **2020** $13 $46 $68 $137 **2025** $15 $50 $74 $153 **2030** $17 $55 $80 $170 **2035** $20 $60 $85 $187 **2040** $22 $65 $92 $204 **2045** $26 $70 $98 $220 **2050** $28 $76 $104 $235 As the table above makes clear, the social costs of carbon pollution are anything but trivial. For example, a project that released a mere 25,000 tons of carbon dioxide in 2025 would be responsible for costs to society, through global warming, of $375,000 to more than $3.75 million for that year's emissions alone. And again, this is very likely an underestimate of true costs. If the economy returns to fast-paced growth and global warming impacts are currently foreseen and properly estimated, the higher discount rates, 5%, and the lower social cost of carbon estimates will be most appropriate. If the economy grows long-term at slower rates and global warming impacts are currently foreseen and properly estimated, the higher social cost of carbon figures, the 2.5 % column, will be better estimates. A middle discount rate value, 3%, for midrange growth estimates is also available. If, on the other hand, global warming impacts are greater or more costly than current mid-range estimates, the social cost of carbon would be better estimated by the 95th percentile figures. That means that the lowest social cost of carbon numbers are best-case scenarios for both the economy and global warming impacts. The highest numbers are for mid-range economic projections and close to worst-case estimates for global warming impacts.	

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30	**<u>WildEarth Guardians:</u>** ***BLM's EA for the May 2016 Oil and Gas Lease Parcel Sale violates NEPA*** BLM fails to draw the necessary connection between the proposed project and increased climate impacts and costs. BLM improperly declines to assess the impacts of climate change, promising to assess them at some unknown time in the future. This violates NEPA's hard look doctrine. Court's have made clear that the leasing stage is an appropriate time to assess impacts that will not be mitigated by lease stipulations, as carbon emissions surely will not. In addition, the project fails to take a hard look at climate impacts to society as contextualized in the social cost of carbon protocol. The economic benefits of this project could pale in comparison to its costs. The EA must be modified to analyze the social cost of carbon. This project is one small piece resulting in tremendous cumulative impacts across the Department of the Interior fossil fuel leasing programs. Fossil fuels development on public lands and coastal waters results in more than one and one-half billion tons of carbon dioxide emissions per year. Using 2015 social cost of carbon values, the costs to society of the federal fossil fuel leasing program is between $18 and $177 billion per year. This same level of emissions in 20 years would incur costs from $20 billion to more than a quarter of a trillion dollars per year, depending on the growth of the economy and the intensity of global warming impacts at that time. These costs, of course, do not include costs from air quality issues like smog and mercury emissions, do not include lost opportunity costs from lost recreation, or costs from direct degradation of ecosystem services. Recall also, that it is very likely that these numbers even represent an underestimate of the true costs to society from global warming. These numbers, while shocking, do no more than reiterate what scientists have been telling us for years: extraction of fossil fuels are costing our society much more than they are providing in benefits. Of course numbers of such an alarming magnitude do not result from the approval of any single project. Instead, they represent the incessant accumulation of costs that result from BLM approving project after project while refusing to acknowledge that those projects have unspoken cumulative impacts on society, both individually and in the aggregate, that will continue to plague our country for generations. BLM must	Please see Response to Comments #20, 21, and 22, 25, 26, 27, 28 and 29. The May Lease Sale EA has adequately addressed climate change, and the expected impacts from climate change. WEG also comments that the BLM "... implicitly conclud[ed] that there would be no cost associated with the proposed oil and gas leasing." This is incorrect; the BLM acknowledged in the EAs that if leases were issued and subsequently developed, GHG emissions would result and also attempted to disclose the potential range of impacts at a regional basis that could occur. Rather than engaging in the wide-ranging speculation as to the specific costs and benefits associated with such oil and gas operations, the BLM prudently declined to attempt to quantify the potential societal cost associated with potential GHG emissions. Likewise BLM did not attempt to quantify the financial benefits to society from possible production from the parcels and instead opted to use an economic impact assessment to disclose economic effects based on readily available data and that are reasonably foreseeable in the form of lease bids. As a Federal District Court in Oregon recently held in League of *Wilderness Defenders/Blue Mts. Biodiversity Project v. Connaughton*, 2014 U.S. Dist. LEXIS 170072 (D. Or. Dec. 9, 2014), a SCC analysis is not required to comply with NEPA where there is no clear way to quantify costs and benefits. The BLM also has acknowledged that climate science does not allow a precise connection between project-specific GHG emissions and specific environmental effects of climate change. This approach is consistent with that upheld when considering NEPA challenges to Federal coal leasing decisions. *WildEarth Guardians v. Jewell*, 738 F.3d 298, 309 n.5 (D.C. Cir. 2013); *WildEarth Guardians v. BLM*, 8 F. Supp. 3d 17; 34 (D.D.C. 2014).

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	address the social costs of carbon that are likely to result from these projects.	
31	**<u>WildEarth Guardians:</u>** **The EA must analyze impacts from fracking waste water, including the possibility of earthquakes produced by underground injection** The EA largely ignores waste water created by oil and gas extraction. This itself renders the EA inoperable. Despite BLM ignoring the issue however, it is well known that much fracking waste water is injected inot underground wells. That practice is known or suspected of causing earthquakes in Oklahoma, Texas, Ohio, Pennsylvania, and California and has been restricted for just that reason in some of those areas. BLM must, in a supplemental analysis, analyze the likelihood of such impacts in Utah before they occur and require mitigation before this project can proceed. Saline, produced water from wells, when injected into deeper sedimentary formations, appears to lubricate active fault lines. Ex. 21, Oklahoma's recent earthquakes and saltwater disposal, Science Advances (June 18, 2015). In some areas with previously rare earthquake activity, rates have increased ten-fold. It appears that the likelihood of induced seismicity is directly related to the rate of injection. High-rate injection is associated with the increase in U.S. mid-continent seismicity, M. Weingarten, et al., Science (June 19, 2015) at http://www.sciencemag.org/content/348/6241/1336; see also Ex. 22, Potential Injection-Induced Seismicity Associated with Oil and Gas Development, States First (2015). The EA does not attempt to analyze the degree or frequency of waste water injection. Likewise, no stipulations on such practices are included in the proposed leases. This possible impact must be studied and appropriate stipulations included to prevent these impacts in North Dakota.	Please see Response to Comment #17 Earthquakes related to underground injection is adequately addressed in Appendix E, Hydraulic Fracturing White Paper which has been incorporated by reference into the EA, and summarized as appropriate. Because it was circulated with the EA, it was also subjected to public comment and is rightly part of the NEPA analysis. The potential for induced seismicity cannot be made at the leasing stage; as such, it will be evaluated at the APD stage should the parcel be sold/issued, and a development proposal submitted if the well is associated with, and permitted by the BLM because produced water volumes, and methods of disposal vary widely from basin to basin. Per EPA, the authority for permitting injection wells associated with Oil and Gas development has been delegated to the Wyoming Oil and Gas Commission. Further, analyzing impacts from injection to resources in North Dakota is outside the scope of this document.
32	**<u>WildEarth Guardians:</u>** **The EA must demonstrate conformity with the Clean Air Act and relevant State Implementation Plans** Although some of the proposed lease parcels are	Conformity with the Clean Air Act is a specific development scenario that will be analyzed at their appropriate APD or project stage with the necessary NEPA document. The impacts to resources affected will also be analyzed under that site specific NEPA document. See page 4, Section

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	apparently located in Upper Green River Basin ozone nonattainment area, the BLM asserts it is not obliged to comply with the Clean Air Act's requirement that federal actions conform to the applicable state implementation plan ("SIP"). See 42 U.S.C. § 7506. Its position, however, is based on erroneous interpretations of the Clean Air Act and its underlying regulations, and indicates that the BLM's proposed leasing will continue to fuel dangerous levels of ozone pollution in the region, jeopardizing public health. The Clean Air Act states that, "No department, agency, or instrumentality of the Federal Government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity" that does not conform to an approved state air quality implementation plan. 42 U.S.C. § 7506(c) (1). "The assurance of conformity . . . shall be an affirmative responsibility of the head of such . . . agency." To ensure conformity, agency actions must not "cause or contribute to any new violation of any [air quality] standard" or "increase the frequency or severity of any existing violation of any standard in any area." Id. § 7506(c)(1)(B). This statute is very broadly applicable. Pursuant to Clean Air Act regulations and the Wyoming SIP the BLM is prohibited from undertaking any activity in a nonattainment area that does not conform to an applicable SIP. See 40 C.F.R. § 93.150(a); see also Wyoming SIP at Section 3. Specifically, the BLM must make a general conformity determination for any activity authorized in an ozone nonattainment area that has direct and indirect emissions of VOCs or NOx that exceed 100 tons/year. See 40 CFR § 93.153(b)(1). Direct emissions are defined as those emissions that are caused or initiated by the Federal action and occur at the same time and place as the action. Indirect emissions are defined as those emissions that are caused by the Federal action, but may occur later in time or distance, and are reasonably foreseeable, and which the Federal agency can practically control and will maintain control over. See 40 C.F.R. § 93.152. To demonstrate conformity, the agency must follow the procedures at 40 CFR §§ 93.158 and 93.159. See 40 CFR §§ 93.150(b). In the EA, although BLM recognizes that general conformity requirements apply to oil and gas development, the agency asserts they do not apply in the context of leasing. This position is erroneous. The basis for kicking the can down the road appears to be that the BLM believes "there are no direct effects from the	1.3 of the lease sale EA, for a general discussion of development in relations to leasing. Also see Sections 3.2.1 and 4.2.1 for a discussion of air resources. Indirect impacts do not result from leasing, but the commenter is correct that indirect emissions could result from the direct drilling and production emissions. This will be taken into account at the time development is proposed. Well emissions that are permitted by the WDEQ under its regulations are not included in our General Conformity Determination which requires very specific activity and emissions information. On August 27, 2015, the EPA published a Federal Register Notice finding that the Upper Green Marginal Nonattainment Area attained the 2008 NAAQS ozone standard as of the July 20, 2015 attainment date. See http://www.gpo.gov/fdsys/pkg/FR-2015-08-27/pdf/2015-21196.pdf

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	proposed oil and gas lease sale." EA at 33. As BLM must know, however, direct emissions alone are not the basis for a requirement to perform a conformity determination. A general conformity determination is required if indirect emissions would exceed 100 tons per year of target pollutants. 40 CFR § 93.153(b)(1). Indirect emissions are defined as those: (1) That are caused or initiated by the Federal action and originate in the same nonattainment or maintenance area but occur at a different time or place as the action; (2) That are reasonably foreseeable; (3) That the agency can practically control; and (4) For which the agency has continuing program responsibility. 40 C.F.R. § 93.152. Leasing is clearly a cause of future project emissions—if there are no leases, there are no new emissions. Those emissions are caused and initiated by the proposed action. They originate in the same nonattainment area, but simply at a later time. They are reasonably foreseeable as BLM acknowledges in the EA. BLM can practically control those emissions in a number of ways including, but not limited to, by choosing not to lease certain areas or by including stipulations that require limits on emissions or emitting practices. The agency has continuing program responsibility for those emissions, both through subsequent permit actions and ongoing inspection and enforcement oversight. All evidence supports the fact that the proposed leasing is a federal action that will produce—whether directly or indirectly—NOx and/or VOC emissions that are likely to exceed de minimis thresholds. To this end, the agency must provide an accurate emissions inventory to the public and the decisionmaker and perform a conformity determination. The preferred alternative will certainly show an emissions level above de minimis, requiring a general conformity determination. The proposed leasing cannot proceed until this occurs. The requirement to perform a conformity determination at the time of leasing is not only supported by the plain language of the Clean Air Act, but is in perfect synch with the spirit of that law. Congress intended a very broad application of the conformity provision to prevent the federal government from undermining states when it came to attainment of air quality standards. The law very clearly states that no agency, including the BLM, "shall engage in [or] support in any way . . . any activity" that does not conform to a SIP. 42 U.S.C. § 7506(c)(1). Further,	

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	meeting this requirement requires an "assurance of conformity" which is "the affirmative responsibility" of the BLM. Id. Leasing public minerals for development is surely engaging in an activity or supporting an activity that will lead to an increase in emissions of ozone precursors. Furthermore, it seems clear that it was not Congress' intent that BLM could forego analysis of ozone emissions in a nonattainment area until the last possible moment, then carve up those emissions inventories by reducing analyses to a well-by-well basis. The end result of such a process could be that no one well ever exceeded de minimis levels, but the tens of thousands in the nonattainment area, with thousands more being approved every year, could make attainment of the ozone standard by the State of Wyoming simply impossible. BLM has offered various excuses for avoiding its Clean Air Act obligations, none of which have any merit. BLM attempts to sidestep conformity responsibilities comes through the claim that future indirect emissions are not reasonably foreseeable. See EA at 33. The agency appears to assert that if or how lease parcels will be developed is so speculative that it is impossible to determine whether emissions might exceed de minimis levels. Therefore, according to BLM, a reasonably foreseeable emission inventory cannot be produced. Evidence to the contrary is abundant. First, the very basis of this lease sale is that potential buyers have gone to the trouble of assessing these very parcels for sale and have nominated them with that intent. There is no incentive to do so unless they intend to develop these parcels. Second, there is intensive oil and gas development that has already occurred in the Upper Green River Basin, and thus it is reasonable to presume that leases within the nonattainment area will lead to oil and gas development. The BLM has implied that its proposed leasing decision is similar to an Initial Outer Continental Shelf lease sale, which is exempt from conformity requirements, and therefore that its action is similarly exempt. Initial Outer Continental Shelf leasing is a specific activity defined by regulation to involve potential emissions that are not reasonably foreseeable. 40 C.F.R. § 93.153(c)(3). There is no basis for BLM to assert that this exemption shields the proposed leases at issue here. For one thing, EPA could have included all lease sales in the exemption—not just outer continental shelf lease sales—when writing its regulations, but did not. Clearly, onshore oil and gas leases were not included. Also, the regulation expressly states	

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	that the exemption applies only to OCS lease sales "which are made on a broad scale." The proposed leases have not been made on a "broad scale," but rather are explicitly identified parcels with potential oil and gas development. The exemption at 40 C.F.R. § 93.153(c)(3) has no applicability to the proposed leases. Finally, BLM seems to imply that the UGRB is now in attainment for ozone. EA at 26. A proposed attainment finding is not a final attainment finding. The CAA's conformity regulations still apply and BLM has failed here to meet them.	
33	**<u>WildEarth Guardians:</u>** **Conclusion** Thank you for the opportunity to provide comments on this project. For the reasons given above, BLM should withdraw its EA and either supplement it or forgo leasing altogether. It is now clear that the extraction of fossil fuels from public lands is inconsistent with a livable world in the future. The sooner BLM transitions away from this activity, the better it will be for the land it manages and for the American people.	Thank you for your comments. No response needed.
	<u>Center for Biological Diversity:</u> I am submitting these comments on behalf of the Center for Biological Diversity on the Environmental Assessment ("EA") for the May 2016 Competitive Lease Sale for the High Desert District. The Center for Biological Diversity ("Center") 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 nvironment, and public health. The Center has over 825,000 members and on-line activists, including those living in Wyoming who have visited these public lands in the High Desert District for recreational, scientific, educational, and other pursuits and intend to continue to do so in the future, and are particularly interested in protecting the many native, imperiled, and sensitive species and their habitats that may be affected by the proposed oil and gas leasing. For the reasons set forth below, this EA does not satisfy the requirements of NEPA, and the proposed lease sale would therefore violate the National Environmental Policy Act ("NEPA"), the Mineral Leasing Act ("MLA"), the Federal	These comments were received by BLM on December 7, 2015 by email., five days after comments were due to BLM.

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	Lands Policy and Management Act ("FLPMA"), and the Endangered Species Act. BLM should produce a full Environmental Impact Statement for the lease sale**.**	
	<u>Center for Biological Diversity:</u> **I. The EA Improperly Limits its Analysis of Reasonably Foreseeable Environmental Impacts** NEPA demands that a federal agency prepare an EIS before taking a "'major [f]ederal action[] significantly affecting the quality' of the environment." Kern v. U.S. Bureau of Land Mgmt., 284 F.3d 1062, 1067 (9th Cir. 2002). In order to determine whether a project's impacts may be "significant," an agency may first prepare an EA. 40 C.F.R. §§ 1501.4, 1508.9. If the EA reveals that "the agency's action may have a significant effect upon the . . . environment, an EIS must be prepared." Nat'l Parks & Conservation Ass'n v. Babbitt, 241 F.3d 722, 730 (9th Cir. 2001) (internal quotations omitted). If the agency determines that no significant impacts are possible, it must still adequately explain its decision by supplying a "convincing statement of reasons" why the action's effects are insignificant. Blue Mountains Biodiversity Project v. Blackwood, 161 F.3d 1208, 1212 (9th Cir. 1998). Further, an agency must prepare all environmental analyses required by NEPA at "the earliest possible time." 40 C.F.R. § 1501.2. "NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment," but is "designed to require such analysis as soon as it can reasonably be done." Kern, 284 F.3d at 1072. BLM has unlawfully restricted its NEPA analysis by arbitrarily limiting the scope of its analysis oil and gas activity that may result from the lease sale and by failing to analyze sufficiently site-specific impacts. NEPA regulations and caselaw require that BLM evaluate all "reasonably foreseeable" direct and indirect effects of its leasing. 40 C.F.R. § 1508.8; Davis v. Coleman, 521 F.2d 661, 676 (9th Cir. 1975); Center for Biological Diversity, et al. v. Bureau of Land Management, et al., 2013 U.S. Dist. LEXIS 52432; 43 ELR 20076 (N.D. Cal. March 31, 2013) (holding that oil and gas leases were issued in violation of NEPA where BLM failed to prepare an EIS and unreasonably concluded that the leases would have no significant environmental impact because the agency failed to take into account all reasonably foreseeable development under the leases).	Since development cannot be reasonably determined at the leasing stage, any site specific impacts cannot realistically be analyzed at this time. At the time of APD proposal, should the parcels be sold and development proposed, an analysis of these resources will be completed.

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	The BLM, in its Wyoming May 2016 Lease Sale EA, arbitrarily refuses to consider sufficiently site-specific impacts. BLM indicates it does not have to consider some, or perhaps all, site-specific impacts because the exact extent of those impacts is unknown at this stage and subject to regulation at a later date. The lease sale, however, would result in impacts that BLM will not be able to avoid once the lease sale is finalized because the agency's ability to prevent lessees from engaging in lawful activities on issued leases will be limited. BLM regulations provide that lessees "have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to" limited conditions, including lease stipulations, "specific, nondiscretionary statutes," and limited "reasonable measures" that do not precluding all development activities. 43 C.F.R. § 3101.1-2. Uncertainty about the exact quantity of wells and emissions that will occur do not excuse BLM from the obligation to assess impacts at the point – lease sale – where it relinquishes its ability to prevent them. NEPA requires that an agency conduct all environmental analyses at "the earliest possible time." 40 C.F.R. § 1501.2; see also N.M. ex rel. Richardson v. Bureau of Land Mgmt., 565 F.3d 683, 718 (10th Cir. 2009). Here, this means that BLM must analyze all site-specific impacts now, before it has leased the land and is unable to prevent environmental impacts.	
	<u>Center for Biological Diversity:</u> **II. The EA Fails to Disclose Impacts to Air Quality and Climate Change from Oil and Gas Leasing** **a. BLM has Failed to Adequately Analyze Air Pollution Impacts** Oil and gas operations emit numerous air pollutants, including volatile organic compounds (VOCs), NOX, particulate matter, hydrogen sulfide, and methane. However, BLM's EA fails to take a hard look at air pollution impacts. Oil and gas operations emit large amounts of VOCs and NOX.2 VOCs make up about 3.5 percent of the gases emitted by oil or gas operations. The VOCs emitted include the BTEX compounds – benzene, toluene, ethyl benzene, and xylene – which Congress listed as Hazardous Air Pollutants. There is substantial evidence of the harm	Please see response to comments # 20, 21, 22, 25, 26, 27, 28, and 29.

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	from these pollutants. With regard to NOX, its primary sources are compressor engines, turbines, other engines used in drilling, and flaring. Further, both VOCs and NOX are ozone precursors, and thus, due to emissions of these pollutants, many regions around the country with substantial oil and gas operations are now suffering from extreme ozone levels. A recent study of ozone pollution in the Uintah Basin of northeastern Utah, a rural area that experiences hazardous tropospheric ozone concentrations, found that oil and gas operations were responsible for 98 to 99 percent of VOCs and 57 to 61 percent of NOX emitted from sources within the Basin considered in the study's inventory. Ozone can result in serious health conditions, including heart and lung disease and mortality. The oil and gas industry is also a major source of particulate matter. The heavy equipment regularly used burns diesel fuel, generating fine particulate matter. The particulate matter emitted by diesel engines is a particularly harmful. Vehicles also kick up fugitive dust, which is particulate matter, by traveling on unpaved roads. Further, both NOX and VOCs, which are heavily emitted by the oil and gas industry, are particulate matter precursors. Some of the health effects associated with particulate matter exposure are "premature mortality, increased hospital admissions and development of chronic respiratory disease." Oil and gas operations can also emit hydrogen sulfide. The hydrogen sulfide is contained in the natural gas and makes that gas "sour." Hydrogen sulfide may be emitted during all stages of operation, including exploration, extraction, treatment and storage, transportation, and refining. Long-term exposure to hydrogen sulfide is linked to respiratory infections, eye, nose, and throat irritation, breathlessness, nausea, dizziness, confusion, and headaches. Further, oil and gas operations emit significant amounts of methane. In addition to its role as a greenhouse gas, methane contributes to increased concentrations of ground-level ozone, the primary component of smog, because it is an ozone precursor. Methane's effect on ozone concentrations can be substantial. One paper modeled reductions in various anthropogenic ozone precursor emissions and found that "[r]educing anthropogenic CH4 emissions by 50% nearly halves the incidence of U.S. high-O3 events . . . ." Fracking results in additional air pollution that can create a severe threat to human health. One analysis found that 37 percent of the chemicals found at fracked gas wells were volatile, and that of those volatile chemicals, 81 percent	

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	can harm the brain and nervous system, 71 percent can harm the cardiovascular system and blood, and 66 percent can harm the kidneys.19 Also, the South Coast Air Quality Management District ("SCAQMD") has identified three areas of dangerous and unregulated air emissions from fracking: the mixing of the fracking chemicals, the use of the silica, or sand, as a proppant, which causes the deadly disease silicosis, and the storage of fracking fluid once it comes back to the surface. Preparation of the fluids used for well completion often involves onsite mixing of gravel or proppants with fluid, a process which potentially results in major amounts of particulate matter emissions. Further, these proppants often include silica sand, which increases the risk of lung disease and silicosis when inhaled. Finally, as flowback returns to the surface and is deposited in pits or tanks that are open to the atmosphere, there is the potential for organic compounds and toxic air pollutants to be emitted, which are harmful to human health as described above. BLM has failed to perform a sufficient analysis of the effects the lease sale could have on air quality. Instead, the EA cursorily dismisses air quality and climate impacts as uncertain and "a small percentage of the total emissions (including GHGs) from oil and gas activities in Wyoming." EA 59. However, NEPA regulations and case law clearly establish that uncertainty about the precise extent and nature of environmental impacts does not relieve an agency of the obligation to disclose and analyze those impacts utilizing the best information available. See 40 C.F.R. § 1502.22(a),(b). Further, BLM's analysis is lacking because the agency failed to identify numerous available methods for controlling air pollution emissions. This total failure violates NEPA's requirement that the agency identify mitigation measures, 40 C.F.R. § 1508.25, and consider all reasonable alternatives. Center for Biological Diversity v. Nat'l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. Cal. 2008) (citing 40 C.F.R. § 1502.14(a)).	
	<u>Center for Biological Diversity:</u> **b. BLM has Failed to Analyze Adequately the Project's Climate Change Impacts** NEPA's environmental analysis requirement includes consideration of climate change. See Center v. NHTSA, 538 F.3d at 1216-17. Oil and gas operations are a major contributing factor to climate change, due both to emissions from the operations themselves, and emissions	Please see response to comments # 20, 21, 22, 25, 26, 27, 28, and 29.

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	from the combustion of the oil and gas produced. Natural gas emissions are generally about 84 percent methane. Methane is a potent greenhouse gas that contributes substantially to global climate change. Its global warming potential is approximately 33 times that of carbon dioxide over a 100 year time frame and at least 86 times that of carbon dioxide over a 20 year time frame. Many unacceptable risks of fossil fuel development compel a halt to further leasing of federal fossil fuels and adoption of the no-action alternative. These include: (1) the climate change impacts of oil and gas extraction and combustion, and (2) the ecological and public health impacts of unconventional oil and gas well stimulation, including hydraulic fracturing. Unconventional well stimulation refers to any activities that extract natural gas and oil from rock formations. We request BLM to address all of these risks and impacts in an EIS. A full evaluation of these risks would reveal that an end to new leasing is the only way to protect the health of our public lands and communities from fossil fuel extraction.	
	<u>Center for Biological Diversity</u> **i. More Fossil Fuel Development Will Fuel Climate Change** Expansion of fossil fuel production will substantially increase the volume of greenhouse gases emitted into the atmosphere and jeopardize the environment and the health and well being of future generations. In order to avoid catastrophic climate change, BLM should be looking for ways to reduce, rather than increase, greenhouse gas emissions. Rejecting new oil and gas leasing within the OKT planning area and adoption of the no-action alternative is not only reasonable but also imperative. The harms from continued anthropogenic greenhouse emissions are nothing short of catastrophic. A rise in global average temperature by just a few degrees Celsius would likely result in a wide range of devastating consequences. Climate change will lead to: sea level rise and population displacement, increased frequency of extreme weather events, change in weather patterns, extreme floods and droughts, ocean acidification, mass species extinction, loss of biodiversity, spread of vector-born disease, and reduction of food and water security. BLM cannot ignore the mounting evidence about the potential for oil and gas development to contribute to the climate crisis. Further development and combustion of the OKT planning area's oil and gas resources will fuel	Please see response to comments # 20, 21, 22, 25, 26, 27, 28, and 29.

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	climate disruption and undercut the needed transition to a clean energy economy. Every step of the lifecycle process for development of these resources results in significant carbon emissions, including but not limited to: *End-user oil and gas combustion emissions*. The combustion of extracted oil, gas, and coal will add vast amounts of carbon dioxide to the atmosphere, further heating the climate and moving the Earth closer to catastrophic and irreversible climate change. Though much of the oil is used as gasoline to fuel the transportation sector, the produced oil may also be used in other types of products. The EIS should study all end-uses as contributors to climate change. *Combustion in the distribution of product*. To the extent that distribution of raw and end-use products will rely on rail or trucks, the combustion of gasoline or diesel to transport these products will emit significant greenhouse gas emissions. *Emissions from Refineries and Production.* Oil and gas must undergo intensive refinery and production processes before the product is ready for consumption. Refineries and their auxiliary activities constitute a significant source of emissions. *Vented emissions*. As discussed in Section I.A.D.1-2, oil and gas wells and coal mining operations may vent gas that flows to the surface at times where the gas cannot otherwise be captured and sold. Vented gas is a significant source of greenhouse gas emissions and can also pose a safety hazard. *Combustion during construction and extraction operations*. Operators rely on both mobile and stationary sources of power to construct and run their sites. The engines of drilling or excavation equipment, pumps, trucks, conveyors, and other types of equipment burn large amounts of fuel to operate. Carbon dioxide, methane, and nitrous oxide (another potent greenhouse gas) are emitted from oxidized fuel during the combustion process. Engines emit greenhouse gases during all stages of oil and gas recovery, including drilling rig mobilization, site preparation and demobilization, completion rig mobilization and demobilization, well drilling, well completion (including fracking and other unconventional extraction techniques), and well production. Transportation of equipment and chemicals to and from the site is an integral part of the production process and contributes to greenhouse gas emissions. Gas flaring is another	

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	important source of carbon dioxide emissions. *Fugitive emissions*. Potent greenhouse gases can leak as fugitive emissions at many different points in the production process, especially in the production of gas wells. Recent studies suggest that previous estimates significantly underestimate leakage rates. New research shows methane leakage from some gas wells may be as high at 17.3 percent. Moreover, new research has shown that unconventional gas wells are up to 2.7 times more likely than a conventional well to have a cement or casing impairment, which can lead to methane leaks. Leakage can also occur during storage, processing, and distribution to customers. Along similar lines, methane emitting activities can occur with coal handling at underground coal mines, during "crushing, separation of impurities, size classification, drying, transportation, and storage." Methane emissions make a big difference in part because the greenhouse gas warming potential of methane is at least 86 times that of carbon dioxide over a 20-year period. The oil and gas sector is a leading source of global methane emissions, accounting for approximately 30 percent of U.S. methane emissions, and is expected to be one of the most rapidly growing sources of anthropogenic methane emissions in the coming decades. That proportion is based on an estimated calculation of methane emissions, rather than measured actual emissions, which indicate that methane emissions may be much greater in volume than calculated. Contrary to BLM's claims in other RMP planning processes, the displacement of coal with natural gas does not necessarily result in reduced global warming pollution, due to high rates of methane leakage in natural gas production and methane's global warming potency. Best estimates of the national rate of fugitive methane emissions throughout the natural gas system are that it amounts to about 3% of production. This level of leakage puts coal-to-gas fuel switching near a breakeven point with respect to global warming, and, at best, efforts to reduce methane leaks translate to only marginally less climate damage. A halt to further leasing and the no-action alternative would curb all of the above sources of greenhouse gas emissions, consistent with national policies to reduce climate-warming pollution. As stated in the President's Climate Action Plan: While no single step can reverse the effects of climate change, we have a moral obligation to future generations to leave them a planet that is not polluted and damaged.	

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	Through steady, responsible action to cut carbon pollution, we can protect our children's health and begin to slow the effects of climate change so that we leave behind a cleaner, more stable environment. Halting new leasing within the planning area would be a responsible step towards slowing the effects of climate change. The internationally agreed-on target for avoiding dangerous climate change and its disastrous consequences is limiting average global temperature rise caused by greenhouse gas pollution to two degrees Celsius (2°C), or 3.6 degrees Fahrenheit. Climate experts have estimated that the world can emit 1,000 gigatons of carbon dioxide (1,000 GtCO2 or 1 trillion tons of CO2) after 2010 to have a reasonable chance of staying below 2°C of warming. Given uncertainties, coupled with the dire predictions of climate change impacts, a more conservative carbon budget would be more prudent. Nonetheless, using this budget, the IPCC has found that proven fossil fuel reserves amount to four to seven times more than what we can afford to burn, to have only a likely chance of staying within the 2°C target. In short, the vast majority of proven reserves must be kept in the ground for preserving a livable planet. Minimizing new fossil fuel production is critical. Opening up new areas to extraction and allowing more fracking, on the other hand, runs completely counter to slowing the effects of climate change. According to a recent report by EcoShift Consulting commissioned by the Center and Friends of the Earth, unleased federal fossil fuels represent a significant source of potential greenhouse gas emissions: • Potential GHG emissions of federal fossil fuels (leased and unleased) if developed would release up to 492 gigatons (Gt) (one gigaton equals 1 billion tons) of carbon dioxide equivalent pollution (CO2e); representing 46 percent to 50 percent of potential emissions from all remaining U.S. fossil fuels. • Of that amount, up to 450 Gt CO2e have not yet been leased to private industry for extraction; • Releasing those 450 Gt CO2e (the equivalent annual pollution of more than 118,000 coal-fired power plants) would be greater than any proposed U.S. share of global carbon limits that would keep emissions below scientifically advised levels. Fossil fuels within the OKT planning area are a significant portion of the federal carbon estate. The OKT planning area includes: 104,000 acres of BLM administered surface lands; 593,000 acres of split estate land (private land with	

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	Federal mineral interests); and 5,270,000 acres of Federal mineral estate on lands managed by other Federal agencies. Over 1.1 million acres of federal mineral estate are also administered by the Bureau of Indian Affairs. These vast reserves—some of which underlie the nearly 37,000 acres of fluid minerals available for lease—represent a significant opportunity to lock away millions of tons of greenhouse gas emissions. An EIS for the lease sale must weigh the no-action alternative's climate-change benefits against the impacts of allowing new leasing and fracking, and address sources of greenhouse gases. BLM should perform a full analysis of all gas emissions that contribute to climate change, including methane and carbon dioxide. The EIS should calculate the amount of greenhouse gas that will result on an annual basis from (1) each of the fossil fuels that can be developed within the leasing area, (2) each of the well stimulation or other extraction methods that can be used, including, but not limited to, fracking, acidization, acid fracking, and gravel packing, and (3) cumulative greenhouse gas emissions expected over the long term (expressed in global warming potential of each greenhouse pollutant as well as CO2 equivalent), including emissions throughout the entire fossil fuel lifecycle discussed above. The EA improperly declines to analyze the contribution to climate change of additional Wyoming federal oil and gas leasing, instead dismissing those impacts with the assertion that "These wells would incrementally contribute a small percentage of the total emissions (including GHGs) from oil and gas activities in Wyoming." EA 59. CEQ's climate change guidance, albeit currently in draft form, expressly rejects the use of this excuse to avoid consideration of climate change impacts. "Providing a paragraph that simply asserts, without qualitative or quantitative assessment, that the emissions from a particular proposed action represent only a small fraction of local, national, or international emissions or are otherwise immaterial is not helpful to the decisionmaker or public." Council on Environmental Quality, Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts 6 n.11 (2014). Instead, "agencies need to consider whether the reasonably foreseeable incremental addition of emissions from the proposed action, when added to the emissions of other relevant actions, is significant when determining whether GHG emissions are a basis for requiring preparation of an EIS." Id. 11-12. In the EA, BLM has not made even a cursory attempt at this determination. EA 63 ("It is currently not feasible to know	

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	with certainty the net impacts from the proposed action on climate. The inconsistency in results of scientific models used to predict climate change at the global scale coupled with the lack of scientific models designed to predict climate change on regional or local scales, limits the ability to quantify potential future impacts of decisions made at this level.”). The very purpose of oil and gas leasing is the production, and subsequent combustion, of hydrocarbon fossil fuels. It is simply not credible to assert in 2015 that BLM has no way of estimating a range of possible production levels for leases within established industry plays and currently producing geological formations, or their potential contribution to greenhouse gas emissions. Although there are certainly geological, technological, and economic uncertainties that could affect the production from the leases in question, these uncertainties do not relieve BLM of the obligation to analyze and disclose, at the very least, a range of possible production scenarios and their resulting emissions.	
	Center for Biological Diversity: III. The BLM Fails to Analyze Effects to, or Alternatives That Would Mitigate Impacts to, Greater Sage-Grouse Leks and Winter Habitat The “heart” of NEPA is an agency’s obligation, in evaluating the environmental impacts of its actions, whether by EA or EIS, to consider all reasonable alternatives to those actions. See Center. for Biological Diversity v. Nat’l Highway Traffic Safety Admin., 538 F.3d 1172, 1217 (9th Cir. Cal. 2008) (citing 40 C.F.R. § 1502.14(a)). The May 2016 Leasing EA fails to meet this core NEPA obligation by arbitrarily excluding from consideration any alternative that could meaningfully preserve BLM’s authority to adopt effective and scientifically credible conservation measures for greater sage-grouse. The May 2016 leasing EA considers only two alternatives: (1) the No-Action Alternative; (2) Alternative 2, which would lease all proposed parcels, save for parcels outside the High Desert District, parcels within greater sage-grouse Priority Habitat Management Areas, and other areas proposed to be deferred by State Director discretion.” EA 6-7. We note that the EA’s Table of Contents, EA at iii, referse to a third alternative, “Alternative C – Defer Parcels for Sage Grouse,” but any mention this alternative is completely absent from the actual text of the EA.	See Response to Comments # 5 and 14.

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	The EA explicitly excludes from even considering, however, an alternative that would consider no surface occupancy stipulations for the proposed leases. EA 7. The EA states that "because it is not in conformance with the respective RMPs, as amended (2015), and would only prohibit surface occupancy for oil and gas development; whereas other non-oil and gas occupancy may not be similarly constrained." The rejection of a NSO alternative is arbitrary, capricious, and without support in law. As an initial matter, agencies may not reject an otherwise reasonable alternative out of hand simply because it shares some characteristics with the no-action alternative. See Colorado Environmental Coalition v. Salazar, 875 F. Supp.2d 1233, 1248-50 (D. Colo. 2012). Second, it is wholly arbitrary to conclude that oil and gas development should not be constrained simply because other (and less damaging) forms of surface occupancy are not so constrained. Although the proposed action defers leasing of greater sage-grouse PHMAs, virtually the entire proposed lease sale (save two parcels within the Kemmerer Field Office) is greater sage-grouse general habitat, including numerous leks and at least one identified winter concentration area (Alkali Creek).EA 7-18, Table 3-1. The EA states: Based on site-specific environmental analysis, the BLM may require additional avoidance and/or impact minimization measures in order to manage Greater Sage-Grouse habitat in support of management objectives at the time of development should these parcels be sold and issued. These measures may include, but are not limited to, disturbance density limitations or surface use and timing restrictions in proximity to certain habitats (e.g., winter concentration areas, Greater Sage-Grouse leks, etc.). Restrictions and prohibitions may be more restrictive than current RMP stipulation guidance if supported by site-specific NEPA analysis of a development proposal, the measures are in conformance with the RMP, as amended (2015). In the event post-lease development without appropriate stipulations were to occur on leases in Greater Sage-Grouse habitat, it could potentially result in surface disturbing and/or disruptive activities within 2 miles or greater of a grouse lek or other known nesting habitats during the nesting period, within winter concentration areas, and/or within ¼ mile or greater of leks that are located outside of PHMA, during the breeding season and/ or direct mortality. Direct and or indirect impacts	

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	could result in habitat fragmentation, reduced breeding success and/or nest abandonment as well as cause Greater Sage-Grouse to move to less suitable winter habitat. Stipulations for the protection of leks, nesting habitat, and winter concentration areas have been added to specific parcels, as identified in Table 4-1. EA 65-66. The EA further asserts that "In accordance with the ARMPA, steps would be taken to locate disturbances in the least sensitive habitats (based on vegetation, topography, or other habitat features) and resources whether inside or outside of PHMAs." EA 86.	
	<u>Center for Biological Diversity:</u> **a. Sage-Grouse Lek Buffers in the Proposed Leases are Insufficient** Under the greater sage-grouse ARMPA, the proposed leases provide a lek buffer of only "one-quarter (0.25) [mile] radius of the perimeter of occupied greater sage-grouse leks outside designated PHMAs (Core and Connectivity)." See, e.g., EA Appendix B at 1. Protecting sage-grouse leks and associated nesting and brood-rearing habitat are key to individual producing (post-drilling) oil and gas wells drilled within 1.9 miles from active leks (Holloran 2005), measureable impacts from coalbed methane fields extend out to 4 miles (Walker 2008), and new research has recorded effects as far away as 12.4 miles from leks (Taylor et al. 2012). WGFD, using lek buffers of 0.25 mile, 0.5 mile, 0.6 mile, 1.0 mile, and 2.0 mile, estimated lek persistence of 4, 5, 6, 10, and 28 percent, respectively. Standard energy development within 2 miles of a lek is projected to reduce the probability of lek persistence from 87% to 5% (Walker et al. 2007). Taylor et al. (2012: 27) examined sage grouse dynamics in the Powder River Basin and found, "For oil and gas development, the signal is strongest within a 12.4-mi (20-km) radius of a lek, and it is much stronger at this radius than at any smaller radii." Furthermore, in northeast Wyoming females may nest further from leks than elsewhere, placing a premium of extending protections for sage grouse inside and outside Priority Habitats. According to Taylor et al (2012: 27),"Second, female sage-grouse that visit a lek use an approximately 9-mi (15-km) radius surrounding the lek for nesting; a 2-mi (3.2-km) radius encompasses only 35-50% of nests associated with the lek (Holloran and Anderson 2005, Tack 2009). While a lek	See Response to Comment #14.

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	provides an important center of breeding activity, and a conspicuous location at which to count birds, its size is merely an index to the population dynamics in the surrounding habitat. Thus attempting to protect a lek, without protecting the surrounding habitat, provides little protection at all." Unfortunately, the proposed leases in only require protective buffers of 0.25 miles around leks outside designated core habitat(see, e.g., EA Appendix A at 15); this corresponds to an on 4% probability of lek persistence (WGFD 2008)). Indeed, BLM's own ARPA FEIS, to which this EA tiers, itself points to the inadequacy of this regulatory mechanism: "Oil and gas development within two to four miles of leks and nesting/early brood rearing habitat has been studied to show that Greater Sage-Grouse need large buffer distances for viable populations to persist (Connelly et al. 2000, Holloran and Anderson 2005, Walker et al. 2007)." BLM, Wyoming Greater Sage-Grouse Land Use Plan Amendment Final Environmental Impact Statement 4-299 (2015). USGS's review of sage-grouse buffer science reaches similar conclusions: Direct impacts of energy development on sage-grouse habitats and populations, such as loss of sagebrush canopy or nest failure, have been estimated to occur within a 1.2-ha (3-acre) area of leks (radius: 62 m [68 yards]); indirect influences, such as habitat degradation or utilization displacement, have been estimated to extend out to 19 km (11.8 mi) from leks (Naugle and others, 2011). Regional analyses of well-density and distance effects (Johnson and others, 2011) suggested negative trends in populations (lek counts) when distance was less than 4 km (2.5 mi) to the nearest producing well; whereas density effects were evident rangewide based on decreasing population trends when greater than eight active wells occurred within 5 km (3.1 mi) of leks, or when more than 200 active wells occurred within 18 km (11 mi)of leks. In Wyoming, significant negative relations between use of seasonal habitats and well densities have been demonstrated. Fedy and others (2014) found asignificant negative relation between well density and probability of sage-grouse habitat selection during nesting (3.2-km [2-mi] radius) and winter (6.44-km [4-mi] radius) seasons. In the Powder River Basin, wintering sage-grouse were negatively associated with increasing coalbed natural gas well densities within a 2-km × 2-km (1.24-mi × 1.24-mi) window (Doherty and others 2008). Also, Gregory and Beck (2014) documented lek attendance decline when energy development averaged 0.7 well pads/km2 (1.81 well pads/mi2; using a 10-km × 10-km [6.2-mi × 6.2-mi]	

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	assessment window) across multiple populations and different development patterns. Manier et al. 2014 at 7. By comparison, the NTT report recommends a 4-mile lek buffer for siting industrial development in sage-grouse habitat (NTT 2011), a prescription in greater accord with the science, although the study notes that this 4-mile buffer captures only approximately 80 percent of nesting females. Aldridge and Boyce (2007) suggested that even larger buffers (10 km) are warranted. However, the latest review of science clearly indicates that substantially larger buffers are required to mitigate negative effects from energy development and other disturbance. See Manier et al. 2014 at 7, 14.	
	<u>Center for Biological Diversity:</u> **b. The Proposed Leases Fail to Protect Sage-Grouse Winter Habitat** Although leks are important focal points for breeding and subsequent nesting in the surrounding region, other seasonal use areas and habitat requirements may be equally limiting to sage-grouse populations. Suitable and diverse winter habitats are critical to the long-term persistence of grouse populations. The proposed stipulations for identified winter concentrations in the High Desert May 2016 sale offer inadequate protection (limits on surface disturbance from December 1-March 14) to winter habitats. Sage-grouse winter habitat must provide sufficient sagebrush cover and food to support the birds throughout the season, especially during periods with above average snow cover (Braun et al. 2005; Connelly et al. 2011a, citing others). Wintering areas are often on windswept ridges, south-facing slopes or in protected draws (Braun et al. 2005). These landscape features may be limited in some areas (e.g., Beck 1977). Sage-grouse typically show high fidelity to winter habitat areas, and a single area may support several different breeding populations (Oregon DEIS: 8-39; SGNTT 2011: 51). Consequently, the loss or fragmentation of wintering areas can have a disproportionate impact on sage-grouse population size (Caudill et al. 2013; Oregon DEIS: 8-39). Moynahan et al. (2007) also observed that the quality of winter habitat appears to influence the abundance and condition of female sage-grouse and their nesting effort and clutch sizes in spring. As summer ends, the diet of sage-grouse shifts from a diet of insects, forbs and sagebrush to one comprised almost entirely of sagebrush. In winter, the grouse depends heavily on sagebrush for cover, habitat selection being	See response to Comment #5

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	driven by snow depth, the availability of sagebrush above the snow, and topographic patterns that favorable mitigate the weather. Abundance of sagebrush at the landscape scale greatly influences the choice of wintering habitat. One study found that the grouse selected for landscapes where sagebrush dominate over 75% of the landscape with little tolerance for other cover types. Because appropriate wintering habitat occurs on a limited basis and because yearly weather conditions influence its availability, impacts to wintering habitat can have large disproportional effects on regional populations. One study in Colorado found that 80% of the wintering use occurred on only 7% of the area of sagebrush available. Additionally, some degree of site fidelity to winter areas is suspected to exist, and wintering areas not utilized in typical years may become critical in severe winters. Lower elevation sagebrush winter habitat used by sage-grouse may also constitute important winter areas for big game and early spring forage areas for domestic livestock. Due to differing vegetative condition requirements, land treatments on lower elevation sagebrush areas to increase big game or livestock forage at the expense of sagebrush cover and density could have long-term negative consequences for the grouse. Sage-grouse in the Powder River Basin were 1.3 times less likely to use otherwise suitable winter habitats that have been developed for energy (12 wells/4 km2), and avoidance was most pronounced in high-quality winter habitat with abundant sagebrush. The agency's examination of winter habitat impacts to sage grouse is entirely absent in the EA. See EA 4-4 to 4-6. BLM must take the legally required 'hard look' at direct or cumulative impacts to sage grouse wintering habitat under the various alternatives; since the impact of development approved under the amended Kemmerer, Pinedale, Rawlins and Rock Springs RMPs on breeding and nesting sage grouse matters little if sage grouse populations do not survive the winter. Best available science indicates that grouse conservation warrants no surface disturbance in or adjacent to winter habitat any time of year. Sage-grouse conservation strategies should identify and specifically protect wintering areas (Braun et al. 2005, citing Connelly et al. 2000 and others; Moynahan et al. 2007). Notably, a federal court has held that the failure to map sage-grouse winter habitat could be grounds for remanding a land use plan back to the responsible federal agency to address the omission. Western Watersheds	

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	Project v. Salazar, No. 4:08-CV-516, 2011 U.S. Dist. LEXIS 111728 , at *44-45 (D. Idaho Sept. 28, 2011). In addition, it is critically important for BLM to identify and protect winter concentration areas. These lands, once identified, should be deferred from offer for lease, and ultimately withdrawn from future mineral leasing and entry of all kinds, and, at a minimum, protective stipulations within 2 miles of these areas. Timing restrictions on construction are wholly insufficient – with roads, pads and other infrastructure built in summer, grouse may return to their winter habitats to find an industrialized, fragmented habitat that no longer has any habitat function due to the birds' avoidance of such areas.	
	<u>Center for Biological Diversity:</u> **IV. Conclusion** Due to the deficiencies documented in these comments, the Center requests: 1. That a Finding of No Significant Impact not be issued, and that the BLM initiate the process for preparing an environmental impact statement prior to authorizing any further leasing. 2. That any further consideration of potential leasing within greater sage-grouse habitat, including winter habitat and lek-proximate habitat within greater sage-grouse general habitat, consider not only leasing, but also deferral and or withdrawal, under FLPMA § 204, of said habitat from further leasing, consistent with the best available science regarding greater sage-grouse conservation. Thank you for consideration of these comments. The Center looks forward to reviewing a legally adequate EIS for this proposed oil and gas leasing action.	Thank you for your comments. No response needed.