



May 20, 2016

**VIA FAX and Federal Express**

Amy Lueders, State Director  
BLM New Mexico State Office  
301 Dinosaur Trail  
Santa Fe, NM 87508  
Ph: (505) 954-2222  
Fax: (505) 954-2010

Dear Ms. Lueders:

The Center for Biological Diversity, Friends of the Earth, Food and Water Watch, Great Old Broads for Wilderness, and Sierra Club hereby file this Protest of the Bureau of Land Management (“BLM”)’s planned July 20, 2016 oil and gas lease sale, and Environmental Assessment DOI-BLM-NM-P020-2016-0588-EA, pursuant to 43 C.F.R. § 3120.1-3. We formally protest the inclusion of each of the following 36 parcels, covering 13,876.08 acres in the Carlsbad Field Office in New Mexico:

NM-201607-001	NM-201607-013	NM-201607-026
NM-201607-002	NM-201607-014	NM-201607-027
NM-201607-003	NM-201607-015	NM-201607-028
NM-201607-004	NM-201607-016	NM-201607-029
NM-201607-005	NM-201607-017	NM-201607-030
NM-201607-006	NM-201607-018	NM-201607-031
NM-201607-007	NM-201607-019	NM-201607-032
NM-201607-008	NM-201607-021	NM-201607-033
NM-201607-009	NM-201607-022	NM-201607-034
NM-201607-010	NM-201607-023	NM-201607-035
NM-201607-011	NM-201607-024	NM-201607-036
NM-201607-012	NM-201607-025	

**PROTEST**

**I. Protesting Party: Contact Information and Interests:**

*Alaska . Arizona . California . Florida . Minnesota . Nevada . New Mexico . New York . Oregon . Vermont . Washington, DC*

Wendy S. Park, Staff Attorney, Public Lands Program • 1212 Broadway, Suite 800 • Oakland, CA 94612  
Phone: 510-844-7100 x 338 • Fax: 510-844-7150 • [wpark@biologicaldiversity.org](mailto:wpark@biologicaldiversity.org)

This Protest is filed on behalf of the Center for Biological Diversity, Friends of the Earth, Food and Water Watch, Great Old Broads for Wilderness, and Sierra Club, and their boards and members by:

My-Linh Le  
Legal Fellow  
Center for Biological Diversity  
1212 Broadway #800  
Oakland, CA 94612  
510-844-7156  
[mle@biologicaldiversity.org](mailto:mle@biologicaldiversity.org)

Marissa Knodel  
Climate Campaigner  
Friends of the Earth  
1101 15th Street NW, Floor 11  
Washington, D.C. 20005  
202-783-7400  
[MKnodel@foe.org](mailto:MKnodel@foe.org)

Eleanor Bravo  
Southwest Organizer  
Food & Water Watch  
7804 Pan American Frwy E NE #2  
Albuquerque, NM 87109  
505-633-7366  
[ebravo@fwwatch.org](mailto:ebravo@fwwatch.org)

Shelley Silbert  
Executive Director  
Great Old Broads for Wilderness  
Box 2924  
Durango, CO 81302  
970-385-9577  
[shelley@greatoldbroads.org](mailto:shelley@greatoldbroads.org)

Elly Benson  
Staff Attorney  
Sierra Club  
2101 Webster Street, Suite 1300  
Oakland, CA 94612  
415-977-5723  
[elly.benson@sierraclub.org](mailto:elly.benson@sierraclub.org)

The Center for Biological Diversity (“the 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 environment, and public health. The Center has over 1 million members and online activists, including those living in New Mexico who have visited these public lands in the Pecos 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.

Friends of the Earth is a 501(c)(3) organization with over 33,000 members and 496,000 activists nationwide. Friends of the Earth fights to create a more healthy and just world. Our current campaigns focus on promoting clean energy and solutions to climate change, ensuring the food we eat and products we use are safe and sustainable, and protecting marine ecosystems and the people who live and work near them.

Food and Water Watch champions healthy food and clean water for all. We stand up to corporations that put profits before people, and advocate for a democracy that improves people’s lives and protects our environment.

Great Old Broads for Wilderness (“Broads”) is a national non-profit organization that engages and ignites the activism of elders to preserve and protect wilderness and wild lands. With more than 5,500 members and friends, Broads gives voice to the millions of older Americans who want to protect their public lands as Wilderness for this and future generations. Broads has three chapters, called “Broadbands” in New Mexico: in Albuquerque, Santa Fe and Silver City.

The Sierra Club is a national nonprofit organization of approximately 625,000 members dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth’s ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. The Rio Grande Chapter of the Sierra Club has approximately 7,300 members in the state of New Mexico. The Sierra Club has members who live and recreate in the Pecos District. Sierra Club members use the public lands in New Mexico, including the lands and waters that would be affected by actions under the lease sale, for quiet recreation, scientific research, aesthetic pursuits, and spiritual renewal. These areas would be threatened by increased oil and gas development that could result from the proposed lease sale.

## **II. Statement of Reasons as to Why the Proposed Lease Sale Is Unlawful:**

BLM’s proposed decision to lease the parcels listed above is substantively and procedurally flawed for the reasons discussed below, as well as those discussed in our comments on the Preliminary Environmental Assessment (PEA) on March 8, 2016 and in our scoping

comments on December 30, 2015. This protest incorporates both of our previous letters by reference herein. The proposed lease sale is unlawful for the following additional reasons:

#### **A. BLM Violates the National Environmental Policy Act (“NEPA”)**

For proposed “major Federal actions significantly affecting the quality of the human environment,” agencies must prepare an EIS in which they consider the environmental impact of the proposed action and compare this impact with that of “alternatives to the proposed action.” See 42 U.S.C. § 4332(2)(C); Pennaco Energy, Inc. v. United States DOI, 377 F.3d 1147, 1150 (10th Cir. 2004). To determine whether an action will have a significant environmental impact, BLM can first prepare an environmental assessment (“EA”). 40 C.F.R. §§ 1501.4, 1508.9; Ohio Valley Env’tl. Coal. v. Hurst, 604 F. Supp. 2d 860, 870 (S.D. W. Va. 2009) (“If the agency cannot readily determine whether an action will significantly affect the environment, then it must prepare an environmental assessment [] that discusses the proposed action, alternatives, and the environmental impacts of the proposed action and its alternatives.”). If the EA reveals that the project will have a significant effect on the quality of the human environment, then BLM must prepare a detailed, written EIS. 42 U.S.C § 4332(2)(C).

BLM’s “Finding of No Significant Impact” (“FONSI”) and consequent decision not to prepare an EIS ignore both the high degree of uncertainty and the substantial controversy regarding the effects that the proposed action will have on the quality of the environment. Furthermore, BLM’s erroneous finding is owing to BLM’s failure to take a hard look at the environmental, public health, and safety concerns that were raised in scoping.

Despite NEPA’s requirement that agencies undertake environmental analysis at the earliest possible time and prior to irretrievable commitment of resources, as well as our requests for an adequate environmental analysis, BLM has chosen to move forward with the lease sale without thoroughly analyzing the environmental impacts in an EIS, because BLM believes “the impacts of leasing the fluid minerals estate in the areas described with this EA have been previously analyzed in the Carlsbad Resource Management Plan and Final Environmental Impact Statement (BLM 1988); the Carlsbad Resource Management Plan Amendment and Final Environmental Impact Statement for Oil and Gas Resources (BLM 1997); and the Roswell Resource Area Resource Management Plan and Final Environmental Impact Statement (BLM 1997)” and because “[t]he lease stipulations that accompany the tracts proposed for leasing would mitigate the impacts of future development on these tracts.”<sup>1</sup>

We first disagree that the presently foreseeable impacts of leasing could have been sufficiently analyzed in plans that were signed in 1988 and 1997. With the exception of the 2008 Special Status Species Resource Management Plan Amendment (“2008 RMPA”), which covers only issues relating to the lesser prairie-chicken and the sand dune lizard, these RMPs have not been revised in decades and therefore do not address the emergence of new and significant information, including but not limited to that relating to the new and dangerous extraction methods of hydraulic fracturing (or “fracking”) and horizontal drilling, or the increased seismic risks that stem from such extraction methods. Nor do these RMPs include *any* analysis of the

---

<sup>1</sup> U.S. Bureau of Land Management, Finding of No Significant Impact, Project: July 2016 Competitive Oil and Gas Lease Sale, EZ Log Number: DOI-BLM-NM-P020-2016-0588-EA (2016) (“FONSI”).

foreseeable indirect impacts of greenhouse gas (“GHG”) emissions from extraction, transport, and combustion of leasing federal fossil fuels on climate, public health, and wildlife resources.

We also disagree that BLM’s vague and speculative lease stipulations sufficiently reduce the identified impacts to a minimum. The stipulations are severely lacking in detail or scientific support of any kind. The EA does not cite to any data or studies that would show any efficacy of the allegedly protective measures. In fact, the only assurance BLM can give the public that the mitigation measures will be successful is the conclusory nature of the mitigation measures themselves. One example is BLM’s analysis of the impacts pertaining to “cave and karst features” which provide direct conduits leading to groundwater. BLM’s description of potential impacts includes the fact that “these conduits can quickly transport surface and subsurface contaminants directly into underground water systems and freshwater aquifers without filtration or biodegradation as a result of the development of oil and gas leases.”<sup>2</sup> Furthermore, contaminants spilled or leaked into or onto cave and karst zone surfaces and subsurfaces could lead “directly” to the “disruption, displacement, or extermination of cave species and critical biological processes.”<sup>3</sup> In extreme cases, a buildup of hydrocarbons in cave systems due to surface leaks or spills could cause underground ignitions or asphyxiation of wildlife or humans within the cave. BLM’s list of severe threats from oil and gas production near these features goes on. However, the only protective measure mentioned in the EA is a stipulation which prohibits surface occupancy within 200 meters of any known cave or karst feature or system. BLM does not cite to or perform any analysis of research, studies or data to show the efficacy of the 200 meter buffer. Instead, BLM only concludes that “[a]ttaching this stipulation would minimize any potential impacts to the resource.” This is not sufficient to meet the requirements of NEPA or to support a FONSI. See Wyo. Outdoor Council v. United States Army Corps of Eng’rs, 351 F. Supp. 2d 1232, 1251 (D. Wyo. 2005) (“A ‘perfunctory description’ or a ‘mere listing’ of mitigation measures, without supporting analytical data, is insufficient to support a finding of no significant impact.”) (citing Nat’l Parks & Conservation Ass’n v. Babbitt, 241 F.3d 722, 734 (9th Cir. 2001)); and id., at 1249 (“...the mitigation measures must be more than a possibility. They must be imposed by statute or regulation or have been so integrated into the initial proposal that it is impossible to define the proposal without the mitigation.”). BLM’s conclusion of no significant impact is not supported by any reasoned explanations, and hence is arbitrary and capricious.

Finally, BLM’s EA similarly fails to take a “hard look” at not only the issues that were completely omitted from the EA, but also issues that BLM mentioned in the EA but failed to adequately analyze. The EA does not, for example, take any look at the issue we raised in our comment on the PEA concerning the potential impacts of oil and gas exploration and development near a mixed nuclear-waste repository. New Mexico’s Waste Isolation Pilot Plant (WIPP) is located just 25 miles east of Carlsbad.<sup>4</sup> The EA does not at all consider the implications of allowing oil and gas drilling operations, especially unconventional extraction methods such as hydraulic fracturing, so close to the waste storage. As discussed in our scoping

---

<sup>2</sup> U.S. Bureau of Land Management, Environmental Assessment for July 2016 Competitive Oil and Gas Lease Sale Carlsbad Field Office DOI-BLM-NM-P020-2016-0588-EA (2016) (“EA”) at 53.

<sup>3</sup> *Id.*

<sup>4</sup> Tracy, Cameron L. et al., Policy: Reassess New Mexico's nuclear-waste repository, NatureNews (Jan 13, 2016) available at <http://www.nature.com/news/policy-reassess-new-mexico-s-nuclear-waste-repository-1.19135>

comments, hydraulic fracturing is known to cause earthquakes which is more cause for concern about using the technique where tons of radioactive material are being stored.<sup>5</sup> Although BLM acknowledges several other serious concerns that we raised in scoping and in our comments on the PEA, BLM does not provide any explanation for its conclusion that these foreseeable impacts are not significant. BLM failed to take a “hard look” at any of the issues we have raised in our letters.

**i. It is Unlawful to Proceed with the Lease Sale without Undertaking a Site-Specific Environmental Assessment.**

BLM’s deferral of site-specific analysis until the APD stage is unlawful under NEPA, its implementing regulations, and legal precedents. Courts, including the Tenth Circuit, have repeatedly rejected BLM’s claim that it does not have to address mitigation measures or perform site-specific NEPA analyses until an APD is received. As we have stated time and again, BLM is required to perform and disclose an analysis of environmental impacts *prior* to the irretrievable commitment of resources. N.M. ex rel. Richardson v. BLM, 565 F.3d 683, 716 (10th Cir. 2009) (NEPA and the CEQ regulations provide that assessment of a given environmental impact must occur as soon as that impact is “reasonably foreseeable,” citing 40 C.F.R. § 1502.22, and must take place before an “irretrievable commitment of resources” occurs, citing 42 U.S.C. § 4332(2)(C)(v)); See also Pennaco Energy, Inc. v. United States DOI, 377 F.3d 1147, 1160 (10th Cir. 2004) (Agencies are required to satisfy NEPA before committing themselves irretrievably to a given course of action, so that the action can be shaped to account for environmental values.). Because a lessee has certain, defined surface use rights, see e.g. 43 C.F.R. § 3101.1-2 (“[a] lessee shall 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 . . .”), the point of irretrievable and irreversible commitment occurs at the point of lease issuance. S. Utah Wilderness All. v. Norton, 457 F. Supp. 2d 1253, 1256 (D. Utah 2006).

Although BLM attempts to characterize leasing as mere administrative paperwork that cannot result in any impacts to the environment,<sup>6</sup> NEPA and governing Tenth Circuit decisions have made clear that the test depends upon existing environmental circumstances, not upon “the formalities of agency procedures,” and as such requires a “fact-specific inquiry.” Richardson, 565 F.3d at 717. The “operative inquiry” is two-fold: First we must ask whether the lease constitutes an “irretrievable commitment of resources.” The Tenth Circuit has concluded that issuing an oil and gas lease without an NSO stipulation constitutes such a commitment. Id. at 717 (citing to Pennaco Energy, 377 F.3d at 1160; and Sierra Club v. Peterson, 717 F.2d 1409, 1412-1414 (D.C. Cir. 1983)). Second, we must ask whether all “foreseeable impacts of leasing” have been taken into account before leasing can proceed. Id. Given BLM’s failure to provide adequate site-specific review of the parcels, we assert that they have not been taken into account.

**ii. BLM Failed to Take a Hard Look at any of the Potential Impacts of the Proposed Action Raised in our Previous Comment Letters on the Sale**

---

<sup>5</sup> *Id.*

<sup>6</sup> EA at 33 (“The act of leasing parcels would, by itself, have no impact on any resources in the CFO.”).

As BLM has not provided any environmental review of the parcels at issue or any site-specific analysis of the potential environmental impacts from the proposed action, we incorporate by reference herein our comments on the PEA, which discuss BLM's failure to take a hard look at the foreseeable impacts from the lease sale, oil and gas development, and the use of hydraulic fracking technologies. In particular, BLM failed to take a hard look at the potential impacts of the proposed action on water resources, air quality, climate change, human health and safety, seismicity, and sensitive species of plants and wildlife. We expand upon the following issues:

**a. BLM does not Take a Hard Look at Impacts to Lesser Prairie-Chicken**

The lesser prairie-chicken (or "LPC") is a special status species. Although the U.S. District Court for the Western District of Texas has vacated the Fish and Wildlife Service's ("FWS") earlier decision to list the species under the Endangered Species Act, the FWS has strongly indicated that threats to the species' continued existence, including oil and gas impacts on both occupied and suitable habitat, remain unabated:

Even if members of the species are not currently found in certain areas, suitable habitat that lies in close proximity to focal and connectivity habitat is important to the species. The species' numbers are very low and its habitat is already highly fragmented. First Shaughnessy Declaration ¶ 4, 26. On these facts, the loss and fragmentation of even relatively small amounts of existing and suitable habitat can easily put the species on a path towards a "death spiral" from which it cannot recover, as the Service has seen for similar prairie grouse species such as the now-extinct heath hen and endangered Attwater's prairie-chicken. Norris Declaration ¶ 6, n.1. See also First Shaughnessy Declaration ¶ 4 (stating that the species is "exceptionally vulnerable to small changes on the landscape, especially at its currently reduced numbers").

Permian Basin Petroleum Ass'n v. U.S. Department of the Interior, No. 7:14-CV-0050-RAJ, Defendants' Additional Filing in Support of Their Opposed Motion to Amend the Judgment 7-8 (Jan. 27, 2016). Although the lesser prairie-chicken is not currently subject to Endangered Species Act protection given the vacatur of the listing decision, it remains a candidate species pending new action by the FWS, and therefore a special status species subject to the BLM's sensitive species policy. Given the FWS's acknowledgment that "the loss and fragmentation of even relatively small amounts of existing and suitable habitat can easily put the species on a path towards a "death spiral" from which it cannot recover," it is critical that BLM carefully assess the potential impacts of leasing on suitable lesser prairie-chicken habitat under NEPA, FLPMA, and its sensitive species policy.

BLM Manual 6840 provides that "[a]ll Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species."<sup>7</sup> The Objective of Manual 6840 is "[t]o initiate proactive conservation measures that

---

<sup>7</sup> U.S. Bureau of Land Management, Manual 6840 – Special Status Species Management (Dec 12, 2008) ("BLM Manual") at § .01.

reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA.”<sup>8</sup> Manual 6840 further states that it is the BLM’s Policy to promote “conservation and to minimize the likelihood and need for listing” Bureau sensitive species.<sup>9</sup>

Furthermore, pursuant to Manual 6840 it is the responsibility of State Directors to not only inventory BLM lands to determine the occurrence of BLM special status species, but also to determine “the condition of the populations and their habitats, and how discretionary BLM actions affect those species and their habitats.”<sup>10</sup> The leasing of federal lands for oil and gas extraction is a discretionary BLM action that has the potential to adversely affect lesser prairie-chicken habitat and prospects for recovery.

Deferring an analysis of the potential effects of selling oil and gas leases to the APD stage is entirely inconsistent with the requirements of Manual 6840. If a lease is sold, the lessee acquires certain contractual rights constraining BLM authority. For example, according to 43 C.F.R. § 3101.1-2, once a lease is issued to its owner, that owner has the “right to use as much of the lease lands as is necessary to explore for, drill for, mine, extract, remove and dispose of the leased resource in the leasehold” subject to specific nondiscretionary statutes and lease stipulations. Therefore, once the lease is sold, it will be too late for BLM to ensure that sufficient protections will be in place to protect this species from the cumulative impacts of extraction-related activities.

Furthermore, pursuant to Manual 6840 Bureau sensitive species are considered BLM special status species, and Section 2 of the Manual provides specific measures that BLM is required to undertake in order to “conserve these species and their habitats.”<sup>11</sup> To implement this section, BLM “shall... minimize or eliminate threats” affecting Bureau sensitive species, by determining their current threats and habitat needs, and ensuring that BLM activities “are carried out in a way that is consistent with its objectives for managing those species and their habitats at the appropriate spatial scale.”<sup>12</sup> Due to the potential harms from habitat loss and fragmentation, the appropriate spatial scale for determining threats to the lesser prairie-chicken from oil and gas development is the entire area subject to lease sales.

The need for a broader analysis to assess the threats to this species from the lease sale itself is further supported by Manual 6840’s requirement that BLM work with partners and stakeholders to “develop species-specific or ecosystem-based conservation strategies,” and in the absence of such strategies, to incorporate standard operating procedures and other conservation measures “to mitigate specific threats to Bureau sensitive species *during the planning of activities and projects*.”<sup>13</sup> Postponing any analysis of impacts to the lesser prairie-chicken until the later APD stage forecloses the implementation of standard procedures and conservation

---

<sup>8</sup> *Id.* at § .02 (emphasis added).

<sup>9</sup> *Id.* at § .06.

<sup>10</sup> *Id.* at § .04.

<sup>11</sup> *Id.* at § .2 (“All federally designated candidate species, proposed species, and delisted species in the 5 years following their delisting shall be conserved as Bureau sensitive species.”).

<sup>12</sup> *Id.* at § .2(C) (emphasis added).

<sup>13</sup> *Id.* (emphasis added).

measures necessary to mitigate threats to the species during exploration or other actions that might take place prior to an APD being filed, since as noted above once a lease is issued, the owner has the “right to use as much of the lease lands as is necessary to explore for, drill for, mine, extract, remove and dispose of the leased resource in the leasehold.”<sup>14</sup>

Moreover, the development of species-specific and ecosystem-based conservation strategies implicitly necessitates a more holistic review of the cumulative impacts of the proposed lease sale, which cannot be accomplished through site-specific APD-stage analysis alone. And, piecemeal analyses of individual lease sales do not provide the appropriate perspective for examining the cumulative effects of hydraulic fracturing and climate change impacts at the regional and landscape scale and for making land management decisions.

Where activities have the potential to adversely impact species of concern, the general practice is to consider those impacts and address them “at the earliest possible time,” in order to avoid delay, ensure that impacts are avoided and opportunities for mitigation are not overlooked.<sup>15</sup> This is likewise true in the context of even more general environmental review, such as under NEPA.<sup>16</sup> Furthermore, it is general practice to evaluate the impacts of several related projects with cumulative impacts proposed or reasonably foreseeable in the same geographic region in a single, comprehensive, analysis.<sup>17</sup> Likewise, under the ESA an analysis of the effects of an action must consider actions that are interrelated or interdependent.<sup>18</sup> This suggests that BLM should consider the effects of oil and gas extraction activities at the lease sale stage, since those actions are inherent in leasing land for such purposes. It is therefore evident that in order to effectuate the policy of protecting Bureau sensitive species set forth in Manual 6840,<sup>19</sup> and consistent with the established practice of early, comprehensive review of potential impacts to sensitive species, BLM must consider impacts to lesser prairie-chicken at the lease sale, rather than waiting until the APD stage for project specific review.

In sum, BLM has issued regulations in Manual 6840 that require the agency to undertake actions to protect sensitive species, much like they protect proposed and listed species. Delaying an analysis of impacts to lesser prairie-chicken until the APD stage risks harm to an at-risk species that could otherwise be avoided. A failure to address the impacts to lesser prairie-chicken at the lease sale stage violates BLM’s own regulations set forth in Manual 6840, is entirely inconsistent with established practice and policies regarding species protection, and is therefore arbitrary and capricious agency action under the Administrative Procedures Act.

---

<sup>14</sup> 43 C.F.R. § 3101.1-2.

<sup>15</sup> *See i.e.* 50 C.F.R. §§ 402.14(a), (g)(8).

<sup>16</sup> *See* 40 C.F.R. § 1501.2 (“Agencies shall integrate the NEPA process with other planning at the earliest possible time to insure that planning and decisions reflect environmental values, to avoid delays later in the process, and to head off potential conflicts.”).

<sup>17</sup> *See Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976) (“when several proposals for . . . actions that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together.”).

<sup>18</sup> 50 C.F.R. §§ 402.14 and 402.02.

<sup>19</sup> *See* BLM Manual 6840 at .06 (“Bureau sensitive species will be managed consistent with species and habitat management objectives in land use and implementation plans to promote their conservation and to minimize the likelihood and need for listing under the ESA.”).

Given the significance of the potential impacts that oil and gas development could have on the species, proper investigation here is crucial. BLM admits that oil and gas production poses several threats to LPC such as reductions in reproductive success, the loss of recruitment into the local population, and habitat fragmentation. The only protective measures BLM sets are a stipulation prohibiting drilling between March 1 and June 15 “in LPC habitat.” BLM however does not take into account the impacts to the LPC population and habitat when drilling occurs on suitable habitat. Furthermore, the stipulation prohibits “new drilling” within only 200 meters of leks. BLM claims that requiring lessees to comply with these stipulations will sufficiently “minimize” impacts to LPC. This minimal protection, however, falls short of the oil and gas impact mitigation measures endorsed by the FWS in its 2014 Intra-Service Section 7 Conference Opinion on the Proposed Issuance of a Section 10(a)(1)(A) Enhancement of Survival Permit for Lesser Prairie-Chicken to Western Association of Fish and Wildlife Agencies (Feb. 28, 2014) (“LEPC Oil and Gas Rangeland CCAA Conference Opinion”).<sup>20</sup> The CCAA Conference Opinion found that, in order to avoid or minimize adverse impacts,

[o]il and gas development should avoid high priority LEPC areas, namely focal areas, connectivity zones, and within 1.25 miles of known leks that have been active in the past 5 years, and should instead be focused in lands with existing impacts (e.g. developed oilfields) or cultivation (i.e. row-crops). The conservation measures should also specify that impacts of oil and gas development should be minimized by reducing the area of surface disturbance through directional drilling and clustering of facilities as well as by use of common rights-of-way for infrastructure such as roads, pipelines, and power lines, etc.

CCAA Conference Opinion at 7. Because BLM has a statutory obligations to conserve sensitive species and avoid the necessity for ESA listing, it can and should, in managing the lands entrusted to it under FLPMA, go further than the voluntary measures of the WAFWA CCAA in conditioning oil and gas development on avoiding impacts to LPC suitable habitat. The BLM’s proposed stipulation, however, falls short of even those recommendations.

The impact buffers must also apply to more than just well pads. It also must apply to compressor stations, roads, buildings and distribution lines. For larger compressor stations, a 667-meter buffer is recommended. To satisfy the requirements of NEPA and its sensitive species policy, BLM must take a hard look at the area of suitable habitat that will be removed by construction of *all* drilling infrastructure. It is not sufficient to simply conclude that direct impacts will be minimized by merely pointing out that the indirect and cumulative effects of the proposed action may result in lost reproductive potential and corresponding reductions of the chicken population and then imposing inadequate stipulations. The indirect and cumulative effects of habitat loss also must be considered and disclosed.

---

<sup>20</sup> U.S. Department of Interior Fish and Wildlife Service, Intra-Service Section 7 Conference Opinion on the Proposed Issuance of a Section 10(a)(1)(A) Enhancement of Survival Permit for Lesser Prairie-Chicken to Western Association of Fish and Wildlife Agencies (Feb. 28, 2014) (“LEPC Oil and Gas Rangeland CCAA Conference Opinion”).

BLM is required under NEPA to collect data particular to the region affected by the leases.<sup>21</sup> Summarizing general data about LPC before dismissing the issue as insignificant does not provide the “hard look” that NEPA requires.<sup>22</sup> The EA contains insufficient analysis of the impacts to LPC within the CFO. BLM must include discussion of the impacts of oil and gas development on the species, its behavior, survival, and persistence, not just on the impacts of noise to courtship interaction and reproduction.

BLM’s conclusion of no significant impact is based on the unreasonable lack of consideration of how fracking could impact the population and habitat of the LPC on and surrounding the parcels that are being offered for lease sale, and is therefore arbitrary and capricious.

#### **b. BLM Does Not Take a Hard Look at Impacts to Water Resources**

The EA briefly mentions some of the inevitable impacts that oil and gas development will have on water resources, including contamination and degradation of surface water and groundwater quality, loss of drilling fluids (which contain harmful chemicals), reduction in natural flow of seeps, springs, and water wells.<sup>23</sup> BLM then dismisses these concerns as insignificant with no explanation other than the claim that “specific mitigation measures for the protection of surface and ground water would be addressed at the APD stage,”<sup>24</sup> and then briefly lists a few examples of what mitigation “may include.” As we have explained above, mitigation measures cannot form the basis of a finding of no significant impact without meeting at least some minimal standards. Wyo. Outdoor Council, 351 F. Supp. 2d at 1250 (D. Wyo. 2005). For example, the mitigation measures must be more than a possibility. Id. (“They must be imposed by statute or regulation or have been so integrated into the initial proposal that it is impossible to define the proposal without the mitigation.”); see also Davis v. Mineta, 302 F.3d 1104, 1125 (10th Cir. 2002) (overturning the finding of no significant impact because “the [EA] makes no firm commitment to any noise mitigation measures.”).

The EA fails to adequately analyze site-specific impacts, again deferring the required analysis to the APD review stage.<sup>25</sup> As BLM acknowledges, “[f]resh water is a scarce resource in the CFO” and fourteen of the proposed parcels are within or near known playas, streams, rivers, floodplains, springs, seeps, or dirt tanks. BLM further acknowledges that large volumes of water are needed for hydraulic fracturing and that the use of groundwater could result in the drawdown of groundwater aquifer levels. BLM explains that the magnitude of any of these described impacts to water resources would depend on several factors including slope, aspect, and gradient, soil character, and proximity of disturbance to water resources. The EA could have, and should have, provided site-specific analysis based on information regarding the

---

<sup>21</sup> See *Center for Biological Diversity v. Bureau of Land Management*, 937 F. Supp. 2d (2013) at 1159 (Preparation of an EIS “is mandated where uncertainty may be resolved by further collection of data, or where collection of such data may prevent speculation on potential effects.”).

<sup>22</sup> *Id.* (Held BLM did not provide the “hard look” that NEPA requires because it “never collected any data particular to the region affected by the leases, instead opting to summarize general data.”).

<sup>23</sup> EA at 42.

<sup>24</sup> *Id.*

<sup>25</sup> EA at 42.

characteristics of the area to be leased that may be affected by the oil and gas development on these parcels. Regardless, given the high degree of uncertainty in the severity of harm that oil and gas development could have on the water resources in the areas for lease, BLM is required to prepare an EIS. See Babbitt, 241 F.3d at 732 (Preparation of an EIS is “mandated where uncertainty may be resolved by further collection of data” or where the collection of such data may prevent speculation on potential effects.)

BLM does not address *any* specific mitigation measures for the protection of surface and ground water at this point. Instead, BLM writes that such measures will be addressed after it has already signed over drilling rights and is unable to preclude all surface disturbing activities to prevent critical environmental impacts that may arise after a proper NEPA analysis. Nor does BLM provide any science or any evidence to support its finding of no significant impact. In our previous comment letters, we cited to numerous well-researched, scientific studies showing the foreseeable impacts that BLM’s actions may pose to the water resources in the areas to be leased, some of which BLM admits are indeed potential impacts. However, rather than set the necessary safeguards or take the required hard look at the problem, BLM looks the other way by declining to prepare an EIS.

Although BLM set a stipulation for a minimum 200-meter buffer from the edge of the floodplain or wetland, to be applied to an APD, there is no science cited by BLM to support the notion that this is sufficient protection. If BLM relies upon mitigation measures as the basis for its finding of no significant impact, BLM must show that such mitigation measures “constitute an ‘adequate buffer’ . . . so as to ‘render such impacts so minor as to not warrant an EIS.’” Wyo. Outdoor Council, 351 F. Supp. 2d at 1250. However, the EA does not provide *any* evidence of the adequacy of the vague mitigation measures proposed, let alone the “substantial” evidence necessary to reduce environmental impacts below the level of significance that would require an EIS. Id. Again, the lack of supporting data and cursory treatment of environmental effects in EA does not support BLM’s refusal to produce an EIS. Babbitt, 241 F.3d at 732.

### **c. BLM Does Not Take a Hard Look at Impacts of Fracking on Air Quality, Water Resources, Soil, Vegetation, or Wildlife**

Although we raised various concerns about other unconventional and controversial practices in scoping and in our comments on the PEA, such as horizontal drilling, the Final EA only discusses hydraulic fracturing. According to the EA, “it is anticipated that with more wells being drilled, there would be an increase in the amount of wells being hydraulically fractured and completed.”<sup>26</sup> Despite the likelihood of hydraulic fracturing occurring on the parcels to be leased, and the severity of the impacts that would ensue from such controversial practices, BLM provides hardly any analysis on said impacts. BLM only briefly mentions the impacts of hydraulic fracturing on air quality, water resources, soil, sensitive species, and vegetation. The EA does not include any analysis of the other concerns relating to fracking that we raised, such as induced seismicity, especially with respect to sinkholes, or the WIPP.

---

<sup>26</sup> EA at 35.

BLM's mention of the impacts of hydraulic on air quality are insufficient. For instance, the EA raises the problem of "flowback" and "venting and flaring" but does not set any mitigation measures for these concerns. Indeed it admits that:

While federal regulations require that hydraulically fractured gas wells employ "Reduced Emission Completion" (REC) techniques to avoid the venting and flaring of gas, oil wells are not required to use REC techniques. Although REC techniques can be applied to oil well completions, natural gas has typically been vented to the atmosphere or flared while fracturing fluids that include sand, water, and other liquids are directed into holding tanks.<sup>27</sup>

The EA also raises the issue of volatile organic compounds ("VOCs"), particulate matter, and NO<sub>2</sub>, which contribute to the formation of ozone, but does not provide any analysis of their impacts on the environment, public health, or wildlife resources. The EA further acknowledges that flowback, fracturing fluids, water and reservoir gas return to the surface at high velocity and volume and that mixture includes a high volume of VOCs and methane, along with potential air toxics such as benzene, ethylbenzene, and n-hexane. Without citing to any supporting data, studies, or any scientific evidence, BLM then concludes that impacts to human health are not anticipated. BLM then admits that there is great uncertainty in the quantity of harmful emissions and resulting public risks, "[d]ue to differences in the quantities and concentrations of fracturing chemicals used, to the lack of maximum contaminant levels or thresholds for them, and to the possibility of chemical reactions during the mixing of hydraulic fracturing fluids."<sup>28</sup> As we have already asserted above, preparation of an EIS is required where uncertainty may be resolved by further collection of data or where the collection of such data may prevent speculation on potential effects. Babbitt, 241 F.3d at 732. Here, BLM has not collected any data, instead relying only upon RMPs that are decades old for the required analysis. Further cementing its failures as to NEPA, BLM once again fails to set any actual mitigation measures. Instead the EA only states that BLM "encourages" industry to incorporate and implement BMPs, and then briefly lists what "typical measures" might include.<sup>29</sup>

BLM's analysis of the impacts of hydraulic fracturing on water resources are similarly deficient. The EA raises only a few of the concerns we brought up in scoping and in our comments on the PEA:

Potential causes of impacts to water resources from drilling operations include the loss of drilling fluids, which sometimes contain heavy metals and other chemicals, or cement. This may pollute groundwater recharge areas and adversely impact water quality. Additionally, cementing operations could plug some of the underground drainages and restrict groundwater flow, thereby reducing the recharge quality and quantity of springs, resurgences, and water tables and reducing the natural flow from seeps, springs, and water wells. In addition, drilling an oil or gas well may require large quantities of water, especially when drilling through porous and permeable formations. Fresh water is a scarce resource in the CFO and depending on the source used, natural flow from seeps,

---

<sup>27</sup> EA at 35-36.

<sup>28</sup> EA at 36.

<sup>29</sup> EA at 36.

springs, and water wells could be reduced . . . There also is the potential for illegal dumping of waste products into fresh water pits used during the hydraulic fracturing purposes. If this illegal dumping was to occur there is the potential to impact migratory birds and other wildlife species.<sup>30</sup>

The potential impacts listed in this paragraph, alone, are significant enough to warrant an EIS. The EA also does not attach any safeguards or stipulations to the proposed action that would reduce these impacts to a minimum, nor does it provide any analysis or evidence to support a finding of no significant impact. BLM fails to discuss any set mitigation measures. Again refusing to fulfill its mandatory obligations under NEPA, BLM defers the required site specific analysis and addressing specific mitigation measures to the APD stage.<sup>31</sup> These same deficiencies apply to the EA's treatment of the potential impacts of hydraulic fracturing on soil, vegetation, wildlife and wildlife resources.

**d. BLM Does Not Take a Hard Look at Impacts of Fracking in Light of Risks of Induced Seismicity, Brine Well Collapses, and Releases of Radionuclide Waste into the Biosphere**

Perhaps most concerning is BLM's utter disregard of the public health and safety risks associated with induced seismicity, especially in the face of seismic data at and near the Waste Isolation Pilot Plant ("WIPP"), a facility of the U.S. Department of Energy ("DOE") designed and constructed for the permanent disposal of transuranic (TRU) defense waste.<sup>32</sup> Over the past 15 years, the WIPP has become the storage site for over 91,000 cubic meters of such radioactive waste, which includes laboratory equipment and clothing and residual chemical waste from U.S. nuclear weapons projects.<sup>33</sup> The WIPP storage facilities are 655 m underground in 600-meter-thick bedded salt formations in the Delaware Basin.<sup>34</sup> The transuranic waste is stored in plastic-lined steel drums within these underground storage sites. This bedded salt formation is the major geologic barrier for radionuclide leakage at the WIPP site.<sup>35</sup>

These same salt layers are drilled through to extract underlying oil and gas.<sup>36</sup> Drilling fluids pre-saturated with salt (brine) is required in the drilling process. A "brine well" is a solution mining operation to remove salt. Fresh water is introduced into the subsurface through a well casing, thereby dissolving the salt. The brine is then pumped out and trucked to wellsites.<sup>37</sup> The solution mining of the salt results in an underground cavern; the stability of these caverns is dependent upon their depth, their width, and the strength of the materials above the void.<sup>38</sup> Since July of 2008, three large sinkholes associated with brine wells in the Permian Basin have

---

<sup>30</sup> EA at 42.

<sup>31</sup> EA at 42-43.

<sup>32</sup> Silva, M.K., Fluid Injection for Salt Water Disposal and Enhanced Oil Recovery as a Potential Problem for the WIPP: Proceedings of a June 1995 Workshop and Analysis ("EEG-62 Salt Water Disposal") (1996) at xiv.

<sup>33</sup> Tracy, C. L. et al., Policy: Reassess New Mexico's Nuclear-Waste Repository, 529 *Nature* 149 (2016).

<sup>34</sup> Beauheim, R. L. and R. M. Roberts, Hydrology and hydraulic properties of a bedded evaporite formation, 259 *J. Hydrol.* 66 (2002).

<sup>35</sup> *Id.*

<sup>36</sup> State of New Mexico Oil Conservation Division, Brine Well Information, <http://www.emnrd.state.nm.us/OCD/brinewellinfo.html> (accessed May 20, 2016).

<sup>37</sup> *Id.*

<sup>38</sup> *Id.*

catastrophically developed, two of which are located in New Mexico. Within days of the first brine well collapse southeast of Artesia on July 16, 2008, division personnel became concerned about an oilfield trucking operation in Carlsbad which incorporated an active brine well of similar depth and production history.<sup>39</sup> This facility is located amidst two major roadways, a vital irrigation canal, a trailer park, a church, and a feed store. On November 3, 2008 the second brine cavern collapse occurred north of Loco Hills and a moratorium on new brine wells was put into effect. In 2009, a gathering of regulators, technical experts, and industry was held to discuss overall brine well safety during which a consensus developed that the brine cavern in Carlsbad had a high probability for collapse.<sup>40</sup> Therefore, the practices of hydraulic fracturing not only increase the risks of earthquakes, but also the catastrophic collapse of these brine caverns.

The EA briefly discusses in general “cave and karst features” along with several potential impacts relating to drilling and development near such features. Some of these concerns that the EA brings up include the disruption, displacement, or extermination of cave species and critical biological processes; the contamination of underground water systems and freshwater aquifers; underground ignitions or asphyxiation of wildlife or humans within these caves (due to buildup of hydrocarbons from surface leaks or spills); as well as adverse impacts to cave ecosystems and aquifer recharge processes from blasting which can lead to changes in geologic formation integrity, runoff quantity and quality, drainage course, rainfall percolation factors, vegetation, surface contour, and other surface factors, collapse of subsurface voids, or cave ecosystem damage. BLM addresses all of these concerns in one brief sentence about what the potential mitigations that could be developed during the APD and lease development stages “may include,” as well as a highly speculative and conclusory statement that the stipulation (prohibiting surface occupancy within 200 meters of any known cave or karst feature or system) “would minimize any potential impacts to the resource.”<sup>41</sup> BLM once again does not cite to any studies, data, or a shred of evidence to show that the stipulation would be enough to protect the environment and human health and safety from the aforementioned concerns.

The same failure can be said of BLM’s glaring omission with respect to the threats associated with drilling near the WIPP. In selecting a repository site, the Los Medanos site in Eddy County was ultimately chosen, relying in part on the conclusion that there were no oil reserves at the site.<sup>42</sup> For oil field operations, the problem of water migrating from the injection zone, through other formations, and onto adjacent property has long been recognized. However, the DOE relinquished the right to restrict waterflooding based on a natural resources report which maintained that there was a minimal amount of crude oil likely to exist at the WIPP site.<sup>43</sup> In the early 1990s, the Delaware Basin experienced a drilling boom that included oil field discoveries surrounding and underlying the WIPP Site.<sup>44</sup> Salt water disposal wells began operating throughout the area in the mid to late 1990s, and waterflooding began with new oil field pressure maintenance programs underway.<sup>45</sup> Brine migration, driven by pressure, is the same mechanism by which radionuclides can be carried out of the repository and away from the

---

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> EA at 54.

<sup>42</sup> EEG-62 Salt Water Disposal at xiv.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

WIPP site.<sup>46</sup> The dangerous practices of hydraulic fracturing and similar unconventional extract techniques therefore increase the risks of radionuclide waste leakage.

Furthermore, and as we have already explained in previous letters, the underground injection processes involved in unconventional oil and gas development has been associated with earthquakes in several locations. Research has shown that in regions of the central and eastern United States where unconventional oil and gas development has proliferated in recent years, earthquake activity has increased dramatically.<sup>47</sup> Research has also linked much of the increased earthquake activity and several of the largest earthquakes in the U.S. midcontinent in recent years to the disposal of wastewater into deep injection wells, which is well-established to pose a significant seismic risk.<sup>48</sup> Much of the fracking wastewater is a byproduct of oil and gas production and is routinely disposed of by injection into wells specifically designed and approved for this purpose. The injected fluids push stable faults past their tipping points, and thereby induce earthquakes.<sup>49</sup> In 2015, a study published in *Science* found that, the unprecedented increase in earthquakes in the U.S. mid-continent began in 2009 has been caused by the instability caused by fluid injection wells associated with fracking waste disposal.<sup>50</sup>

There has been significant oil and gas drilling near the WIPP site, which has been increasing in recent years. Advances in hydraulic fracturing and other unconventional extraction techniques have allowed the oil and gas industry to access new regions of hydrocarbon-bearing rocks, making the Permian Basin one of the largest hydrocarbon-rich areas in the U.S. The DOE calculates more than more than 500 oil and gas wells within 2.5 miles of the WIPP boundary.<sup>51</sup> As more and more boreholes are drilled in the nearby region, it increases the likelihood that one of them may lead to leakage of the stored transuranic waste. Thus the proliferation of unconventional oil and gas development, including increases in extraction and injection, will increase not only earthquake risks in the CFO and Pecos District planning area, but also risks of releasing contamination into the surrounding biosphere. The WIPP is the only transuranic waste depository in the U.S. and plays a key role in managing the waste generated from nuclear weapon defense projects.<sup>52</sup> Human intrusion into the region through oil drilling can be expected to compromise the integrity of the natural barriers protecting the public and environment from the dangerous radionuclide waste.

The scope of harm that could result from any release of high level transuranic waste is exceptionally great, and thus requires an extensive look at the potential impacts to the human

---

<sup>46</sup> *Id.* at 16.

<sup>47</sup> *Id.*

<sup>48</sup> *Id.*

<sup>49</sup> Lamont-Doherty Earth Observatory, Distant Quakes Trigger Tremors at U.S. Waste-Injection Sites, Says Study, Columbia University (July 11, 2013), <https://www.ldeo.columbia.edu/news-events/distant-quakes-trigger-tremors-us-waste-injection-sites-says-study> (accessed May 20, 2016).

<sup>50</sup> Weingarten, M. et al., High-rate injection is associated with the increase in U.S. mid-continent seismicity, 348 *Science* 6241:1336 (2015).

<sup>51</sup> U. S. Environmental Protection Agency, Response to Comments on Completeness Regarding the 2014 WIPP Compliance Recertification Application (June 16, 2015) at 26-27, *available at* <https://www.regulations.gov/#!documentDetail;D=EPA-HQ-OAR-2014-0609-001>. See Map, Figure 3.

<sup>52</sup> U.S. Department of Energy, Transuranic (TRU) Waste, <http://energy.gov/em/services/waste-management/waste-and-materials-disposition-information/transuranic-tru-waste> (accessed May 20, 2016).

environment. Because of the high degree of uncertainty and the substantial controversy regarding the possible effects of such disasters, BLM is required to prepare an EIS.

## **B. BLM Must End All New Fossil Fuel Leasing and Hydraulic Fracturing.**

The following discussion updates the Center's previous request for no new leasing and fracking in CFO and Pecos District area, in light of new information that has arisen since the EA comment period.

Climate change is a problem of global proportions resulting from the cumulative greenhouse gas emissions of countless individual sources. A comprehensive look at the impacts of fossil fuel extraction, and especially fracking, across all of the planning areas affected by the leases in updated RMPs is absolutely necessary. BLM has *never* thoroughly considered the cumulative climate change impacts of *all* potential fossil fuel extraction and fracking (1) within each of the planning areas, (2) across the state, and (3) across all public lands. Proceeding with new leasing proposals *ad hoc* in the absence of a comprehensive plan that addresses climate change and fracking is premature and risks irreversible damage before the agency and public have had the opportunity to weigh the full costs of oil and gas and other fossil fuel extraction and consider necessary limits on such activities. Therefore BLM must cease all new leasing at least until the issue is adequately analyzed in a programmatic review of all U.S. fossil fuel leasing, or at least within amended RMPs.

### **i. BLM Must Limit Greenhouse Gas Emissions By Keeping Federal Fossil Fuels In the Ground**

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. BLM's mandate to ensure "harmonious and coordinated management of the various resources *without permanent impairment of the productivity of the land and the quality of the environment*" requires BLM to limit the climate change effects of its actions.<sup>53</sup> Keeping all unleased fossil fuels in the ground and banning fracking and other unconventional well stimulation methods would lock away millions of tons of greenhouse gas pollution and limit the destructive effects of these practices.

A ban on new fossil fuel leasing and fracking is necessary to meet the U.S.'s greenhouse gas reduction commitments. On December 12, 2015, 197 nation-state and supra-national organization parties meeting in Paris at the 2015 United Nations Framework Convention on Climate Change Conference of the Parties consented to an agreement (Paris Agreement) committing its parties to take action so as to avoid dangerous climate change.<sup>54</sup> As the Paris

---

<sup>53</sup> See 43 U.S.C. §§ 1701(a)(7), 1702(c), 1712(c)(1), 1732(a) (emphasis added); see also *id.* § 1732(b) (directing Secretary to take any action to "prevent unnecessary or undue degradation" of the public lands).

<sup>54</sup> United Nations Framework Convention on Climate Change, Adoption of the Paris Agreement, Proposal by the President, Draft decision -/CP.21 (2015) ("Paris Agreement") at Art. 2.

Agreement opens for signature in April 2016<sup>55</sup> and the United States is expected to sign the treaty<sup>56</sup> as a legally binding instrument through executive agreement,<sup>57</sup> the Paris Agreement commits the United States to critical goals—both binding and aspirational—that mandate bold action on the United States’ domestic policy to rapidly reduce greenhouse gas emissions.<sup>58</sup>

The United States and other parties to the Paris Agreement recognized “the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge.”<sup>59</sup> The Paris Agreement articulates the practical steps necessary to obtain its goals: parties including the United States have to “reach global peaking of greenhouse gas emissions *as soon as possible* . . . and to *undertake rapid reductions* thereafter in accordance *with best available science*,”<sup>60</sup> imperatively commanding that developed countries specifically “should continue taking the lead by undertaking economy-wide absolute emission reduction targets”<sup>61</sup> and that such actions reflect the “highest possible ambition.”<sup>62</sup>

The Paris Agreement codifies the international consensus that climate change is an “urgent threat” of global concern,<sup>63</sup> and commits all signatories to achieving a set of global goals. Importantly, the Paris Agreement commits all signatories to an articulated target to hold the long-term global average temperature “to *well below 2°C* above pre-industrial levels and to *pursue efforts to limit the temperature increase to 1.5°C* above pre-industrial levels”<sup>64</sup> (emphasis added).

In light of the severe threats posed by even limited global warming, the Paris Agreement established the international goal of limiting global warming to 1.5°C above pre-industrial levels in order to “prevent dangerous anthropogenic interference with the climate system,” as set forth in the UNFCCC, a treaty which the United States has ratified and to which it is bound.<sup>65</sup> The Paris consensus on a 1.5°C warming goal reflects the findings of the IPCC and numerous scientific studies that indicate that 2°C warming would exceed thresholds for severe, extremely

---

<sup>55</sup> Paris Agreement, Art. 20(1).

<sup>56</sup> For purposes of this Petition, the term “treaty” refers to its international law definition, whereby a treaty is “an international law agreement concluded between states in written form and governed by international law” pursuant to article 2(a) of the Vienna Convention on the Law of Treaties, 1155 U.N.T.S. 331, 8 I.L.M. 679 (Jan. 27, 1980).

<sup>57</sup> See U.S. Department of State, Background Briefing on the Paris Climate Agreement, (Dec. 12, 2015), <http://www.state.gov/r/pa/prs/ps/2015/12/250592.htm>.

<sup>58</sup> Although not every provision in the Paris Agreement is legally binding or enforceable, the U.S. and all parties are committed to perform the treaty commitments in good faith under the international legal principle of *pacta sunt servanda* (“agreements must be kept”). Vienna Convention on the Law of Treaties, Art. 26.

<sup>59</sup> *Id.*, Recitals.

<sup>60</sup> *Id.*, Art. 4(1).

<sup>61</sup> *Id.*, Art. 4(4).

<sup>62</sup> *Id.*, Art. 4(3).

<sup>63</sup> *Id.*, Recitals.

<sup>64</sup> *Id.*, Art. 2.

<sup>65</sup> See U.N. Framework Convention on Climate Change, Cancun Agreement (2011), available at <http://cancun.unfccc.int/> (last visited Jan 7, 2015); United Nations Framework Convention on Climate Change, Copenhagen Accord (2009), available at [http://unfccc.int/meetings/copenhagen\\_dec\\_2009/items/5262.php](http://unfccc.int/meetings/copenhagen_dec_2009/items/5262.php) (last accessed Jan 7, 2015). The United States Senate ratified the UNFCCC on October 7, 1992. See U.S. Congress, Ratification of Treaty Document titled The United Nations Framework Convention on Climate Change, adopted May 9, 1992 available at <https://www.congress.gov/treaty-document/102nd-congress/38>.

dangerous, and potentially irreversible impacts.<sup>66</sup> Those impacts include increased global food and water insecurity, the inundation of coastal regions and small island nations by sea level rise and increasing storm surge, complete loss of Arctic summer sea ice, irreversible melting of the Greenland ice sheet, increased extinction risk for at least 20-30% of species on Earth, dieback of the Amazon rainforest, and “rapid and terminal” declines of coral reefs worldwide.<sup>67</sup> As scientists noted, the impacts associated with 2°C temperature rise have been “revised upwards, sufficiently so that 2°C now more appropriately represents the threshold between ‘dangerous’ and ‘extremely dangerous’ climate change.”<sup>68</sup> Consequently, a target of 1.5 °C or less temperature rise is now seen as essential to avoid dangerous climate change and has largely supplanted the 2°C target that had been the focus of most climate literature until recently.

Immediate and aggressive greenhouse gas emissions reductions are necessary to keep warming below a 1.5° or 2°C rise above pre-industrial levels. Put simply, there is only a finite amount of CO<sub>2</sub> that can be released into the atmosphere without rendering the goal of meeting the 1.5°C target virtually impossible. A slightly larger amount could be burned before meeting a 2°C became an impossibility. Globally, extracting and burning all proven fossil fuel reserves would release enough CO<sub>2</sub> to exceed this limit many times over.<sup>69</sup> This is before accounting for unproven resources, such as would be targeted under any new BLM leasing.

The question of what amount of fossil fuels can be extracted and burned without negating a realistic chance of meeting a 1.5 or 2°C target is relatively easy to answer, even if the answer is framed in probabilities and ranges. The IPCC Fifth Assessment Report and other expert assessments have established global carbon budgets, or the total amount of remaining carbon that can be burned while maintain some probability of staying below a given temperature target. According to the IPCC, total cumulative anthropogenic emissions of CO<sub>2</sub> must remain below about 1,000 gigatonnes (GtCO<sub>2</sub>) from 2011 onward for a 66% probability of limiting warming to 2°C above pre-industrial levels.<sup>70</sup> Given more than 100 GtCO<sub>2</sub> have been emitted since 2011,<sup>71</sup>

---

<sup>66</sup> See Paris Agreement, Art. 2(1)(a); U; United Nations Framework Convention on Climate Change, Subsidiary Body for Scientific and Technical Advice, Report on the structured expert dialogue on the 2013-15 review, No. FCCC/SB/2015/INF.1 at 15-16 (June 2015); Intergovernmental Panel on Climate Change, 2014: Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change at 64 & Table 2.2 [Core Writing Team, R.K. Pachauri and L.A. Meyer (eds.)] (“IPCC AR5 Synthesis Report”) at 65 & Box 2.4.

<sup>67</sup> See Jones, C. et al, Committed Terrestrial Ecosystem Changes due to Climate Change, 2 Nature Geoscience 484: 484-487 (2009); Smith, J. B. et al., Assessing Dangerous Climate Change Through an Update of the Intergovernmental Panel on Climate Change (IPCC) ‘Reasons for Concern’, 106 Proceedings of the National Academy of Sciences of the United States of America 4133 (2009); Veron, J. E. N. et al., The Coral Reef Crisis: The Critical Importance of <350 ppm CO<sub>2</sub>, 58 Marine Pollution Bulletin 1428, (2009); Warren, R. J. et al., Increasing Impacts of Climate Change Upon Ecosystems with Increasing Global Mean Temperature Rise, 106 Climatic Change 141 (2011); Hare, W. W. et al., Climate Hotspots: Key Vulnerable Regions, Climate Change and Limits to Warming, 11 Regional Environmental Change 1 (2011); Frieler, K. M. et al., Limiting Global Warming to 2°C is Unlikely to Save Most Coral Reefs, Nature Climate Change, Published Online (2013) doi: 10.1038/NCLIMATE1674; Schaeffer, M. et al., Adequacy and Feasibility of the 1.5°C Long-Term Global Limit, Climate Analytics (2013).

<sup>68</sup> Anderson, K. and A. Bows, Beyond ‘Dangerous’ Climate Change: Emission Scenarios for a New World, 369 Philosophical Transactions, Series A, Mathematical, Physical, and Engineering Sciences 20 (2011).

<sup>69</sup> Cimons, Marlene, Keep It In the Ground 6, Sierra Club et al. (Jan. 25, 2016).

<sup>70</sup> IPCC, 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change; Summary for Policymakers (2013) at 27; IPCC AR5 Synthesis Report.

the remaining portion of the budget under this scenario is well below 900 GtCO<sub>2</sub>. To have an 80% probability of staying below the 2°C target, the budget from 2000 is 890 GtCO<sub>2</sub>, with less than 430 GtCO<sub>2</sub> remaining.<sup>72</sup>

To have even a 50% probability of achieving the Paris Agreement goal of limiting warming to 1.5°C above pre-industrial levels equates to a carbon budget of 550-600 GtCO<sub>2</sub> from 2011 onward,<sup>73</sup> of which more than 100 GtCO<sub>2</sub> has already been emitted. To achieve a 66% probability of limiting warming to 1.5°C requires adherence to a more stringent carbon budget of only 400 GtCO<sub>2</sub> from 2011 onward,<sup>74</sup> of which less than 300 GtCO<sub>2</sub> remained at the start of 2015.<sup>75</sup> An 80% probability budget for 1.5°C would have far less than 300 GtCO<sub>2</sub> remaining. Given that global CO<sub>2</sub> emissions in 2014 alone totaled 36 GtCO<sub>2</sub>,<sup>76</sup> humanity is rapidly consuming the remaining burnable carbon budget needed to have even a 50/50 chance of meeting the 1.5°C temperature goal.<sup>77</sup>

According to a recent report by EcoShift Consulting commissioned by the Center and Friends of the Earth, unleased (and thus unproven and unburnable) 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 (CO<sub>2</sub>e); representing 46 percent to 50 percent of potential emissions from all remaining U.S. fossil fuels.
- Of that amount, up to 450 Gt CO<sub>2</sub>e have not yet been leased to private industry for extraction;
- Releasing those 450 Gt CO<sub>2</sub>e (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.

---

<sup>71</sup> From 2012-2014, 107 GtCO<sub>2</sub> was emitted (*see* Annual Global Carbon Emissions at <http://co2now.org/Current-CO2/CO2-Now/global-carbon-emissions.html> (accessed May 20, 2016)).

<sup>72</sup> Carbon Tracker Initiative, Unburnable Carbon – Are the world’s financial markets carrying a carbon bubble? <http://www.carbontracker.org/wp-content/uploads/2014/09/Unburnable-Carbon-Full-rev2-1.pdf> (accessed May 20, 2016); Meinshausen, M. *et al.*, Greenhouse gas emission targets for limiting global warming to 2 degrees Celsius, 458 *Nature* 1158, 1159 (2009).

<sup>73</sup> IPCC AR5 Synthesis Report at 64 & Table 2.2.

<sup>74</sup> *Id.*

<sup>75</sup> See CarbonBrief, Carbon Countdown: How Many Years of Current Emissions Would Use up the IPCC’s Carbon Budgets for Different Levels of Warming, <http://www.carbonbrief.org/analysis-only-five-years-left-before-one-point-five-c-budget-is-blown> (accessed May 20, 2016).

<sup>76</sup> *See* Global Carbon Emissions, <http://co2now.org/Current-CO2/CO2-Now/global-carbon-emissions.html>

<sup>77</sup> In addition to limits on the *amount* of fossil fuels that can be utilized, emissions pathways compatible with a 1.5 or 2°C target also have a significant temporal element. Leading studies make clear that to reach a reasonable likelihood of stopping warming at 1.5° or even 2°C, global CO<sub>2</sub> emissions must be phased out by mid-century and likely as early as 2040-2045. *See, e.g.* Rogelj, Joeri *et al.*, Energy system transformations for limiting end-of-century warming to below 1.5°C, 5 *Nature Climate Change* 519, 522 (2015). United States focused studies indicate that we must phase out fossil fuel CO<sub>2</sub> emissions even earlier—between 2025 and 2040—for a reasonable chance of staying below 2°C. *See, e.g.* Climate Action Tracker, <http://climateactiontracker.org/countries/usa>. Issuing new legal entitlements to explore for and extract federal fossil fuels for decades to come is wholly incompatible with such a transition.

Fracking has also opened up vast resources that otherwise would not be available, increasing the potential for future greenhouse gas emissions. In recognition of established climate science, and global carbon budgeting, BLM must consider a ban on fracking and a ban on new leasing.

Beginning the phase-out of public fossil fuel production by ceasing new onshore leases would have a significant effect on U.S. contributions to greenhouse gas emissions, allowing us to meet targets under the Paris Agreement. The first systematic quantitative assessment of the emissions consequences of a cessation of federal leasing (both onshore and offshore) found that:

[U]nder such a policy, U.S. coal production would steadily decline, moving closer to a pathway consistent with a global 2°C temperature limit. Oil and gas extraction would drop as well, but more gradually, as federal lands and waters represent a smaller fraction of national production, and these resources take longer to develop. Phasing out federal leases for fossil fuel extraction could reduce global CO<sub>2</sub> emissions by 100 million tonnes per year by 2030, and by greater amounts thereafter.<sup>78</sup>

**ii. BLM Must Consider A Ban on New Oil and Gas Leasing and Fracking in a Programmatic Review and Halt All New Leasing and Fracking in the Meantime.**

Development of unleased oil and gas resources will not only worsen climate disruption, it will undercut the needed transition to a clean energy economy. As BLM has not yet had a chance to consider no leasing and no-fracking alternatives as part of any of its RMP planning processes or a comprehensive review of its federal oil and gas leasing program, BLM should suspend new leasing until it properly considers this alternative in updated RMPs or a programmatic EIS for the entire leasing program. BLM demonstrably has tools available to consider the climate consequences of its leasing programs, and alternatives available to mitigate those consequences, at either a regional or national scale.<sup>79</sup>

BLM would be remiss to continue leasing when it has never stepped back and taken a hard look at this problem at the programmatic scale. Before allowing more oil and gas extraction in the planning area, BLM must: (1) comprehensively analyze the total greenhouse gas emissions which result from past, present, and potential future fossil fuel leasing and all other activities across all BLM lands and within the various planning areas at issue here, (2) consider their cumulative significance in the context of global climate change, carbon budgets, and other greenhouse gas pollution sources outside BLM lands and the planning area, and (3) formulate

---

<sup>78</sup> Erickson, Peter and Michael Lazarus, How Would Phasing Out U.S. Federal Leases for Fossil Fuel Extraction Affect CO<sub>2</sub> Emissions and 2°C Goals? 1, 31-32, Stockholm Environment Institute Working Paper 2016-02 (May 2016).

<sup>79</sup> See, e.g., U.S. Bureau of Land Management Montana, North Dakota and South Dakota, Climate Change Supplementary Information Report (updated Oct. 2010) (conducting GHG inventory for BLM leasing in Montana, North Dakota and South Dakota); U.S. Bureau of Land Management, Proposed Rule: Waste Prevention, Production Subject to Royalties, and Resource Conservation, 81 Fed. Reg. 6615 (Feb. 8, 2016) (proposing BLM-wide rule for prevention of methane waste).

measures that avoid or limit their climate change effects. By continuing leasing and allowing new fracking in the absence of any overall plan addressing climate change BLM is effectively burying its head in the sand.

A programmatic review and moratorium on new leasing would be consistent with the Secretary of Interior's recent order to conduct a comprehensive, programmatic EIS (PEIS) on its coal leasing program, in light of the need to take into account the program's impacts on climate change, among other issues, and "the lack of any recent analysis of the Federal coal program as a whole." *See* Secretary of Interior, Order No. 3338, § 4 (Jan. 15, 2016). Specifically, the Secretary directed that the PEIS "should examine how best to assess the climate impacts of continued Federal coal production and combustion and how to address those impacts in the management of the program to meet both the Nation's energy needs and its climate goals, as well as how best to protect the public lands from climate change impacts." *Id.* § 4(c).

The Secretary also ordered a moratorium on new coal leasing while such a review is being conducted. The Secretary reasoned:

Lease sales and lease modifications result in lease terms of 20 years and for so long thereafter as coal is produced in commercial quantities. Continuing to conduct lease sales or approve lease modifications during this programmatic review risks locking in for decades the future development of large quantities of coal under current rates and terms that the PEIS may ultimately determine to be less than optimal. This risk is why, during the previous two programmatic reviews, the Department halted most lease sales with limited exceptions.... Considering these factors and given the extensive recoverable reserves of Federal coal currently under lease, I have decided that a similar policy is warranted here. A pause on leasing, with limited exceptions, will allow future leasing decisions to benefit from the recommendations that result from the PEIS while minimizing any economic hardship during that review.

*Id.* § 5.

The Secretary's reasoning is also apt here. A programmatic review assessing the climate change effects of public fossil fuels is long overdue. And there is no shortage of oil and gas supply that would preclude a moratorium while such a review is conducted, as evidenced by very low natural oil and gas prices. More importantly, BLM should not "risk[] locking in for decades the future development of large quantities of [fossil fuels] under current...terms that a [programmatic review] may ultimately determine to be less than optimal." *Id.* BLM should cancel the sale and halt all new leasing and fracking until a programmatic review is completed.

### **C. BLM Must Study the Greenhouse Gas Impacts of New Leasing**

As explained in the Center's comment on the PEA, social cost of carbon analysis is an appropriate tool for analyzing the cumulative impacts of greenhouse gas emissions, which the EA inexplicably fails to perform and BLM's response to comments fails to address. The effects of cumulative greenhouse gas emissions will have far-reaching impacts on natural and social

systems, but the EA fails to provide any meaningful analysis of the proposed action's contribution to these effects.

**i. The Effects of Cumulative GHG Emissions Will Inflict Extraordinary Harm to Natural Systems and Communities**

The Paris Agreement codified the international consensus that the climate crisis is an urgent threat to human societies and the planet, with the parties recognizing that:

*Climate change represents an urgent and potentially irreversible threat to human societies and the planet and thus requires the widest possible cooperation by all countries, and their participation in an effective and appropriate international response, with a view to accelerating the reduction of global greenhouse gas emissions (emphasis added).*<sup>80</sup>

Numerous authoritative scientific assessments have established that climate change is causing grave harms to human society and natural systems, and these threats are becoming increasingly dangerous. The Intergovernmental Panel on Climate Change (IPCC), in its 2014 Fifth Assessment Report, stated that: “Warming of the climate system is unequivocal, and since the 1950s, many of the observed changes are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases have increased” and that “[r]ecent climate changes have had widespread impacts on human and natural systems.”<sup>81</sup>

The 2014 Third National Climate Assessment, prepared by a panel of non-governmental experts and reviewed by the National Academy of Sciences and multiple federal agencies similarly stated that “[t]hat the planet has warmed is ‘unequivocal,’ and is corroborated through multiple lines of evidence, as is the conclusion that the causes are very likely human in origin”<sup>82</sup> and “[i]mpacts related to climate change are already evident in many regions and are expected to become increasingly disruptive across the nation throughout this century and beyond.”<sup>83</sup> The United States National Research Council similarly concluded that: “[c]limate change is occurring, is caused largely by human activities, and poses significant risks for—and in many cases is already affecting—a broad range of human and natural systems.”<sup>84</sup>

The IPCC and National Climate Assessment further decisively recognize the dominant role of fossil fuels in driving climate change:

---

<sup>80</sup> Paris Agreement, Decision, Recitals.

<sup>81</sup> IPCC AR5 Synthesis Report at 2.

<sup>82</sup> Melillo, Jerry M., Terese (T.C.) Richmond, and Gary W. Yohe, Eds., *Climate Change Impacts in the United States: The Third National Climate Assessment* (U.S. Global Change Research Program), doi:10.7930/J0Z31WJ2 (2014) (“Third National Climate Assessment”) at 61 (quoting IPCC, *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K. B. Averyt, M. Tignor, and H. L. Miller, Eds., Cambridge University Press (2007)).

<sup>83</sup> Third National Climate Assessment at 10.

<sup>84</sup> National Research Council, *Advancing the Science of Climate Change* (2010), available at [www.nap.edu](http://www.nap.edu). (“Advancing the Science of Climate Change”) at 2.

While scientists continue to refine projections of the future, observations unequivocally show that climate is changing and that the warming of the past 50 years is primarily due to human-induced emissions of heat-trapping gases. These emissions come mainly from burning coal, oil, and gas, with additional contributions from forest clearing and some agricultural practices.<sup>85</sup>

\*\*\*

CO<sub>2</sub> emissions from fossil fuel combustion and industrial processes contributed about 78% to the total GHG emission increase between 1970 and 2010, with a contribution of similar percentage over the 2000–2010 period (*high confidence*).<sup>86</sup>

These impacts ultimately emanating from the extraction and combustion of fossil fuels are harming the United States in myriad ways, with the impacts certain to worsen over the coming decades absent deep reductions in domestic and global GHG emissions. EPA recognized these threats in its 2009 Final Endangerment Finding under Clean Air Act Section 202(a), concluding that greenhouse gases from fossil fuel combustion endanger public health and welfare: “the body of scientific evidence compellingly supports [the] finding” that “greenhouse gases in the atmosphere may reasonably be anticipated both to endanger public health and to endanger public welfare.”<sup>87</sup> In finding that climate change endangers public health and welfare, EPA has acknowledged the overwhelming evidence of the documented and projected effects of climate change upon the nation:

*Effects on air quality:* “The evidence concerning adverse air quality impacts provides strong and clear support for an endangerment finding. Increases in ambient ozone are expected to occur over broad areas of the country, and they are expected to increase serious adverse health effects in large population areas that are and may continue to be in nonattainment. The evaluation of the potential risks associated with increases in ozone in attainment areas also supports such a finding.”<sup>88</sup>

*Effects on health from increased temperatures:* “The impact on mortality and morbidity associated with increases in average temperatures, which increase the likelihood of heat waves, also provides support for a public health endangerment finding.”<sup>89</sup>

*Increased chance of extreme weather events:* “The evidence concerning how human induced climate change may alter extreme weather events also clearly supports a finding of endangerment, given the serious adverse impacts that can result from such events and the increase in risk, even if small, of the occurrence and intensity of events such as hurricanes and floods. Additionally, public health is expected to be adversely affected by an increase in the severity of coastal storm events due to rising sea levels.”<sup>90</sup>

---

<sup>85</sup> Third National Climate Assessment at 2.

<sup>86</sup> IPCC AR5 Synthesis Report at 46.

<sup>87</sup> U.S. Environmental Protection Agency, Endangerment and Cause or Contribute Findings for Greenhouse Gas Unders Section 202(a) of the Clean Air Act, 74 Fed. Reg. at 66,497 (Dec 15, 2009) (“Final Endangerment Finding”).

<sup>88</sup> *Id.*

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* at 66,497-98.

*Impacts to water resources:* “Water resources across large areas of the country are at serious risk from climate change, with effects on water supplies, water quality, and adverse effects from extreme events such as floods and droughts. Even areas of the country where an increase in water flow is projected could face water resource problems from the supply and water quality problems associated with temperature increases and precipitation variability, as well as the increased risk of serious adverse effects from extreme events, such as floods and drought. The severity of risks and impacts is likely to increase over time with accumulating greenhouse gas concentrations and associated temperature increases.”<sup>91</sup>

*Impacts from sea level rise:* “The most serious potential adverse effects are the increased risk of storm surge and flooding in coastal areas from sea level rise and more intense storms. Observed sea level rise is already increasing the risk of storm surge and flooding in some coastal areas. The conclusion in the assessment literature that there is the potential for hurricanes to become more intense (and even some evidence that Atlantic hurricanes have already become more intense) reinforces the judgment that coastal communities are now endangered by human-induced climate change, and may face substantially greater risk in the future. Even if there is a low probability of raising the destructive power of hurricanes, this threat is enough to support a finding that coastal communities are endangered by greenhouse gas air pollution. In addition, coastal areas face other adverse impacts from sea level rise such as land loss due to inundation, erosion, wetland submergence, and habitat loss. The increased risk associated with these adverse impacts also endangers public welfare, with an increasing risk of greater adverse impacts in the future.”<sup>92</sup>

*Impacts to energy, infrastructure, and settlements:* “Changes in extreme weather events threaten energy, transportation, and water resource infrastructure. Vulnerabilities of industry, infrastructure, and settlements to climate change are generally greater in high-risk locations, particularly coastal and riverine areas, and areas whose economies are closely linked with climate-sensitive resources. Climate change will likely interact with and possibly exacerbate ongoing environmental change and environmental pressures in settlements, particularly in Alaska where indigenous communities are facing major environmental and cultural impacts on their historic lifestyles.”<sup>93</sup>

*Impacts to wildlife:* “Over the 21<sup>st</sup> century, changes in climate will cause some species to shift north and to higher elevations and fundamentally rearrange U.S. ecosystems. Differential capacities for range shifts and constraints from development, habitat fragmentation, invasive species, and broken ecological connections will likely alter ecosystem structure, function, and services, leading to predominantly negative consequences for biodiversity and the provision of ecosystem goods and services.”<sup>94</sup>

In addition to these acknowledged impacts on public health and welfare more generally, climate change is causing and will continue to cause serious impacts on natural resources that the

---

<sup>91</sup> *Id.* at 66,498.

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

<sup>94</sup> *Id.*; see also Third National Climate Assessment at 195-219.

Department of Interior is specifically charged with safeguarding.<sup>95</sup>

*Impacts to Public Lands:* Climate change is causing and will continue to cause specific impacts to public lands ecosystem services. Although public lands provide a variety of difficult-to-quantify public benefits, one recent Forest Service attempt at quantification estimates the public land ecosystem services at risk from climate change at between \$14.5 and \$36.1 billion annually.<sup>96</sup> In addition to the general loss of ecosystem services, irreplaceable species and aesthetic and recreational treasures are at risk of permanent destruction. High temperatures are causing loss of glaciers in Glacier National Park; the Park's glaciers are expected to disappear entirely by 2030, with ensuing warming of stream temperatures and adverse effects to aquatic ecosystems.<sup>97</sup> With effects of warming more pronounced at higher latitudes, tundra ecosystems on Alaska public lands face serious declines, with potentially serious additional climate feedbacks from melting permafrost.<sup>98</sup> In Florida, the Everglades face severe ecosystem disruption from already-occurring saltwater incursion.<sup>99</sup> Sea level rise will further damage freshwater ecosystems and the endangered species that rely on them.

*Impacts to Biodiversity and Ecosystems:* Across the United States ecosystems and biodiversity, including those on public lands, are directly under siege from climate change—leading to the loss of iconic species and landscapes, negative effects on food chains, disrupted migrations, and the degradation of whole ecosystems.<sup>100</sup> Specifically, scientific evidence shows that climate change is already causing changes in distribution, phenology, physiology, genetics, species interactions, ecosystem services, demographic rates, and population viability: many animals and plants are moving poleward and upward in elevation, shifting their timing of breeding and migration, and experiencing population declines and extirpations.<sup>101</sup> Because climate change is occurring at an unprecedented pace with multiple synergistic impacts, climate change is predicted to result in catastrophic species losses during this century. For example, the IPCC concluded that 20% to 30% of plant and animal species will face an increased risk of extinction if global average temperature rise exceeds 1.5°C to 2.5°C relative to 1980-1999, with an increased risk of extinction for up to 70% of species worldwide if global average temperature exceeds 3.5°C relative to 1980-1999.<sup>102</sup>

---

<sup>95</sup> See Federal Land Policy and Management Act of 1976, 43 U.S.C. §§ 1701(a)(8), 1712(c)(1); Multiple-Use Sustained Yield Act of 1960, 16 U.S.C. § 528; National Environmental Policy Act of 1969, 42 U.S.C. §§ 4331-4332.

<sup>96</sup> Esposito, Valerie et al., *Climate Change and Ecosystem Services: The Contribution and Impacts on Federal Public Lands in the United States*, USDA Forest Service Proceedings RMRS-P-64 at 155-164 (2011).

<sup>97</sup> U.S. Environmental Protection Agency, *Climate Change and Public Lands* (1999).

<sup>98</sup> See National Climate Assessment at 48; MacDougall, A. H., et al., Significant contribution to climate warming from the permafrost carbon feedback, 5 *Nature Geoscience* 719-721 (2012), doi:10.1038/ngeo1573.

<sup>99</sup> See National Climate Assessment at 592; Foti, Romano et al., Signs of critical transition in the Everglades wetlands in response to climate and anthropogenic changes, 110 *Proceedings of the National Academy of Sciences* 6296-6300, (2013), doi:10.1073/pnas.1302558110.

<sup>100</sup> National Climate Assessment at 13.

<sup>101</sup> See Parmesan, C. and G. Yohe, A globally coherent fingerprint of climate change impacts across natural systems, 421 *Nature* 37-42 (2003); Root, T. et al., Fingerprints of global warming on wild animals and plants, 421 *Nature* 57-60 (2003); Chen, I. et al., Rapid range shifts of species associated with high levels of climate warming, 333 *Science* 1024-1026 (2011).

In sum, climate change, driven primarily by the combustion of fossil fuels, poses a severe and immediate threat to the health, welfare, ecosystems and economy of the United States. These impacts are felt across the nation, including upon the public lands the Secretary of the Interior is charged with safeguarding. A rapid and deep reduction of emissions generated from fossil fuels is essential if such threats are to be minimized and their impacts mitigated.

**ii. The EA Ignores the Social Cost of Carbon Tool to Analyze the Cumulative Contribution of Increased Oil and Gas Development on Climate Change**

As explained in the Center’s comment on the PEA, although cost-benefit analysis is not necessarily the ideal or exclusive method for assessing contributions to an adverse effect as enormous, uncertain, and potentially catastrophic as climate change, BLM does have tools available to provide one approximation of external costs and has previously performed a “social cost of carbon” analysis in prior environmental reviews.<sup>103</sup> Its own internal memo identifies one available analytical tool: “For federal agencies the authoritative estimates of [social cost of carbon] 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.”<sup>104</sup> As explained in that report:

The purpose of the “social cost of carbon” (SCC) estimates presented here is to allow agencies to incorporate the social benefits of reducing carbon dioxide (CO<sub>2</sub>) emissions into cost-benefit analyses of regulatory actions that impact cumulative global emissions. The SCC is an estimate of the monetized damages associated with an incremental increase in carbon emissions in a given year. It is intended to include (but is not limited to) changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services due to climate change.<sup>105</sup>

---

<sup>103</sup> See *High Country Conserv’n Advocates v. United States Forest Serv.*, 2014 U.S. Dist. Lexis 87820 (D. Colo. 2014) (invalidating environmental assessment [“EA”] for improperly omitting social cost of carbon analysis, where BLM had included it in preliminary analysis); Taylor, P., “BLM crafting guidance on social cost of carbon -- internal memo,” *Greenwire*, E&ENews (April 15, 2015); U.S. Bureau of Land Management, Internal Memo from Assistant Director of Resources and Planning Ed Roberson titled Addressing Climate Change Under NEPA (2015). (“Roberson Internal Memo”), April 2015, available at [http://www.eenews.net/assets/2015/04/15/document\\_gw\\_01.pdf](http://www.eenews.net/assets/2015/04/15/document_gw_01.pdf) (noting “some BLM field offices have included estimates of the [social cost of carbon] in project-level NEPA documents”) (accessed May 20, 2016); see also Council on Environmental Quality, Revised Draft Guidance for Greenhouse Gas Emissions and Climate Change Impacts, p. 18, available at [www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance](http://www.whitehouse.gov/administration/eop/ceq/initiatives/nepa/ghg-guidance) (accessed Jul 29, 2015) (quantitative analysis required if GHGs > 25k tons/yr).

<sup>104</sup> Roberson Internal Memo.

<sup>105</sup> See Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis - Under Executive Order 12866, May 2013, available at [https://www.whitehouse.gov/sites/default/files/omb/inforeg/social\\_cost\\_of\\_carbon\\_for\\_ria\\_2013\\_update.pdf](https://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf) (accessed July 29, 2015); see also Interagency Working Group on Social Cost of Carbon, United States Government, Technical Support Document: Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866, Feb. 2010, available at <http://www.epa.gov/otaq/climate/regulations/scc-tsd.pdf> (accessed July 29, 2015).

Further, other analytical tools exist to evaluate the cost of methane emissions.<sup>106</sup> EPA has peer reviewed and employed such a tool in its “Regulatory Impact Analysis of the Proposed Emission Standards for New and Modified Sources in the Oil and Natural Gas Sector.”<sup>107</sup>

Leasing and development of unconventional wells could exact extraordinary financial costs to communities and future generations, setting aside the immeasurable loss of irreplaceable, natural values that can never be recovered. BLM’s environmental review must provide an accounting of these potential harms and costs. The EA and BLM’s response to comments fail to adequately respond to our comments on this issue.

### III. Conclusion

Unconventional oil and gas development not only fuels the climate crisis but creates significant public health risks and harms to the environment. Accordingly, BLM should end all new leasing on BLM lands. Should BLM proceed with the lease sale it must thoroughly analyze the alternatives of no new leasing (or no action), and no fracking or other unconventional well stimulation methods in an EIS. Thank you for your consideration of these comments. We look forward to reviewing a legally adequate EIS for this proposed oil and gas leasing action.

Sincerely,



My-Linh Le  
Legal Fellow, Center for Biological Diversity

Michael Saul  
Senior Attorney, Center for Biological Diversity

Marissa Knodel  
Climate Campaigner, Friends of the Earth

Eleanor Bravo  
Southwest Organizer, Food & Water Watch

---

<sup>106</sup> See Marten A.L., et al., Incremental CH<sub>4</sub> and N<sub>2</sub>O mitigation benefits consistent with the US Government's SC-CO<sub>2</sub> estimates, 15 *Climate Policy* (2):272-298 (2015, print publication) “Incremental CH<sub>4</sub> and N<sub>2</sub>O mitigation benefits consistent with the US Government's SC-CO<sub>2</sub> estimates,” *Climate Policy* 15(2):272-298, abstract available at <http://www.tandfonline.com/doi/abs/10.1080/14693062.2014.912981>.

<sup>107</sup> See U.S. Environmental Protection Agency, *Social Cost of Carbon*, <http://www3.epa.gov/climatechange/EPAactivities/economics/scc.html> (accessed May 20, 2016) (noting application of social cost of methane supported by peer review); U.S. Environmental Protection Agency, *Regulatory Impact Analysis of the Proposed Emission Standards for New and Modified Sources in the Oil and Natural Gas Sector*, Ch. 4 (August 2015) available at [http://www3.epa.gov/airquality/oilandgas/pdfs/og\\_prop\\_ria\\_081815.pdf](http://www3.epa.gov/airquality/oilandgas/pdfs/og_prop_ria_081815.pdf).

Shelley Silbert  
Executive Director, Great Old Broads for Wilderness

Elly Benson  
Staff Attorney, Sierra Club