Facsimile Transmission – 38 pages

To: Bureau of Land Management Utah, 801-539-4237

From: Michael Saul, Center for Biological Diversity
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Date: November 14, 2016

Re: Protest Pursuant to 43 C.F.R. § 3120.1-3 of the BLM Utah's proposed December 13, 2016 oil and gas lease sale

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November 14, 2016

Via Fax ((801) 539-4237) and Federal Express

Sheri Wysong
Bureau of Land Management
Utah State Office
440 West 200 South, Suite 500
Salt Lake City, UT 84101

Dear Ms. Wysong:

The Center for Biological Diversity (the "Center"), Sierra Club, Living Rivers & Colorado Riverkeeper, Western Watersheds Project, and Utah Rivers Council hereby file this Protest of the Bureau of Land Management's ("BLM") planned December 13, 2016 Competitive Oil and Gas Lease Sale, and the Final Environmental Assessments DOI-BLM-UT-G010-2016-033-EA, pursuant to 43 C.F.R. § 3120.1-3. We formally protest the inclusion of each of the 28 parcels, covering 12,224.48 acres in the Vernal Field Office, Utah:

UTU91927	UTU91937	UTU91947
UTU91928	UTU91938	UTU91948
UTU91929	UTU91939	UTU91949
UTU91930	UTU91940	UTU91950
UTU91931	UTU91941	UTU91951
UTU91932	UTU91942	UTU91952
UTU91933	UTU91943	UTU91953
UTU91934	UTU91944	UTU91954
UTU91935	UTU91945	
UTU91936	UTU91946	

PROTEST

I. Protesting Party: Contact Information and Interests:

This Protest has been authorized to be filed on behalf of the Center for Biological Diversity, Sierra Club, Living Rivers & Colorado Riverkeeper, Western Watersheds Project, and Utah Rivers Council by:

Alaska • Arizona • California • Florida • Minnesota • Nevada • New Mexico • New York • Oregon • Washington • Washington, DC

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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 the Vernal planning area in Utah who have visited these public lands in the 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.

The Sierra Club is a national nonprofit organization with 67 chapters and over 635,000 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 Utah Chapter of the Sierra Club has approximately 4,200 members in the state of Utah, including members who live or recreate in areas that would be affected by this lease sale. Sierra Club members use the public lands in Utah, 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. Within the lands managed by the Vernal Field Office Utah Chapter members take advantage of the extraordinary hunting opportunities on Diamond Mountain, spectacular backpacking and dispersed camping on lands adjacent to Dinosaur National Monument and world-class river running along the Green River. These areas would be threatened by increased oil and gas development that could result from the proposed lease sale.

Living Rivers/Colorado Riverkeeper promotes river restoration through mobilization and empowers a movement to instill a new ethic of achieving ecological restoration, balanced with meeting human needs. By articulating conservation and alternative management strategies to the public, we seek to revive the natural habitat and spirit of rivers by undoing the extensive damage done by dams, diversions and pollution on the Colorado Plateau. From the Rocky Mountains through seven states and Mexico, the Colorado River is the artery of the desert southwest. Its canyons, ecology and heritage render an international treasure. However, ignorance, greed and complacency are robbing the Colorado of its ability to sustain life. We work to: restore inundated river canyons, wetlands and the delta; repeal antiquated laws which represent the river's death sentence; reduce water and energy use and their impacts on the river; and recruit constituents to aid in reviving the Colorado River.

Western Watersheds Project is a non-profit conservation group working to protect and conserve the public lands, wilderness, wildlife, and natural resources of the West through education, scientific study, public policy initiatives, and litigation. Western Watersheds Project staff and members use and enjoy the public lands, including the lands at issue here in the Vernal Field Office, and its cultural and natural resources. We have visited these areas in the past and intend to return in future as long as management activities continue to impinge on the resources we value.

The Utah Rivers Council is a grassroots organization dedicated to the conservation and stewardship of Utah's rivers and sustainable clean water sources for Utah's people and wildlife. Founded in 1995, we work to protect Utah's rivers and clean water sources for today's citizens, future generations and healthy, sustainable natural ecosystems. We implement our mission through grassroots organizing, direct advocacy, research, education, community leadership and litigation.

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 in the Center's July 15, 2016 comment letter on

the Draft Environmental Assessment ("EA") for the lease sale, incorporated by reference and attached as Exhibit A. The proposed lease sale is unlawful for the following additional reasons:

A. The EA and Finding of No Significant Impact ("FONSI") Violate the National Environmental Policy Act's ("NEPA") "Hard Look" Requirement

NEPA requires agencies to undertake thorough, site-specific environmental analysis at the earliest possible time and prior to any "irretrievable commitment of resources" so that the action can be shaped to account for environmental values. Pennaco Energy, Inc. v. United States DOI, 377 F.3d 1147, 1160 (10th Cir. 2004). Oil and gas leasing is an irretrievable commitment of resources. S. Utah Wilderness All. v. Norton, 457 F. Supp. 2d 1253, 1256 (D. Utah 2006). Thus, NEPA establishes "action-forcing" procedures that require agencies to take a "hard look," at "all foreseeable impacts of leasing" before leasing can proceed. Center for Biological Diversity v. United States DOI, 623 F.3d 633, 642 (9th Cir. 2010); N.M. ex rel. Richardson v. BLM, 565 F.3d 683, 717 (10th Cir. 2009). Chief among these procedures is the preparation of an environmental impact statement ("EIS"). Id.

BLM, however, arbitrarily declined to prepare an EIS despite the likelihood of significant impacts. Instead, BLM tiers to the 2008 Vernal Field Office RMP EIS for the required analysis to say that all foreseeable impacts to resources from the proposed lease sale have already been analyzed and disclosed, and that no significant impacts were found.[1] BLM never conducted any analysis of the foreseeable impacts to any site-specific resources that are likely to result from the lease sale, before coming to such a conclusion. Instead, BLM presupposes that because leasing is an administrative act, it can auction off the parcels and issue the leases first, and then fulfill its NEPA obligations after the leases enter into the development stage.[2] As we have stated in previous comments, this approach to NEPA has already been rejected by the courts. See N.M. ex rel. Richardson v. BLM, 565 F.3d 683 (10th Cir. 2009) (rejecting BLM's position that it was not required to conduct any site-specific environmental reviews until the issuance of an APD and holding that "NEPA requires BLM to conduct site-specific analysis before the leasing stage"). In Richardson, even though the EA tiered to prior analysis in amended resource management plans, the Tenth Circuit held that NEPA requires an analysis of the *site-specific* impacts of the lease *prior* to its issuance, and that BLM acted arbitrarily and capriciously by failing to conduct one. Id. at 719.

A review of the EA's Appendix C: Interdisciplinary Team Checklist, which provides the basis for BLM's determinations, reveals that the FONSI is in large part due to BLM's refusal to

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[1] Finding of No Significant Impacts December 2016 Oil and Gas Lease Sale Environmental Assessment DOI-BLM-UT-G010-2016-0033 ("FONSI") at 2 (BLM "determined that issuing oil and gas leases for the parcels in accordance with the Proposed Action alternative and the NCLS, does not constitute a major federal action that will have a significant effect on the quality of the human environment, individually or cumulatively with other actions in the general project area, beyond those disclosed in the VFO RMP FEIS as amended.")

[2] Environmental Assessment Oil and Gas Leasing, Competitive Oil and Gas Lease Sale DOI-BLM-UT-G010-2016-033-EA, ("EA"), Appendix C, Interdisciplinary Team Checklist at 128 ("Leasing of the proposed parcels would not, by itself, authorize any ground disturbances which could contribute runoff affecting surface water quality. Site-specific effects cannot be analyzed until an exploration or development application is received, after leasing has occurred.").

conduct any site-specific review of the environmental impacts of the proposed action. Instead BLM merely announces that development is subject to protective stipulations and lease notices, but BLM doesn't actually make any determination that such measures reduce impacts to less than significant levels, or that stipulations attached to a lease are adequate to address site-specific concerns; nor does BLM provide any scientific evidence or data, nor conduct any analysis of site-specific impacts, to support any such determination.

Furthermore, the meager analysis BLM has provided thus far is unlawfully deficient. Relying on the RMP EIS as the basis for BLM's FONSI was improper: the broad-brush analysis contained in the land use planning stage omits several significant environmental consequences specific to the proposed lease sale, which we discuss in detail below. The EA and FONSI also violate NEPA for the following reasons:

i. BLM Failed to Take a Hard Look at the Environmental Impacts of Unconventional Extraction Methods such as Hydraulic Fracturing and Horizontal Drilling to Water Resources

We explained in our July 15, 2016 comment letter the specific ways in which extraction methods such as hydraulic fracturing and horizontal drilling impacts water resources, which BLM failed to consider in any previous analysis contained in the RMP or in its Final EA. BLM concludes that all potential impacts to groundwater are insignificant, providing as an explanation only the conclusory statement that compliance with Onshore Oil and Gas Orders and federal regulations will reduce any impacts. Although BLM admits that the "potential to encounter useable groundwater with < 10,000 ppm Total Dissolved Solids during drilling operations is a possibility,"[3] BLM does not actually analyze any such impact, but merely states that the action is "subject to mitigation procedures" which are not described nor evaluated.

BLM then cites to a portion of a draft EPA Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources that states that "[t]he number of identified cases where drinking water resources were impacted are small relative to the number of hydraulically fractured wells" and that "[t]here is insufficient pre- and post-hydraulic fracturing data on the quality of drinking water resources."[4] However, the lack of data does not excuse BLM from its legal obligations under NEPA. When the potential environmental impacts of BLM's proposed action are highly controversial, uncertain, or involve unique or unknown risks, then BLM is required to prepare an environmental impact statement. Ocean Advocates v. United States Army Corps of Eng'rs, 402 F.3d 846, 864-65 (9th Cir. 2005) (An EIS must be prepared if substantial "questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor"; significance is determined by ten factors regarding the "intensity" of the impacts and the existence of any "one of these factors may be sufficient to require preparation of an EIS.") (internal quotes omitted); see 40 C.F.R. § 1508.27(b)(4), (5), (2) & (9); see also Center for Biological Diversity, et al. v. Bureau of Land Management, et al., 937 F. Supp. 2d 1140, 1155-59 (holding that oil and gas leases were issued in violation of NEPA where BLM failed to prepare an EIS and failed to properly address the

[3] EA, Appendix C, at 126-27.
[4] EA, Appendix C, at 127.

significance factors for context and intensity in 40 C.F.R. § 1508.27).[5] It is unclear the purpose of BLM's reference to the EPA's draft Assessment, given that NEPA requires BLM to conduct its own analysis of the foreseeable impacts of its decision to lease the particular parcels that it will lease for oil and gas development. BLM seems to assume either that its obligations to analyze and disclose these impacts are somehow fulfilled because there are uncertainties or a dearth of information on the issue, or that no impacts could possibly result from oil and gas leasing simply because there are regulations in place. But regardless of what other regulations or agencies may oversee oil and gas operations on these parcels, BLM has a duty to perform a thorough analysis of foreseeable environmental impacts of its leasing decision, subject to the public's review and input, prior to leasing public lands for oil and gas development. BLM may take into account any regulations in its analysis of foreseeable impacts, but cannot claim – without analysis and quantification of potential effects and of effectiveness of potential mitigation or state regulations – that no significant impacts would result from its action simply because there are regulations or "protective lease notices" or other stipulations.

Moreover, EPA's own Science Advisory Board ("SAB") has raised serious critiques of the 2015 EPA Assessment, noting that "the SAB has concerns regarding various aspects of the draft Assessment Report , including concerns regarding several major findings presented within the draft that seek to draw national –level conclusions regarding the impacts of hydraulic fracturing on drinking water resources."[6] The SAB cautioned that lack of data is not a valid reason to conclude lack of impacts, and that local impacts to surface and groundwater resources can be severe and significant:

> The final Assessment Report should also recognize that many stresses to surface or groundwater resources associated with stages of the HFWC are often localized in space and temporary in time but nevertheless can be important and significant. For example, the impacts of water acquisition will predominantly be observed locally at small space and time scales. These local –level impacts, when they occur, have the potential to be severe, and the final Assessment Report needs to better recognize the importance of local impacts.

BLM similarly declined to look at surface water impacts; instead BLM intends to defer the required analysis of site-specific effects "until an exploration or development application is received, after leasing has occurred." As we have explained, deferring the analysis of foreseeable impacts until after any irretrievable commitment of resources is unlawful. Again, BLM assumes, without collecting any quantitative data or conducting any analysis, that

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[5] See also Ocean Advocates v. United States Army Corps of Eng'rs, 402 F.3d 846, 864-65 (9th Cir. 2005) (An EIS must be prepared if substantial "questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor"; significance is determined by ten factors regarding the "intensity" of the impacts and the existence of any "one of these factors may be sufficient to require preparation of an EIS.") (internal quotes omitted)

[6] U.S. Environmental Protection Agency, SAB Review of the EPA 's draft Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources 1 (Aug. 11, 2016), https://yosemite.epa.gov/sab/sabproduct.nsf/fedrgstr_activites/BB6910FEC10C01A18525800C00647104/$File/EPA-SAB-16-005+Unsigned.pdf.

"standard lease terms," "protective lease notices" and stipulations identified in Appendix A, "and all applicable laws, regulations and onshore orders in existence at the time of lease issuance" are adequate protections such that BLM does not need to analyze any foreseeable impacts. BLM claims "significant impacts beyond those already addressed in the VFO RMP [BLM 2008b] are not anticipated to occur as a result of leasing the proposed parcels."[7] However, as we have already argued, the RMP did not address any foreseeable site-specific impacts.

ii. BLM Failed to Provide Adequate NEPA Review of Climate Change Impacts and Greenhouse Gas Emissions

BLM's analysis of greenhouse gas emissions arbitrarily and capriciously uses a long-outdated estimate of the "global warming potential," or "GWP," of greenhouse gases other than carbon dioxide. GWP expresses warming caused by a greenhouse gas relative to the warming caused by an equivalent mass of carbon dioxide. GWP allows emissions of non-CO2 pollutants to be expressed in terms of CO2-equivalent. BLM uses a GWP for methane of 25 and for nitrous oxide of 265-298.[8] These GWP estimates are derived from a report published by the Intergovernmental Panel on Climate Change nearly a decade ago.[9] They were superseded in September 2013, when the IPCC released its Fifth Assessment Report.[10] For example, the more recent report estimates, on the basis of more recent and thorough science, that methane from fossil sources has 36 times the global warming potential of carbon dioxide over a 100 year time frame and at least 87 times the global warming potential of carbon dioxide over a 20-year time frame.[11] Both the EPA and the Department of Energy have recognized that the newer estimates represent the best available science regarding the impact of non-CO2 GHGs. EPA does use the older IPCC values in one narrow regulatory context: compiling EPA's GHG Inventory pursuant to an international convention that specifically requires the old value.[12] But EPA has explicitly stated that it believes, on the basis of the new report, that the old values are scientifically unsupported and are too low.[13] The Department of Energy has similarly recognized that the Fifth Assessment Report values using climate feedbacks (*e.g.*, 36 and 87 for methane) reflect the current scientific consensus.[14]

In light of serious controversy and uncertainties regarding GHG pollution from oil and gas development, it is critical that BLM's quantitative assessment account for methane's long-term (100-year) global warming impact and, also, methane's short-term (20-year) warming

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[7] EA, Appendix C, at 128.
[8] EA at 20-21.
[9] *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, Fourth Assessment Report, Working Group 1, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, Ch. 2, p. 212, Table 2.14, available at: www.ipcc.ch/publications_and_data/ar4/wg1/en/ch2s2-10-2.html
[10] *See* INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, *Working Group I Contribution to the IPCC Fifth Assessment Report Climate Change 2013: The Physical Science Basis,* at 8-58 (Table 8.7) (Sept. 2013).
[11] *Id.*
[12] https://www3.epa.gov/climatechange/ghgemissions/gwps.html
[13] *Id.*
[14] Department of Energy, Opinion and Order 3357-C, DOE/FE Dkt. 11-161-LNG, at 30 (Dec. 4, 2015) ("We agree with Sierra Club that using 20- and 100-year methane GWPs of 87 and 36 is most appropriate for use today and that climate carbon feedbacks should be captured in the GWP values for methane."), *available at* www.fossil.energy.gov/programs/gasregulation/authorizations/2011_applications/ord3357c.pdf

impact using the latest peer-reviewed science to ensure that potentially significant impacts are not underestimated or ignored. See 40 C.F.R. § 1508.27(a) (requiring consideration of "[b]oth short- and long-term effects"). Use of the 20-year value is particularly appropriate because it corresponds with the 20-year planning and environmental review horizon used in the SIR and, typically, by BLM. See SIR at 4-1 thru 4-45 (discussing BLM-derived reasonably foreseeable development potential in each planning area). BLM has significantly underestimated the near-term benefits of keeping methane emissions out of the atmosphere. 40 C.F.R. §§ 1502.16(e), (f); id. at 1508.27. These estimates are important given the noted importance of near term action to ameliorate climate change – near term action that scientists say should focus, *inter alia*, on preventing the emission of short-lived but potent GHGs like methane while, at the same time, stemming the ongoing increase in the concentration of carbon dioxide.[15] These uncertainties – which, here, the agency does not address – necessitate analysis in an EIS. 40 C.F.R. §§ 1508.27(a), (b)(4)-(5).

The EA estimates that development of the leases will cause, directly and indirectly, greenhouse gas emissions amounting to more than three million tons per year of carbon dioxide equivalent.[16] NEPA requires BLM to inform the public of direct and indirect effects the "significance" of these emissions, 40 C.F.R. § 1502.16(a)-(b); for example, BLM must "evaluate the[ir] severity." Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 352 (1989). To serve NEPA's "twin aims" of informing agency decisionmakers and the public, this evaluation must be in terms that will meaningfully inform these intended audiences of the magnitude and consequences of these effects. Natural Res. Def. Council v. Nuclear Regulatory Comm'n, 685 F.2d 459, 487 n.149 (D.C. Cir. 1982) rev'd on other grounds sub nom. Balt. Gas & Elec. Co. v. Natural Res. Def. Council, 462 U.S. 87, 106-107 (1983); Columbia Basin Land Prot. Ass'n v. Schlesinger, 643 F.2d 585, 594 (9th Cir. 1981).

Here, the EA provides no analysis of the impact or severity of greenhouse gas emissions. One widely used approach to evaluating the impact of GHG emissions is to estimate the costs of those emissions to society. The federal Interagency Working Group on the Social Cost of Carbon has developed estimates of the present value of the future costs of carbon dioxide, methane, and nitrous oxide emissions as a proxy for the magnitude and severity of those impacts.[17] These tools are easy to use by agencies, easy to understand by the public, and supported by years of peer-reviewed scientific and economic research. The EPA and other federal agencies have used these social cost protocols to estimate the effects of rulemakings on climate, and certain BLM

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[15] *See, e.g., Limiting Global Warming: Variety of Efforts Needed Ranging from 'Herculean' to the Readily Actionable, Scientists Say*, SCIENCE DAILY (May 4, 2010), available at: http://www.sciencedaily.com/releases/2010/05/100503161328.htm; *see also*, Ramanathan, et. al., *The Copenhagen Accord for Limiting Global Warming: Criteria, Constraints, and Available Avenues* (Feb. 2010)

[16] EA at 20.

[17] *See* Interagency Working Group on the Social Cost of Carbon, United States Government, *Technical Support Document: Technical Update on the Social Cost of Carbon for Regulatory Impact Analysis – Under Executive Order 12866* (May 2013) at 2 (hereinafter 2013 TSD); Interagency Working Group, Addendum to Technical Support Document on Social Cost of Carbon for Regulatory Impact Analysis under Executive Order 12866: Application of the Methodology to Estimate the Social Cost of Methane and the Social Cost of Nitrous Oxide (August 2016), available at https://www.whitehouse.gov/sites/default/files/omb/inforeg/august_2016_sc_ch4_sc_n2o_addendum_final_8_26_16.pdf (last visited October 30, 2016).

field offices have used these tools in project level NEPA analysis. These protocols estimate the global financial cost of each additional ton of GHG pollution emitted to the atmosphere, taking into account factors such as diminished agricultural productivity, droughts, wildfires, increased intensity and duration of storms, ocean acidification, and sea-level rise. The Council on Environmental Quality has explicitly endorsed these tools, explaining that they were "[d]eveloped through an interagency process committed to ensuring that [these] estimates reflect the best available science and methodologies and used to assess the social benefits of reducing carbon dioxide emissions across alternatives in rulemakings, [the social cost protocols] provide[] a harmonized, interagency metric that can give decision makers and the public useful information for their NEPA review."[18]

The EA improperly determined that "including monetary estimates of the social cost of GHGs (SC GHG) in its NEPA analysis for this Proposed Action would not be useful. Since the BLM is not doing a cost-benefit analysis in this NEPA document, we do not believe monetizing only SC GHG would be instructive."[19] However, analysis of the social cost of greenhouse gases plays an important—and otherwise unfilled—role regardless of whether BLM engages in a broader cost benefit analysis. Because BLM cannot identify the physical consequences of the greenhouse gas emissions caused by the leases, BLM must use "generally accepted" methods to discuss those impacts. 40 C.F.R. § 1502.22(b)(4). The social cost protocols, developed by a consortium of federal agencies specifically to address the impact of federal actions, are precisely such a generally accepted method. Given BLM's failure to adopt any other method for discussing these impacts, BLM's failure to use the social cost protocols was arbitrary and contrary to NEPA's requirements.

In addition, BLM's assertion that it is not conducting a cost benefit analysis ignores the fact that BLM *does* quantify economic benefits of the leases. The EA acknowledged and quantified various purported socioeconomic benefits of increased oil and gas development in the region.[20] Discussing those benefits without discussing costs skews the public's understanding of the full costs and benefits of oil and gas production.

BLM argues that CEQ guidance gives BLM "discretion" in determining whether to monetize the impacts of greenhouse gas emissions.[21] The guidance does not and cannot relieve BLM of the regulatory obligation to use generally accepted methods to assess the impacts of greenhouse gas emissions. Insofar as BLM has discretion, it is discretion to choose between available methods to analyze the significance, severity, and impact of greenhouse gas emissions, but BLM does not have discretion to provide no such analysis whatsoever. Here, where BLM has not identified any alternative method, use of the social cost protocols was required. In 2014, the district court for the District of Colorado faulted the Forest Service for failing to calculate the social cost of carbon, refusing to accept the agency's explanation that such a calculation was not

[18] Council on Environmental Quality, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews at 33 n.86 (August 1, 2016), available at https://www.whitehouse.gov/sites/whitehouse.gov/files/documents/nepa_final_ghg_guidance.pdf
[19] EA at 41.
[20] EA at 11.
[21] EA at 41.

feasible. High Country Conservation Advocates v. U.S. Forest Service, 52 F.Supp.3d 1174 (D.Colo. 2014) (a decision the agency decided not to appeal, thus implicitly recognizing the importance of incorporating a social cost of carbon analysis into NEPA decisionmaking). In his decision, Judge Jackson identified the IWG's SCC protocol as a tool to "quantify a project's contribution to costs associated with global climate change." Id. at 1190.[22] To fulfill this mandate, they agency must disclose the "ecological[,] ... economic, [and] social" impacts of the proposed action. 40 C.F.R. § 1508.8(b). Simple calculations applying the SCC to GHG emissions from this project offer a straightforward comparative basis for analyzing impacts, and identifying very significant costs.[23]

iii. BLM Failed to Provide Any Analysis on Impacts to Minority, Low Income Populations, and Disadvantaged Groups

We stated in our previous comment letter that BLM is required under Executive Order 12898 to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations in the United States."[24] BLM did not take any look at the significant issues we raised in our comment letter regarding air pollution from Uinta Basin drilling and its public health effects on communities in northeast Utah. BLM insists that it does not have to look at any of these impacts on minority, low income populations, or disadvantaged groups because:

> "[A]ll citizens can file an expression of interest or participate in the bidding process (43 CFR §3120.3-2). The stipulations and notices applied to the subject parcels do not place an undue burden on these groups. Leasing the nominated parcels would not cause any disproportionately high and adverse human health or environmental effects on minority populations, low-income populations, or Native American Tribes because the minerals are federal and or the surface is private or BLM."[25]

EA, Appendix C, at 119.

In concluding that any "citizen" can file an EOI or participate in the bidding process and therefore will not be disproportionately affected by BLM's decision to lease these parcels for oil and gas development improperly reduces the proposed action to mere paperwork. However, as the EA admits, potential oil and gas exploration and production activities could impact resources and uses in the planning area; direct, indirect and cumulative effects to resources and uses could result from exploration or development. BLM unlawfully ignores any and all of the foreseeable

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[22] *See also id.* at 18 (noting the EPA recommendation to "explore other means to characterize the impact of GHG emissions, including an estimate of the 'social cost of carbon' associated with potential increases in GHG emissions.") (citing Sarah E. Light, *NEPA's Footprint: Information Disclosure as a Quasi-Carbon Tax on Agencies*, 87 Tul. L. Rev. 511, 546 (Feb. 2013)).

[23] It is important to note that, although the 2010 IWG SCC protocol did not address methane impacts, the 2013 IWG Technical Update explicitly addresses methane impacts. Thus, it is appropriate to calculate a SCC outcome that takes into account the full CO2e emissions associated with the proposed leasing.

[24] Executive Order 12,898, 59 Fed. Reg. No. 32 (Feb. 11, 1994).

[25] EA, Appendix C, at 119.

impacts raised in the EA, as well as in our comment letter, that could affect minorities and disadvantaged populations.

BLM dismisses the environmental justice concerns raised in our comment letter simply by stating that "leasing the nominated parcels would not cause any *disproportionately* high and adverse human health or environmental effects on minority populations, low-income populations, or Native American Tribes because the minerals are federal and or the surface is private or BLM."[26] This response simply repeats the contentions of the draft EA, and makes no more sense than it did then. Air and water pollution do not observe land ownership boundaries. There have been substantial questions raised regarding the effects of air pollution from Uinta Basin drilling and on public health effects in low-income communities in northeast Utah, [27] and air pollutants do not observe land ownership boundaries. Hazardous air pollution from public lands oil and gas operations can readily have disproportionate effects on communities protected by Executive Order 12898, because emissions do not remain confined to the air above the federal surface.

iv. BLM Failed to Take Any Look at Impacts on Induced Seismicity

BLM arbitrarily and capriciously concluded that underground injection in Utah "presents little potential for inducing seismic activity," without actually analyzing any existing subsurface conditions in the action area. For example, BLM did not look at whether there are active fault lines in the area, or fault lines that could be activated by wastewater injection. Instead, BLM summarily dismissed any such considerations and instead relied only on the lack of data regarding the number of *past* earthquakes in the area. BLM's statement that "[t]here have been no reported earthquakes in Utah that were suspected of being produced (induced) from injecting fluids into oil and gas disposal wells"[28] fails to consider what activities may result directly or indirectly from the proposed action. BLM furthermore failed to consider the growing body of scientific evidence showing that increases in wastewater injections may increase seismic activity in the area.[29] According to a recent study, seismicity rate increased significantly 3 to 5 years following the commencement of wastewater injection in Utah. The increased seismicity consists almost entirely of earthquakes with magnitudes of less than 3 and is localized in areas seismically active prior to the injection. The study suggests that the marked increase in the seismicity rate was induced by pore pressure increase along pre-existing faults in these areas.[30] The 2015 study examined central Utah's recent pattern of increased seismic activity and its relationship to oil and gas wastewater injection wells, and found:

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[26] Final EA at 154.

[27] *See Siddika N, Balogun HA, Amegah AK, Jaakkola JJ. Prenatal ambient air pollution exposure and the risk of stillbirth: systematic review and meta-analysis of the empirical evidence. Occup Environ Med. 2016 May 24. pii: oemed-2015-103086. doi: 10.1136/oemed-2015-103086; see also* Annie Knox, "At Vernal forum, questions about air pollution, pregnancies, research," Salt Lake Tribune (April 19, 2015); Solotaroff, "What's Killing the Babies of Vernal, Utah?"

[28] Final EA at 161.

[29] See Megan R.M. Brown, Induced Seismicity in Carbon and Emery Counties, Utah (M.S. Thesis May 2015), https://mospace.umsystem.edu/xmlui/bitstream/handle/10355/46994/research.pdf?sequence=2&isAllowed=y

[30] See id. at 92-94.

> Utah is one of the top producers of oil and natural gas in the United States. Over the past 18 years, more than 4.2 billion gallons of wastewater from the petroleum industry have been injected into the Navajo Sandstone, Kayenta Formation, and Wingate Sandstone in two areas in Carbon and Emery County, Utah , where seismicity has increased during the same period.
>
> In this study, I investigated whether or not wastewater injection is related to the increased seismicity. Previous studies have attributed all of the seismicity in central Utah to coal mining activity . I found that water injection might be a more important cause. In the coal mining area, seismicity rate increased significantly 1-5 years following the commencement of wastewater injection. The increased seismicity consists almost entirely of earthquakes with magnitudes of less than 3, and is localized in areas seismically active prior to the injection.
>
> I have established the spatiotemporal correlations between the coal mining activities, the wastewater injection, and the increased seismicity. I used simple groundwater models to estimate the change in pore pressure and evaluate the observed time gap between the start of injection and the onset of the increased seismicity in the areas surrounding the injection wells. To ascertain that The increased seismicity is not fluctuation of background seismicity, I analyzed the magnitude-frequency relation of these earthquakes and found a clear increase in the b-value following the wastewater injection. I conclude that the marked increase of seismicity rate in central Utah is induced by both mining activity and wastewater injection, which raised pore pressure along pre-existing faults.[31]

Brown's 2015 study makes clear a spatiotemporal relationship between increased seismicity in central Utah and oil and gas wastewater injection. BLM claims that "[t]here have been no reported earthquakes in Utah that were suspected of being produced (induced) from injecting fluids into oil and gas disposal wells." EA at 120. Yet the 2015 study makes clear a significant relationship exists between wastewater injection and increased seismicity. BLM cannot simply ignore scientific data because it asserts that earthquakes are not "suspected" of being induced by wastewater injection.

In light of scientific data showing increased seismicity and a relationship to wastewater injection, BLM is required, prior to leasing to look at the region's fault environment by identifying and characterizing all faults in these areas based on sources including but not limited to the USGS Quaternary Fault and Fold database. In its analysis, BLM should assess its ability to identify all faults in these areas, including strike-slip faults and deep faults that can be difficult to detect. BLM should also consider the background seismicity of oil- and gas-bearing lands including the history of earthquake size and frequency, fault structure (including orientation of faults), seismicity rates, failure mechanisms, and state of stress of faults, as well as the geology of oil- and gas-bearing lands including pore pressure, formation permeability, and hydrological connectivity to deeper faults.

[31] Id. at xiii (emphasis added).

Instead of analyzing the potential for fracking and wastewater disposal to induce earthquakes, and the possible risks of induced seismicity in the specific areas for lease, BLM looks to including structures in the area that are at risk. Limiting its analysis to only past seismic activity in the area, which provides no information at all on the potential impacts of the proposed action, does not meet NEPA requirements.

v. BLM Failed to Adequately Address Potential Impacts to Threatened and Endangered Species, as Required by NEPA.

BLM failed to adequately address in the EA the potential impacts from the proposed oil and gas leasing on species that are federally designated as threatened or endangered with extinction, including the Black-Footed Ferret, Uinta Basin Hookless cactus, Graham's and White River beardtongues, bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker. In determining whether NEPA requires an EIS for a proposed action, agencies must consider the degree to which the action may adversely affect threatened or endangered species, or their critical habitat. 40 C.F.R. § 1508.27(b)(9). In the Oil and Gas Leasing EA, the BLM failed to provide the required hard look at the potential impacts to listed species and their habitat

vi. BLM Failed to Adequately Address Potential Impacts of Proposed Action on Human Health and Safety

Our May 31, 2016 comments on the Draft EA identified several potential threats that the proposed action poses to human health and safety, including carcinogenic, developmental, reproductive, and endocrine disruption effects. We pointed to numerous studies, including those that show residents living within one-half mile of a fracked well were significantly more likely to develop cancer than those who live more than one-half mile away[32]; and people living in proximity to fracked gas wells commonly report skin rashes and irritation, nausea or vomiting, headache, dizziness, eye irritation and throat irritation.[33] Perhaps most significant were the studies we provided showing the potential impacts on birth defects and infant mortality: such as the studies finding that pregnant women living within 10 miles of a fracked well were more likely to bear children with congenital heart defects and possibly neural tube defects,[34] or that infants born near fracked gas wells had more health problems than infants born near sites that had not yet conducted fracking.[35] The primary midwife to service Vernal found a spike in stillborn deaths, noting:

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[32] McKenzie, L. et al., Human Health Risk Assessment of Air Emissions from Development of Unconventional Natural Gas Resources, 424 Science of the Total Environment 79 (2012) ("McKenzie 2012").

[33] Rabinowitz, P.M. et al., Proximity to Natural Gas Wells and Reported Health Status: Results of a Household Survey in Washington County, Pennsylvania. Environmental Health Perspectives Advance Publication (2014); Bamberger, Michelle and R.E. Oswald, Impacts of Gas Drilling on Human and Animal Health, 22 New Solutions 51 (2012); Steinzor, N. et al., Gas Patch Roulette: How Shale Development Risks Public Health in Pennsylvania, Earthworks Gas & Oil Accountability Project (2012).

[34] McKenzie, L. et al., Birth Outcomes and Maternal Residential Proximity to Natural Gas Development in Rural Colorado, Advance Publication Environmental Health Perspectives (Jan. 28, 2014), http://dx.doi.org/10.1289/ehp.1306722 ("McKenzie 2014").

[35] Hill, Elaine L., Unconventional Natural Gas Development and Infant Health: Evidence from Pennsylvania, Cornell University (2012); Whitehouse, Mark, *Study Shows Fracking is Bad for Babies*, Bloomberg View, Jan. 4, 2014, *available at* http://www.bloombergview.com/articles/2014-01-04/study-shows-fracking-is-bad-for-babies.

> the extraordinary levels of wintertime pollution plaguing the [Uintah] Basin since the vast new undertaking to frack the region's shale filled the air with toxins. The county merely counted up infant deaths and brushed aside the facts about Vernal air pollution: ozone readings that rivaled the worst days of summer in New York, Los Angeles or Salt Lake City; particulate matter as bad as Mexico City; and ground air fraught with carcinogenic gases like benzene, rogue emissions from oil and gas drilling. Indeed, pollution was so bad in this rural bowl that it broke new ground in climate science. For decades, experts believed that life-threatening smog occurred only in or near big cities. But the Basin, which is bound on all four sides by mountains, is a perfectly formed bowl for winter inversions, in which 20-below weather clamps down on the valley and is sealed there by warmer air above it. During those spells, when the haze is visible and the air in one's lungs is a cold chisel, the sun's rays reflect off the snow on the ground and cook the volatile gases into ozone. The worst such period in the Basin's recent history was the winter of 2012-13, when nearly all the Uintah mothers whose babies died were pregnant.[36]

Even further studies have raised substantial questions regarding air pollution from Uinta Basin drilling for example and its public health effects on communities.[37]

Although the EA admits numerous Hazardous Air Pollutants ("HAPs") are associated with the oil and gas industry and "are known or suspected to cause cancer or other serious health effects, such as reproductive effects or birth defects, or adverse environmental impacts,"[38] the EA did not provide any analysis supported by scientific data of these harms that oil and gas operations have been shown to have on human health and safety. BLM's response to all of these points is the cavalier statement that "[t]he Vernal Field Office RMP EIS, analyzed impacts to water resources. This EA tiers to that EIS." In other words, BLM completely ignored our comments on the issue and failed to look at any of these foreseeable threats to human health and safety that we raised.

vii. BLM Failed to Adequately Address Potential Impacts of Hydraulic Fracturing, Horizontal Drilling, and Other Unconventional Well Stimulation Techniques

Despite the likelihood of hydraulic fracturing occurring on the parcels to be leased,[39] and the severity of the impacts that would ensue from such controversial practices, BLM provides hardly any analysis on said impacts. BLM instead quotes the EPA's draft June 2015, Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water

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[36] Paul Solotaroff, "What's Killing the Babies of Vernal, Utah?" Rolling Stone (July 2, 2015).

[37] *See* Siddika N, Balogun HA, Amegah AK, Jaakkola JJ. Prenatal ambient air pollution exposure and the risk of stillbirth: systematic review and meta-analysis of the empirical evidence. *Occup Environ Med.* 2016 May 24. pii: oemed-2015-103086. doi: 10.1136/oemed-2015-103086; *see also* Annie Knox, "At Vernal forum, questions about air pollution, pregnancies, research," Salt Lake Tribune (April 19, 2015).

[38] EA at 19.

[39] EA at 27 ("If the parcels are developed the wells would likely be completed using hydraulic fracturing (HF) techniques.")

Resources ("EPA Draft" http://cfpub.epa.gov/ ncea/hfstudy/recordisplay.cfm?deid=244651), where the EPA states:

> We did not find evidence that these mechanisms have led to widespread, systemic impacts on drinking water resources in the United States...The number of identified cases where drinking water resources were impacted are small relative to the number of hydraulically fractured wells...There is insufficient pre- and post-hydraulic fracturing data on the quality of drinking water resources. This inhibits a determination of the frequency of impacts. Other limiting factors include the presence of other causes of contamination, the short duration of existing studies, and inaccessible information related to hydraulic fracturing activities. There is not sufficient evidence to support the contention that hydraulic fracturing negatively impacts ground water to an unacceptable degree...The potential impacts to surface and/or ground water from hydraulic fracturing activities has not been shown to reach a level requiring detailed analysis." See EPA Draft at ES-23.[40]

BLM therefore declined to analyze any potential impacts of fracking or other techniques on the water resources in the proposed action area. BLM does not even identify these resources that are on or surrounding the parcels at issue. The EA states vaguely that

> Water required for the drilling and completion of the proposed gas wells would be hauled by truck from a combination of the permitted water sources. It is estimated that approximately 3 acre-feet of water would be needed for the drilling and completion of one well. For the purposes of this document it is assumed that the water would be obtained from a fresh water source that would be depleting to the Colorado River System

The EA does not identify any of these water sources in the area to be leased, nor at any point in the EA explain why depletions to the Colorado River System would be "not significant." Instead BLM points to a few "avoidance and minimization" measures. As we argued above, existing regulations or protective measures do not automatically minimize the foreseeable impacts of oil and gas operations. BLM cannot pass off its legal obligations under NEPA to take a "hard look" at and disclose to the public all foreseeable impacts of its actions by pointing at existing policies and regulations or by assuming other regulatory agencies such as the Fish and Wildlife Service will nullify these impacts. BLM provided no evidence or analysis showing that the impacts of fracking and other extraction techniques likely to be used as a result of this action on water resources. In failing to do so, BLM violated NEPA.

These same deficiencies apply to the EA's treatment of the potential impacts of hydraulic fracturing on soil, vegetation, wildlife and wildlife resources, as well as human health and safety. BLM provided no analysis of the impacts of fracking or other unconventional extraction techniques on these resources. As we pointed out above, BLM's conclusion that impacts to

[40] See, e.g., EA at 105 ("Local aquifers (within the Marietta Unit) do not yield sufficient water to support industrial activities within the Marietta Unit. Therefore, the likelihood that the proposed leasing action and potential future mineral development would affect groundwater quantity is negligible.")

human health are not anticipated fails to cite to any supporting data, studies, or any scientific evidence

A. BLM Violated its Statutory Duty to Prepare an EIS under NEPA

NEPA requires a federal agency prepare an EIS before taking a "'major [f]ederal action[] *significantly* affecting the quality' of the environment." Kern v. U.S. Bureau of Land Mgmt., 284 F.3d 1062, 1067 (9th Cir. 2002) (emphasis added). The issues discussed above show that the potential impacts that the proposed action could have on the environment are indeed significant, which compels the preparation of an EIS.

An EIS must be prepared if substantial "questions are raised as to whether a project . . . may cause significant degradation of some human environmental factor."[41] It is not necessary to show that significant effects will in fact occur; raising substantial questions about whether a project *may* have a significant effect is enough to trigger BLM's obligation to prepare an EIS.[42] Because the aforementioned impacts are likely to have a significant effect on the environment, BLM is legally required under NEPA to prepare an EIS. This is especially true in light of the likelihood that fracking would occur on the leases.

In considering whether the proposed oil and gas leasing would have significant effects on the environment, NEPA's regulations require BLM to evaluate ten factors regarding the "intensity" of the impacts.[43] The existence of any "one of these factors may be sufficient to require preparation of an EIS."[44] Several of these "significance factors" are implicated in this proposed action and clearly warrant the preparation of an EIS:

The degree to which the effects on the quality of the human environment are likely to be highly controversial.

The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

The degree to which the proposed action affects public health or safety.

The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.[45]

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[41] *Ocean Advocates v. United States Army Corps of Eng'rs*, 402 F.3d 846, 864-65 (9th Cir. 2005) (internal quotes omitted).
[42] *Id.*
[43] 40 C.F.R. § 1508.27(b); *see also Center for Biological Diversity, et al. v. Bureau of Land Management, et al.*, 937 F. Supp. 2d 1140, 1155-59 (holding that oil and gas leases were issued in violation of NEPA where BLM failed to prepare an EIS and failed to properly address the significance factors for context and intensity in 40 C.F.R. § 1508.27).
[44] *Ocean Advocates*, 402 F.3d at 865; *Nat'l Parks & Conservation Ass'n*, 241 F.3d at 731.
[45] 40 C.F.R. § 1508.27(b)(4), (5), (2) & (9); *See Center for Biological Diversity*, 937 F. Supp. 2d at 1158-59 (holding that BLM failed to properly address the significance factors regarding controversy and uncertainty that may have been resolved by further data collection (citing *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1240 (9th Cir. 2005)).

Here, individually and considered as a whole, there is no doubt that significant effects may result from this proposal; thus, NEPA requires that BLM must prepared an EIS for the action.

i. The effects on the human environment will be highly controversial

A proposal is highly controversial when "substantial questions are raised as to whether a project . . . may cause significant degradation" of a resource, Nw. Envtl. Def. Ctr. v. Bonneville Power Admin., 117 F.3d 1520, 1536 (9th Cir. 1997), or when there is a "substantial dispute [about] the size, nature, or effect of the" action. Blue Mtns. Biodiversity, 161 F.3d at 1212. A "substantial dispute exists when evidence, raised prior to the preparation of [a] . . . FONSI, casts serious doubt upon the reasonableness of an agency's conclusions." Nat'l Parks & Conserv. Ass'n, 241 F.3d at 736. When such a doubt is raised, "NEPA then places the burden on the agency to come forward with a 'well-reasoned explanation' demonstrating why those responses disputing the EA's conclusions 'do not . . . create a public controversy.'" Id. See also Center for Biological Diversity, 937 F. Supp. 2d 1140.

We provided abundant evidence that oil and gas operations can cause significant impacts to human health, water resources, air quality, and imperiled species, raising substantial disputes about the "size, nature, or effect of the action." In addition, there is a substantial dispute regarding whether oil and gas activities on private surface, or federal surface overlying private minerals, would be sufficiently mitigated by state and Forest Service regulations.

ii. The lease sale presents highly uncertain or unknown risks

An EIS must also be prepared when an action's effects are "highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27(b)(5). 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."[46] As one court recently explained regarding oil and gas leasing that may facilitate fracking, "BLM erroneously discounted the uncertainty from fracking that may be resolved by further data collection."[47] There is also great uncertainty, for example, in the contributions of this action to the resulting effects of climate change, which are potentially catastrophic. While it is clear that oil and gas activities can cause great harm, there remains much to be learned about the specific pathways through which harm may occur and the potential degree of harm that may result. Additional information is needed, for example, about possible rates of natural gas leakage, the potential for fluids to migrate through the ground in and around the parcels, and the potential for drilling to affect local faults. NEPA dictates that the way to address such uncertainties is through the preparation of an EIS

iii. The lease sale poses threats to public health and safety

[46] *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1240 (9th Cir. 2005) (internal citations omitted).
[47] *Center for Biological Diversity*, 937 F. Supp. 2d at 1159.

As discussed in great detail above in section "II(A)," subsection "v," of this protest, the oil and gas activities that may occur as a result of the lease sale could cause significant impacts to public health and safety. 40 C.F.R. § 1508.27(b)(2). Fracking would pose a grave threat to the region's water resources, harm air quality, pose seismic risks, negatively affect wildlife, and fuel climate change.

As a congressional report noted, oil and gas companies have used fracking products containing at least 29 products that are known as possible carcinogens, regulated for their human health risk, or listed as hazardous air pollutants.[48] The public's exposure to these harmful pollutants alone would plainly constitute a significant impact. Furthermore, and as previously discussed, information continues to emerge on the risk of earthquakes induced by wastewater injected into areas near faults. It is undeniable that these earthquakes pose risks to the residents of the area and points beyond.

The use of fracking fluid, which is likely to occur as a result of the lease sale, poses a major threat to public health and safety and therefore constitutes a significant impact. BLM therefore must evaluate such impacts in an EIS.

iv. The action may adversely affect endangered, threatened, candidate, and agency sensitive species and their habitat

As we argued above, an EIS is required when an action "may adversely affect an endangered or threatened species or its habitat." 40 C.F.R. § 1508.27(b)(9). Although a finding that a project has "some negative effects does not mandate a finding of significant impact," an agency must nonetheless fully and closely evaluate the effects on listed species and issue an EIS if those impacts are significant. Klamath-Siskiyou Wildlands Ctr. v. U.S. Forest Serv., 373 F. Supp. 2d 1069, 1081 (E.D. Cal. 2004) (finding agency's conclusion that action "may affect, is likely to adversely affect" species due to "disturbance and disruption of breeding" and "degradation" of habitat is "[a]t a minimum, . . . an important factor supporting the need for an EIS"). Impacts to some of the BLM sensitive and other rare species threatened by the proposed lease have been highlighted in section "II(A)" subsection "ii" of these comments.

B. BLM Violated Section 7 of the ESA by Failing to Consult with FWS on the Impacts of the Proposed Oil and Gas Leasing on Threatened and Endangered Species

Congress enacted the ESA to provide "a program for the conservation of . . . endangered species and threatened species." 16 U.S.C. § 1531(b). Section 2(c) of the ESA establishes that it is "the policy of Congress that all Federal departments and agencies shall seek to conserve endangered species and threatened species and shall utilize their authorities in furtherance of the purposes of this Act." 16 U.S.C. § 1531(c)(1). The ESA defines "conservation" to mean "the use of all methods and procedures which are necessary to bring any endangered species or threatened species to the point at which the measures provided pursuant to this [Act] are no

[48] Waxman, Henry et al., United States House of Representatives, Committee on Energy and Commerce, Minority Staff, Chemicals Used in Hydraulic Fracturing (Apr. 2011) ("Waxman 2011")

longer necessary." 16 U.S.C. § 1532(3). Section 7(a)(1) of the ESA explicitly directs that all federal agencies "utilize their authorities in furtherance of the [aforesaid] purposes" of the ESA. 16 U.S.C. § 1536(a)(1).

Section 7 of the ESA requires BLM, in consultation with FWS, to insure that any action authorized, funded, or carried out by the agency is not likely to (1) jeopardize the continued existence of any threatened or endangered species, or (2) result in the destruction or adverse modification of the critical habitat of such species. 16 U.S.C. § 1536(a)(2). For each proposed federal action, BLM request from FWS whether any listed or proposed species may be present in the area of the agency action. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12. If listed or proposed species may be present in such area, BLM must prepare a "biological assessment" to determine whether the listed species may be affected by the proposed action. Id.

If BLM determines that its proposed action may affect any listed species or critical habitat, the agency must engage in formal consultation with FWS. 50 C.F.R. § 402.14. To complete formal consultation, FWS must provide BLM with a "biological opinion" explaining how the proposed action will affect the listed species or habitat. 16 U.S.C. § 1536(b); 50 C.F.R. § 402.14. If FWS concludes that the proposed action will jeopardize the continued existence of a listed species, or result in the destruction or adverse modification of critical habitat, the biological opinion must outline "reasonable and prudent alternatives." 16 U.S.C. § 1536(b)(3)(A).

BLM's oil and gas leasing proposal for these parcels in the Vernal Field Office is an agency action under the ESA. Action is broadly defined under the ESA to include all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by federal agencies, including the granting of leases, and actions that will directly or indirectly cause modifications to the land, water, or air. 50 C.F.R. § 402.02. BLM, however, failed request from FWS whether any listed or proposed species may be present in the action area. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12.

Moreover, there are listed species in the action area, and thus BLM further violated the ESA by failing to prepare a biological assessment. 16 U.S.C. § 1536(c)(1); 50 C.F.R. § 402.12.

I. Listed and Sensitive Species

The EA reveals the presence of numerous threatened, endangered, and sensitive species present and their critical habitat within the areas proposed for leasing, but fails to provide any meaningful information regarding potential effects. BLM must not only evaluate the indirect and cumulative effects on special status species under NEPA, it must also (a) consult (and/or confer in the case of black-footed ferrets) with the Fish and Wildlife Service under Section 7 regarding the effects of oil and gas development and water use on listed species and critical habitat, and (b) evaluate the effects on sensitive species under its own sensitive species policy.

a. Duty to Consult

Congress enacted the ESA in 1973 to provide for the conservation of endangered and threatened fish, wildlife, plants and their natural habitats.[49] The ESA imposes substantive and procedural obligations on all federal agencies with regard to listed and proposed species and their critical habitats.[50] Under section 7 of the ESA, federal agencies must "insure that any action authorized, funded, or carried out by such agency ... is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined ... to be critical."[51]

The definition of agency "action" is broad and includes "all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies," including programmatic actions.[52] Likewise, the "action area" includes "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."[53]

The duties in ESA section 7 are only fulfilled by an agency's satisfaction of the consultation requirements that are set forth in the implementing regulations for section 7 of the ESA, and only after the agency lawfully complies with these requirements may an action that "may affect" a protected species go forward.[54] The action agency must initially prepare a biological assessment (BA) to "evaluate the potential effects of the proposed action" on listed species.[55] If the action agency concludes that the proposed action is "not likely to adversely affect" a listed species that occurs in the action area, the Service must concur in writing with this determination.[56] If the Service concurs in this determination, then formal consultation is not required.[57] If the Service's concurrence in a "not likely to adversely affect" finding is inconsistent with the best available data, however, any such concurrence must be set aside.[58] If the action agency concludes that an action is "likely to adversely affect" listed species or critical habitat, it must enter into "formal consultation" with the Service.[59] The threshold for triggering the formal consultation requirement is "very low;" indeed, "any possible effect ... triggers formal consultation requirements."[60]

Formal consultation commences with the action agency's written request for consultation and concludes with the Service's issuance of a "biological opinion."[61] The biological opinion states the Service's opinion as to whether the effects of the action are "likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat."[62] When conducting formal consultation, the Service and the action agency must

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[49] *Id.* §§ 1531, 1532.
[50] *See id.* §§ 1536(a)(1), (a)(2) and (a)(4) and § 1538(a); 50 C.F.R. § 402.
[51] 16 U.S.C. § 1536(a)(2).
[52] 50 C.F.R. § 402.02.
[53] *Id.*
[54] *Pac. Rivers Council v. Thomas*, 30 F.3d 1050, 1055-57 (9th Cir. 1994).
[55] 50 C.F.R. § 402.12.
[56] *Id.* §§ 402.13(a) and 402.14(b).
[57] *Id.* § 402.13(a).
[58] *See id.* § 402.14(g)(8); 5 U.S.C. § 706(2).
[59] 50 C.F.R. §§ 402.12(k), 402.14(a).
[60] *See* Interagency Cooperation Under the Endangered Species Act, 51 Fed. Reg. 19,926 (June 3 1996).
[61] 50 C.F.R. § 402.02.
[62] *Id.* § 402.14(g)(4). To "jeopardize the continued existence of" means "to engage in an action that reasonably

evaluate the "effects of the action," including all direct and indirect effects of the proposed action, plus the effects of actions that are interrelated or interdependent, added to all existing environmental conditions – that is, the "environmental baseline."[63] The environmental baseline includes the past and present impacts of all Federal, state, and private actions and other human activities in the action area...."[64] The effects of the action must be considered together with "cumulative effects," which are "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation."[65]

If the Service concludes in a biological opinion that jeopardy is likely to occur, it must prescribe "reasonable and prudent alternatives" to avoid jeopardy.[66] If the Service concludes that a project is not likely to jeopardize listed species, it must nevertheless provide an incidental take statement (ITS) with the biological opinion, specifying the amount or extent of take that is incidental to the action (but which would otherwise be prohibited under Section 9 of the ESA), "reasonable and prudent measures" (RPMs) necessary or appropriate to minimize such take, and the "terms and conditions" that must be complied with by the action agency to implement any reasonable and prudent measures.[67]

The ESA requires federal agencies to use the best scientific and commercial data available when consulting about whether federal actions will jeopardize listed species.[68] Accordingly, an action agency must "provide the Service with the best scientific and commercial data available or which can be obtained during the consultation for an adequate review of the effects that an action may have upon listed species of critical habitat."[69] Likewise, "[i]n formulating its biological opinion...the Service will use the best scientific and commercial data available."[70] However, if the action agency failed "to discuss information that would undercut the opinion's conclusions," the biological opinion is legally flawed, and the ITS will not insulate the agency from ESA Section 9 liability.[71]

Section 7(d) of the ESA provides that once a federal agency initiates consultation on an action under the ESA, the agency, as well as any applicant for a federal permit, "shall not make any irreversible or irretrievable commitment of resources with respect to the agency action which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures which would not violate subsection (a)(2) of this section."[72] The purpose of section 7(d) is to maintain the environmental status quo pending the completion of consultation. Section 7(d) prohibitions remain in effect throughout the consultation period and until the federal

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would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species." *Id.* § 402.02.

[63] *Id.* §§ 402.14 and 402.02.

[64] *Id.*

[65] *Id.*

[66] *Id.* § 402.14(h)(3).

[67] 16 U.S.C. § 1536(b)(4); 50 C.F.R. § 402.14(i).

[68] *See* 16 U.S.C. § 1536(a)(2).

[69] 50 C.F.R. § 402.14(d).

[70] *Id.* § 402.14(g)(8).

[71] *See Ctr. for Biological Diversity v. BLM ("CBD")*, 698 F.3d 1101, 1127-28 (9th Cir. 2012).

[72] 16 U.S.C. § 1536(d).

agency has satisfied its obligations under section 7(a)(2) that the action will not result in jeopardy to listed species or adverse modification of critical habitat.

The Fish and Wildlife Service's 2008 Biological Opinion for the BLM Vernal Field Office's Resource Management plan considers at a field office-wide level the general impacts of oil and gas leasing on listed species within the planning area.[73] It explicitly conditions its findings of no jeopardy, however, on the requirement that "[a]ll site-specific projects designed under the proposed BLM Resource Management Plan would be subject to consultation requirements under Section 7 of the Endangered Species Act."[74]

b. BLM Sensitive Species Policy

Pursuant to Manual 6840, "[a]ll Federal candidate species, proposed species, and delisted species in the 5 years following delisting will be conserved as Bureau sensitive species."[75] The Objective of Manual 6840 is "[t]o initiate proactive conservation measures that reduce or eliminate threats to Bureau sensitive species to minimize the likelihood of and need for listing of these species under the ESA."[76] Manual 6840 further states that it is the BLM's Policy to promote the "conservation and to minimize the likelihood and need for listing" Bureau sensitive species.[77]

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."[78] The leasing of federal lands for oil and gas extraction is a discretionary BLM action that has the potential to adversely affect sensitive species including but not limited to the Graham's beardtongue (*penstemon grahamii*), White River beardtongue (*penstemon scariosus var. albifluvis*), golden eagle, and bald eagle.[79] 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.

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[73] U.S. Fish and Wildlife Service, Biological Opinion for the Vernal BLM Resource Management Plan 12-13 (2008) ("Vernal RMP BiOp").
[74] Vernal RMP BiOp 41 (black-footed ferret); *see also* Vernal RMP BiOp at 58 (Ute ladies'-tresses), 68 (Uinta basin hookless cactus), 75 (clay reed-mustard), 84 (shrubby reed-mustard), 115 (bonytail, Colorado pikeminnow, humpback chub, and razorback sucker).
[75] Manual 6840 at § .01.
[76] *Id.* at § .02 (emphasis added).
[77] *Id.* at § .06.
[78] *Id.* at § .04.
[79] EA at 24 Table 3.4, 29-30 Table 3.10

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."[80] 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."[81] Due to the potential harms from habitat loss and fragmentation, the appropriate spatial scale for determining threats to sensitive plants and animals from oil and gas development is the entire area subject to lease sales, rather than the piecemeal, limited APD-specific review that BLM is attempting to employ.

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."[82] Postponing any analysis of impacts to sensitive plants and raptors until the later APD stage forecloses the implementation of standard procedures and conservation 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."[83]

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.[84] This is likewise true in the context of even more general environmental review, such as under NEPA.[85] Furthermore, it is general practice to evaluate the impacts of several related projects with cumulative impacts proposed or reasonably foreseeable in the same

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[80] *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.").
[81] *Id.* at § .2(C) (emphasis added).
[82] *Id.* (emphasis added).
[83] 43 C.F.R. § 3101.1-2.
[84] *See i.e.* 50 C.F.R. §§ 402.14(a), (g)(8).
[85] *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.").

geographic region in a single, comprehensive, analysis.[86] Likewise, under the ESA an analysis of the effects of an action must consider actions that are interrelated or interdependent.[87] 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,[88] and consistent with the established practice of early, comprehensive review of potential impacts to sensitive species, BLM must consider impacts to the Graham's and White River penstemon and other sensitive species 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 candidate species, much like they protect proposed and listed species. Delaying an analysis of impacts to the Graham's and White River penstemon and other sensitive species until the APD stage risks harm to an at-risk species that could otherwise be avoided. A failure to address the impacts to sensitive species 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.

c. Black-Footed Ferret – Parcels UTU 91946 and UTU 91947

According to the EA and response to comments, parcels 094 and 103 (lease sale notice parcels UTU 91946 and 91947) are within the reintroduction zone for reintroduced black-footed ferrets.[89] The black-footed ferret, one of the most critically endangered mammals in North America, was reintroduced to the Coyote Basin in northeast Utah following near-extirpation in the wild.[90] The species was reintroduced to Utah as a nonessential, experimental population pursuant to a rule promulgated under Section 10(j) of the ESA.[91] Although nonessential experimental populations are not subject to the consultation requirement of ESA 7(a)(2), two provisions of ESA Section 7 still apply: (1) section 7(a)(1)—which requires all Federal agencies to use their authority to conserve listed species; and (2) section 7(a)(4)—which requires Federal agencies to confer with the Service on actions that are likely to jeopardize the continued existence of a proposed species throughout its range."[92] Under the requirements of Section 7(a)(1) and 7(a)(4), BLM must still ensure that it is using its authority to conserve the black-

[86] *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.").
[87] 50 C.F.R. §§ 402.14 and 402.02.
[88] *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.").
[89] EA at 30.
[90] U.S. Fish and Wildlife Service, Revised Black-Footed Ferret Recovery Plan 20 (2013).
[91] U.S. Fish and Wildlife Service, Establishment of a Nonessential Experimental Population of Black-footed Ferrets in Northwestern Colorado and Northeastern Utah, 63 Fed. Reg. 52,824 (Oct. 1, 1998).
[92] 63 Fed. Reg. at 52,824.

footed ferret, and must confer with the Fish and Wildlife Service to determine whether its actions will jeopardize the continued existence of the species.[93]

Importantly, the Section 10(j) rule for the Coyote Basin black-footed ferret production prohibits the "take" of black-footed ferrets under Section 9 of the ESA.[94] Allowing activities that harm federally-protected species, such as oil and gas drilling and associated ferret habitat destruction and mortality, opens up state and private actors to liability under section 9 of the ESA. Under section 9(a)(1)(B) of the ESA, it is illegal to engage in any activity that "takes" an endangered species.[95] The term "take" is defined in the "broadest possible manner to include every conceivable way" in which a person could harm or kill wildlife.[96] The term "take" is defined in the statute to include "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."[97]

The ESA's implementing regulations define "harm" to mean "significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding or sheltering."[98] The term "harass" is defined to mean "an intentional or negligent act or omission which creates the likelihood of injury to wildlife by annoying it to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering."[99]

Persons subject to the prohibition on take include individuals and corporations, as well as "any officer, employee, agent, department, or instrumentality of the Federal Government."[100] Further, "[t]he ESA prohibitions apply to actions by [governmental] agencies where their regulatory programs approve actions by third parties that contribute to causing the take."[101] To the extent that exploration and development resulting from oil and gas leasing will foreseeably cause ESA "take" of ferrets, BLM may not authorize such leasing without a valid permit issued by the U.S. Fish and Wildlife Service.[102]

The black-footed ferret is dependent for both habitat and forage on, in Coyote Basin, white-tailed prairie dog colonies. Both BLM, the Fish and Wildlife Service, and scientific research have all documented that oil and gas development can have serious adverse effects, including mortality, on both black-footed ferrets directly and the prairie dog colonies critical to their survival. The Vernal RMP EIS found that:

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[93] 63 Fed. Reg. at 58,835.
[94] 50 C.F.R. § 17.84(g).
[95] 16 U.S.C. § 1538(a)(1)(B).
[96] S. Rep. No. 93-307, 93d Cong., 1st Sess. 1, reprinted in 1973 USCAAN 2989, 2995.
[97] 16 U.S.C. § 1532(18).
[98] 50 C.F.R. § 17.3.
[99] *Id.*
[100] 16 U.S.C. § 1532(13).
[101] *Strahan v. Coxe*, 127 F.3d 155 (1st Cir. 1997); *Animal Welfare Inst. v. Martin*, 623 F.3d 19 (1st Cir. 2010); *Defenders of Wildlife v. EPA*, 882 F.2d 1294 (8th Cir. 1988); *Loggerhead Turtle v. County Council of Volusia County*, 148 F.3d 1231 (11th Cir. 1998); *Seattle Audubon Soc'y v. Sutherland*, 2007 U.S. Dist. LEXIS 31880, 2007 WL 1300964 (W.D. Wash. May 2, 2007).
[102] 50 C.F.R. § 17.84(g)(2).

> The minerals development proposed in the Proposed RMP would have multiple short-term and long-term direct and indirect adverse impacts on white-tailed prairie dog and black-footed ferret populations in the VPA. For this analysis it was assumed that black-footed ferrets are completely dependent upon white-tailed prairie dog towns for survival in those areas where they have been reintroduced into the VPA. Therefore, the impacts of minerals development on white-tailed prairie dog populations would be similar to the impacts on black-footed ferret populations. Minerals development would likely lead to an increase in road densities, a reduction in habitat from the installation of mineral development infrastructure, and an increase in habitat fragmentation.[103]

Similarly, the Vernal RMP BiOp found, at a general plan-wide level, that:

> Although stipulations or conditions may be included in the terms of these mineral contracts, there are potential impacts associated with these various activities. . . . General direct and indirect impacts resulting from this program would include increased human presence and vehicle traffic in ferret habitat and surface disturbance. Specific negative impacts include decreased availability and use of suitable habitat; direct loss of habitat; and a decrease in prairie dog prey. As a result, black-footed ferret adults and offspring may experience a reduction in fitness. There is some potential for mortality if energy exploration or development activities result in the crushing of burrows. Increased vehicle traffic could also result in mortality from vehicle collisions.[104]

The best available scientific information regarding white-tailed prairie dogs (upon which black-footed ferrets in Coyote Basin rely exclusively for both burrows and prey base) demonstrates significant adverse impacts from oil and gas development:

> Petroleum development and agriculture are the most frequently cited as being of immediate conservation concern, and there is ample evidence to support this assertion (Seglund et al. 2004). Oil and gas development is currently occurring at unprecedented levels, with substantial expansion expected in the future, making it an ever increasing threat. In Wyoming, 77% of the white-tailed prairie-dog predicted range is being developed at some level for oil and gas, Colorado has 4,953 wells and Utah has 8,835 wells in the predicted distribution of white-tailed prairie dogs (Seglund et al. 2004). Even when petroleum activity does not directly eliminate active burrows, it has been shown to be detrimental to prairie dog populations.[105]

The 2004 Conservation Assessment for white-tailed prairie dogs similarly identified oil and gas development within prairie dog habitat as a limiting factor for the

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[103] Vernal RMP EIS at 4-459.
[104] Vernal RMP BiOp at 38.
[105] Douglas E. Kenaith, Species Assessment for White-Tailed Prairie Dog (*cynomus leucurus*) in Wyoming 26 (2004) (citing A.E. Seglund *et al.*, White-Tailed Prairie Dog Conservation Assessment (2004)).

Coyote Basin population in Utah.[106] Neither the Vernal RMP EIS or its accompanying BiOp provide sufficient site-specific development, colony and occurrence data to permit a reasoned evaluation of the extent and viability of remaining prairie dog and black-footed ferret habitat in coyote basin, or to evaluate the impact of proposed leases 094 and 103 on the remaining ferrets and white-tailed prairie dogs in the area and their prospects for recovery and/or reestablishment.

The Coyote Basin reintroduction was the first black-footed ferret reintroduction program in 1999, and was designed in part to determine whether black-footed ferrets could be reestablished within white-tailed prairie dog colonies that have been affected by plague. Between 1999 and 2012, 424 ferrets were released, but the 2008-2012 population was estimated at only 7 adults.[107] Yet the EA provides no analysis or disclosure whatsoever of the effects of leasing parcels 094 and 103 on (a) the scientific integrity of the reintroduction experiment, (b) the survival of the remaining Coyote Basin population, or (c) the overall reintroduction and recovery effort for the species. BLM must carry out such an analysis under NEPA, and must also consult and/or confer with the Fish and Wildlife Service under ESA Section 7(a)(4) and the terms of the Vernal RMP Biological Opinion.

Appendix D to the EA discloses that BLM deferred 23 nominated parcels from this lease sale based on the presence of white-tailed prairie dog colonies.[108] In response to comments on the EA, BLM states:

> Parcels UT-1116-94 and UT-1116-103 are included within the State's reintroduction area boundaries, but these leases are not located within the black-footed ferret management zone; therefore, additional mitigation is not required. In addition, the majority of these parcels are located on privately owned lands. There is a portion of parcel UT-1116-103 which is located on BLM-administered lands that contains suitable habitat for prairie dogs. There are historic burrows on this parcel; however, prairie dogs have not occupied these colonies for several years. For spatial references in relation to the parcels suitable habitat for these species occurs over one mile of the lease area and the nearest known ferret occurrence is located over 3 miles of the leases. These parcels were brought forward for analysis and not deferred because of the lack of suitable habitat and/or species.[109]

In light of the reintroduction effort and the threats facing black-footed ferrets and white-tailed prairie dogs, the fact that prairie dogs have not occupied the colonies for "several years," without more, does not provide adequate justification for BLM to ignore their potential for renewed prairie dog and/or ferret use in the future, and their potential role in the reintroduction experiment.

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[106] Seglund *et al.* at 46-47.
[107] Recovery Plan at 22 Table 2.
[108] Final EA at 131-148.
[109] Final EA at 149 App. E.

Absent additional information regarding the location and condition of white-tailed prairie dog colonies, black-footed ferret occurrence and habitat use, and site-specific potential impacts of well pads, roads, and traffic on habitat, prey, and mortality, the inclusion of parcels 094 and 103 in the proposed lease sale is arbitrary and unjustified.

d. Endangered and threatened plants – Parcels UTU 91938, 91940, 91941, and 91948

EA Table 3.5 lists the five endangered or threatened plants inhabiting the proposed lease parcels. Yet the EA, and proposed stipulations, fail to adequately disclose or mitigate impacts to these five listed species from oil and gas leasing and development. BLM must take a hard look at listed plant impacts in an EIS, and must consult with the Fish and Wildlife Service under ESA Section 7(a)(2) to ensure its action will not cause jeopardy to these species or adverse modification of their critical habitat.

For the Uinta Basin Hookless cactus, found on parcels UTU 91938 (38), 91940 (49), 91941 (67), and 91948 (105), the Fish and Wildlife Service's recent GasCo BiOp found the 300 foot buffer proposed for the lease sale[110] ineffective at minimizing impacts to the species:

> On a broader landscape scale, the section 7 consultation process has been less effective at minimizing impacts to *Sclerocactus wetlandicus* because: individual consultations are minimally effective at mitigating landscape-scale cumulative impacts, recent research indicates that a 300-foot buffer may not be sufficient to protect gene flow between individuals of the *Sclerocactus* species, and the scientific literature indicates that the impacts of roads and other surface disturbances can extend far beyond 300 feet. Through section 7 consultations, individual projects on a case-by-case basis-even large energy field development EISs-have not been likely to jeopardize the continued existence ofS. *wetlandicus* because of commitments to mitigation measures. As a result, hundreds of energy development projects have been approved across the landscape ofthe Uinta Basin. As a result, habitat fragmentation, fugitive dust, invasive species, and hydrologic changes have increased across the landscape. In the foreseeable future these disturbances are likely to reach a level at which recovery ofS. *wetlandicus* will be appreciably reduced.
>
> Recent research indicates that a 300'-foot buffer between energy development and *Sclerocactus* plants may not be sufficient to protect pollinators and thus preserve gene flow between sub-populations. Connectivity between sub-populations is important because *Sclerocactus* species are out-crossing and require pollen from another plant's flower to produce viable seed (Tepedino et al., 201 0). Thus, maintaining pollinator habitat and pollinator populations is important for survival and recovery of *Sclerocactus* species. The commonest *Sclerocactus* flower visitors are Halictinae bees (a subfamily of bees that pollinate *Sclerocactus)* that can travel from 400 meters to 1,000 meters (Tepedino et al., 2010). These bees

[110] Stipulation TE-12, EA 94-95

> also use other native plants besides *Sclerocactus* species as food sources, and protecting overall native plant diversity is important to protect *Sclerocactus* pollinators (Tepedino et al., 201 0). Finally, protecting bee nests is critical (Tepedino et al., 201 0), but we do not currently have a reliable way to identify bee nests in the field. Although it does not appear the S. *wetlandicus* is pollinatorlimited (Tepedino et al., 2010), we should strive to institute protections for S. *wetlandicus* pollinators before this becomes the case.
>
> The scientific literature continues to support the idea that effects from roads and other disturbances can extend far beyond 300 feet (see, for example, (Walker and Everett, 1987; Myers-Smith and others 2006; Farmer, 1993). This research has been available for many years, even when we established the 300-foot buffer with federal land management agencies. These studies are not specific to the Uinta Basin, so we were conservative in our estimate of the minimum buffer needed to avoid jeopardizing survival and recovery of *Sclerocactus* species. At the time we thought that data from long-term population monitoring of *Sclerocactus* conducted by the BLM and three-year monitoring required for projects within 300-feet ofplants would give us information specific to our species and ecosystem that we could use to refine buffers, ifnecessary. Unfortunately, inadequate study design (from the three-year monitoring) and incomplete results (from the long-term population monitoring) have not allowed us to draw any conclusions regarding what minimum buffer is sufficient to protect *Sclerocactus* species across their known ranges. Our previous knowledge of surface disturbance literature combined with new information regarding pollinators (from Tepedino et al., 2010) has made it imperative to implement more restrictive protective measures for S. *wetlandicus.*

Two other recent draft recovery plans for two small Pediocacti (P. winkleri and P. despainii) in Utah that have somewhat similar pollinators, and possibly some smaller-sized bees, indicate that a 300 foot buffer is grossly inadequate to conserve pollinators.[111] In those recovery plans, FWS was recommends no surface occupancy or deferral of new leases, or, if NSO is not possible, "BLM should implement at minimum 400 m (1,312 ft) avoidance buffers, surface disturbance limits, and compensatory mitigation in areas where NSO is not possible."[112]

Similarly, in 2014, pollinator expert Dr. Vincent Tepedino reviewed the Conservation Agreement for the Graham's and White River beardtongues, and found a 300 foot buffer inadequate to conserve pollinators:

> a 300 ft buffer around plants is insufficient to avoid effecting larger, strong-flying pollinators such as species of Anthophora (Apidae) and Pseudomasaris

[111] U.S. Fish and Wildlife Service, Draft Recovery Plan, Winkler cactus (*Pediocactus winkleri*) and San Rafael cactus (*Pediocactus despainii*) 85 (Dec. 2015), *available at* http://ecos.fws.gov/docs/recovery_plan/Pediocactus%20Recovery%20Plan%20Final%20DRAFT%20signed%2004052016_1.pdf.
[112] *Id.* at 85.

(Masaridae). A minimum of a quarter mile (1300 ft) would still be insufficient but would be a much more reasonable compromise.

The Sclerocacti have some even larger potential pollinators and so would need an even larger buffer. And all Sclerocacti species in Utah, common and uncommon, are in decline throughout the state for a variety reasons (drought and likely related increased beetle death, livestock grazing, invasive species, etc.).[113]

BLM must take a hard look at the effects of well pads, roads, and other ground disturbance on the Uinta Basin hookless cactus and other listed plant species, including effects on their pollinators and effects extending beyond the 300 foot buffer proposed in Stipulation TE-12. In addition, BLM must consult with the Fish and Wildlife Service, using best available scientific information, to determine whether the proposed action will jeopardize the continued existence of these species.

e. Graham's and White River beardtongues – Parcels UTU 91937, 91944, and 91950

Graham's and White River beardtongues, a BLM sensitive species, are present on parcels 91937 (032), 91944 (121), and 91950 (122).[114] Oil and gas development in the Uinta Basin threatens these sensitive beardtongues.[115] As of July 2014, 27% and 13% of all known Graham's and White River beardtongue habitat, respectively, occurred on lands that already had been leased by BLM or the State of Utah for oil and gas development.[116] Given rapidly increasing oil and gas production in the region over the past two decades and current exploration occurring in beardtongue habitat, FWS expects oil and gas activity to pose an increasing threat.[117] Although the Fish and Wildlife Service withdrew these beardtongues from proposed ESA listing largely in reliance on a conservation agreement, the BLM still has the duty under its Manual and sensitive species policy to conserve the species.

The Fish and Wildlife Service previously proposed these two beardtongues for listing under the Endangered Species Act, then withdrew the proposed leasing largely in reliance on a conservation agreement among various state and federal entities. Last month, however, the U.S. District Court vacated the Service's decision to withdraw listing, based on improper reliance on

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[113] Dr. Vincent Tepedino, Public Submission, Comment on FWS-R6-ES-2013-0081-0030, Doc. No. FWS-R6-ES-2013-0081-0041 (June 20, 2014).
[114] EA at 24.
[115] U.S. Fish and Wildlife Service, Threatened Species Status for Graham's Beardtongue (Penstemon grahamii) and White River Beardtongue (Penstemon scariosus var. albifluvis), proposed rule (Aug. 6, 2013), 78 Fed. Reg. 47,590; USFWS, Withdrawal of the proposed rules to list Graham's beardtongue (*Penstemon grahamii*) and White River beardtongue (*Penstemon scariosus var. albifluvis*) and designate critical habitat; proposed rules (Aug. 6, 2014), 79 Fed. Reg. 46,042, 46,077.
[116] 79 Fed. Reg. at 46,077.
[117] 79 Fed. Reg. at 46,077 ("substantial numbers of Graham's and White River beardtongue individuals (and their habitat) occur in areas that are leased for oil and gas development (Tables 5 and 6), and thus it is reasonable to conclude that the impacts of oil and gas activity will increase in the future as additional areas are developed.")

uncertain and/or ineffective conservation measures. Therefore, the BLM should defer from leasing parcels 32, 121, and 122, each of which overlaps Graham's beardtongue and/or White River beardtongue habitat. The Conservation Agreement for those species relied on in the Lease Sale EA was recently invalidated by the United States District Court for the District of Colorado. *See Rocky Mountain Wild, et al. v. Walsh, et al.*, Case 1:15-cv-00615-WJM (Oct. 25, 2016) (attached as Ex. 4), which held that the United States Fish and Wildlife Service ("FWS") violated the Endangered Species Act by:

> 1) "[C]oncluding that yet-to-be-enacted regulatory and non-regulatory measures mandated by the Conservation Agreement were 'existing regulatory mechanisms';
>
> 2) "[F]ailing to account for the [Conservation] Agreement's expiration when determining whether the beardtongues face material threats in the 'foreseeable future'"; and
>
> 3) Failing to take "into account economic considerations when imposing a 300-foot buffer zone around each beardtongue."

Rocky Mountain Wild, Case 1:15-cv-00615-WJM at *2-3.

Rather than immediately set-aside the Conservation Agreement and order FWS to re-consider listing the species as threatened or endangered under the ESA, the court ordered the parties "to meet in person and discuss whether the Conservation Agreement may be modified in a manner satisfactory to Plaintiffs."[118] Id. at *3. However, the court's decision had an immediate effect on BLM's leasing decision at issue which, at least in part, is based on management decisions made in the Conservation Agreement for Graham's and White River beardtongues. See, e.g., Lease Sale EA at 25 (Graham's beardtongue is present on lease parcels 32, 121, and 122); *id.* at 26 (noting that parcels subject to the Conservation Agreement "will require additional mitigation measures if developed"); *id.* at 80, 86 (lease stipulations and notices for parcels 32, 121, and 122).

Therefore, BLM should defer from leasing all parcels in Graham's and White River beardtongue habitat until either a modified Conservation Agreement is prepared or FWS reexamines whether the species should be listed as threatened or endangered under the ESA.

The EA claims that the Graham's penstemon would be subject protections under a species-specific stipulation, UT-LN-90:

> For the parcels on federally managed surface, application of the appropriate species-specific lease notices and application of lease notices UT-LN-49 (Utah Sensitive Species) , UT-LN-51 (Special Status Plants: Not Federally Listed), UT-LN-89 (Horseshoe milkvetch [*Astragalus equisolensis*]), and UT-LN-90 (Graham beardtongue [*Penstemon grahamii*]) would be adequate for the leasing stage to disclose potential restrictions against future authorizations. Lease notices UT-LN-49 and UT-LN-51 may require modifications to the Surface Use Plan of Operations. Lease notices UT-LN-89 and UT-LN-90 outline specific mitigation measures and survey requirements for each specific BLM-Sensitive plant species they include.[119]

[118] These meetings have not yet been scheduled.
[119] EA at 39.

Review of the Preliminary Oil and Gas Lease Sale List (EA Appendix A), however, reveals that no such stipulation LN-90 exists, nor do any of the three proposed parcels containing sensitive penstemons (including Conservation Area parcels 121 and 122) have a Graham's beardtongue stipulation attached.[120] The BLM cannot assume that impacts to the two sensitive beardtongues will be mitigated by a stipulation that does not exist.

Parcels 121 and 122 are within "conservation areas" under the Conservation Agreement.[121] seeks "to identify, avoid, minimize, and mitigate potential threats to Graham's and White River beardtongues and their habitats, and to promote the species' long-term persistence, thereby preventing the need for listing either species." Conservation Agreement at 1. To achieve this goal, the Conservation Agreement establishes the following objectives:

- Minimize and mitigate direct, indirect, and cumulative threats to both species.
- Establish conservation areas that protect occupied and unoccupied habitat.
- Promote stable or increasing populations within identified conservation areas and across the range of the two species.
- Investigate and demonstrate successful ecological restoration methods for transplanting and repopulating self-sustaining Graham's and White River beardtongue plant populations and community associates . . . and pollinators following surface disturbance. [122]

The EA fails to take a hard look at any of these four objectives. The management strategy for these conservation areas is set forth in twenty-nine "conservation actions" including the following:

- A maximum of 5% new surface disturbance for Graham's beardtongue and 2.5% new surface disturbance for White River beardtongue will be allowed per conservation unit from the date this Agreement is signed.
- Ground-disturbing activities will avoid Graham's and White River plants by 300 feet both inside and outside designated conservation areas. [123]

The EA makes cursory acknowledgment that Parcels 121 and 122 are within beardtongue "conservation areas," EA at 24, but does not meet the Agreement's management strategy. It does not minimize or mitigate the direct, indirect, and cumulative impacts to the species. Instead, it postpones any and all meaningful analysis to some unknown date and applies unenforceable Lease Notices to lease parcels which are found to contain either species' habitat.[124]

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[120] *See* EA at 78, 86.

[121] EA at 24; *see also See* Conservation Agreement and Strategy for Graham's Beardtongue (*Penstemon grahamii*) and White River Beardtongue (*P. scarlosus var. albifluvis*) (April 2014) (Conservation Agreement), *available at* https://www.fws.gov/mountain-prairie/species/plants/2utahbeardtongues/20140505ConservationAgreement.pdf.

[122] Conservation Agreement at 2.

[123] Conservation Agreement at 18; *see also id.* at 19-25.

[124] *See Sierra Club v. Peterson*, 717 F.2d 1409, 1413 (D.C. Cir. 1983) (federal agencies cannot "foreshorten[] [their] view of the impacts which could result from the act of *leasing*"); *New Mexico ex rel. Richardson v. BLM*, 565 F.3d 683, 717-19 (issuing leases without Non-Surface Occupancy stipulations constitutes an irretrievable commitment of resources).

BLM cannot assure that the leasing of additional land in proposed conservation areas will not violate the 5% or 2.5% maximum new surface disturbance threshold. Moreover, leasing these parcels is a direct violation of the Conservation Agreement's stated objective to "[p]romote stable or increasing populations within identified conservation areas and across the range of the two species." In proposing both species' for listing under the ESA, FWS stated that "Graham's and White River beardtongues are particularly vulnerable to the effects of energy development because their ranges overlap almost entirely with oil shale and tar sands development areas, as well as ongoing traditional oil and gas drilling."[125]

The Conservation Agreement also identified oil and gas exploration and development as a serious threat to Graham's and White River beardtongue habitat and long-term viability.[126] Moreover, road construction and maintenance, invasive weeds, off-road vehicles, habitat fragmentation, and climate change – all factors exacerbated by the leasing of parcels in these areas – also threaten both species' habitat and ability to survive in the long-term. *Id.* The EA does not discuss or analyze any of these issues, and thus fails either to take a hard look at impacts under NEPA or to meet BLM's conservation obligations under the Sensitive Species Policy and the Conservation Agreement.

f. Colorado River endangered fish (All Parcels)

All proposed sale parcels have the potential to impact the four Colorado River endangered fish species (bonytail chub, Colorado pikeminnow, humpback chub, and razorback sucker) through water depletions resulting from oil and gas development.[127] Stipulation TE-03 requires consultation on and reporting of, but does not prohibit, such water depletions:

> Water depletions from *any* portion of the Upper Colorado River drainage basin above Lake Powell are considered to adversely affect or adversely modify the critical habitat of the four resident endangered fish species, and must be evaluated with regard to the criteria described in the Upper Colorado River Endangered Fish Recovery Program. Formal consultation with USFWS is required for all depletions. All depletion amounts must be reported to BLM.[128]

In the 2008 Vernal RMP BiOp, the Fish and Wildlife Service re-confirmed its long-standing opinion that all depletions from the Upper Colorado will jeopardize the continued existence of the four listed fish:

> Water depletions from the Upper Colorado River Basin are a major factor in the decline of the threatened and endangered Colorado River fish. The USFWS determined that any depletion will jeopardize their continued existence and will likely contribute to the destruction or adverse modification of their critical habitat

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[125] 78 Fed. Reg. at 47598; *see also id.* at 47600 ("The impacts of traditional oil and gas development on Graham's and White River beardtongues are expected to be high.").
[126] *See* Conservation Agreement at 19.
[127] EA at 29.
[128] Stipulation TE-03, EA at 90-91.

> (USDI, Fish and Wildlife Service, Region 6 Memorandum, dated July 8, 1997). However, the Recovery Program was established specifically to offset the negative effects of water depletions to the endangered fish populations, and to act as the Reasonable and Prudent Alternative for these depletions. Actual water depletions will be determined, and Section 7 consultation reinitiated on a project-specific basis. [129]

As specified in the Vernal RMP BiOp, BLM must initiate consultation on the proposed lease sale on a project-specific basis. Significant new information regarding progress under the Recovery Program and climate change effects on Green and Colorado River flows requires independent reevaluation of the effects of water depletions on the four endangered fish.

The Recovery Program's most recent Assessment of Sufficient Progress under the Upper Colorado River Endangered Fish Recovery Program indicates that Colorado pikeminnow are in decline and failing to meet recovery goals in the Green River Subbasin that will be affected by the proposed action:[130]

> Data from the third round (2011–2013) of population estimates for the Green River Subbasin are still being analyzed (thus no confidence intervals are shown for the 2011–2013 estimates in Figure 4). Preliminary results from this analysis indicate adults and sub-adults are in decline throughout the entire Green River Subbasin.[131]
>
> Another demographic requirement in the 2002 Recovery Goals is that recruitment of age-6, naturally-produced fish must equal or exceed mean annual adult mortality. Estimates of recruitment age fish have averaged 1,455 since 2001, but have varied widely (Figure 5). Recruitment exceeded annual adult mortality only during the 2006 – 2008 period.[132]

Pikeminnow within the Green River subbasin are also being adversely affected by mercury concentrations, which are exacerbated by water withdrawals:

> Although a good portion of the recovery factor criteria (USFWS 2002a) are being addressed, nonnative fish species continue to be problematic and researchers now speculate that mercury may pose a more significant threat to Colorado pikeminnow populations of the upper Colorado River basin than previously

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[129] Biological Opinion for BLM Resource Management Plan (RMP), Vernal Field Office (VFO), 113 (Oct. 23, 2008), available at http://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.4719.File.dat/VernalBiologicalOpinion.pdfhttp://www.blm.gov/style/medialib/blm/ut/vernal_fo/planning/rod_approved_rmp.Par.4719.File.dat/VernalBiologicalOpinion.pdf

[130] Fish and Wildlife Service, Final 2014--2015 Assessment of "Sufficient Progress" Under the Upper Colorado River Endangered Fish Recovery Program in the Upper Colorado River Basin 7-8(Oct. 7, 2015) ("Sufficient Progress Assessment"), *available at* http://www.coloradoriverrecovery.org/documents-publications/section-7-consultation/sufficientprogress/2015_Suff_Progress_Memo.pdf.

[131] Sufficient Progress Memo at 7.

[132] Sufficient Progress Memo at 8.

> recognized. Osmundson and Lusk (2012) recently reported elevated mercury concentrations in Colorado pikeminnow muscle tissue; the highest concentrations were from the largest adults collected from the Green and Colorado river subbasins. Mercury exposure has been reported to impair reproduction in fish (Batchelar et al. 2013; J. Lusk, U.S. Fish and Wildlife Service, personal communication). Laboratory experiments have shown diminished reproduction and endocrine impairment in fish exposed to dietary methyl mercury at environmentally relevant concentrations, with documented effects on production of sex hormones, gonadal development, egg production, spawning behavior, and spawning success.[133]

Adverse effects from oil and gas development are not limited to the Green River water depletions addressed by the Upper Colorado Endangered Fish Recovery Program. BLM must also consider, and consult on, foreseeable water quality impacts from oil and gas development and the resulting wells, pipelines, pits, and soil disturbance. The Fish and Wildlife Service's recent Biological Opinion for the GasCo Energy Inc. Field Development Project EIS found that, in addition to water depletions, oil and gas development in the Uinta Basin has a significant potential for impacts to Colorado River endangered fish resulting from the highly foreseeable probability of spills and contamination:

> There is a greater potential for impacts from pollutants, if a pipeline, well pit, or other source were to inadvertently release contaminated fluids into waterways at points near the Green and White Rivers. Through direct or indirect discharge, these pollutants could reach the Green River and negatively impact water quality to the point of affecting native fish populations. Direct impacts will result from a discharge from a pipeline or well pit reaching the Green River in its original form or within a single release event. Indirect effects occur when discharges are released to the .ground and are later released to the river after being carried by an erosion event or carried by rain or snowmelt runoff. As more well and pipeline development occurs in the project area the chance of pollutants reaching the Green River increases, thus increasing the potential of harm to native fish populations.
>
> Approximately 744 pipeline crossings (61.9 miles) of intermittent/ephemeral drainages that are tributary to the Green River will be required, though no wells, roads, or pipelines are proposed within the 100year floodplain for the Green River. In addition, no wells or pipelines are proposed within 1 00-year floodplains of Green River tributaries within 5 miles of the river.
>
> While applicant-committed measures will reduce the chance for spills or leaks of contaminants, accidental releases can and do still occur. According to the National Response Center, there have been at least 219 spills and releases within Carbon, Duchesne, and Uintah Counties from January 1991 through August, 2011 due to oil and gas development and related activities affecting water, land and air.

[133] Sufficient Progress Memo at 10.

> Spill incidences reviewed in Utah include corrosion and leakage of surface and buried pipelines, broken well rods, valve and gasket failures, wellhead pressure buildups, shutoff alarm malfunctions, leakage of trace systems, loss of formation water to the surface during drilling, and vehicular related traffic accidents. Releases have included crude oil, natural gas, hydrochloric acid, condensate, salt water, ethylene glycol, and produced water in various quantities.
>
> Releases of harmful agents into floodplain habitats could result in significant adverse impacts to the endangered fish and their designated critical habitat. One of the constituent elements of the designated. critical habitat for the four Colorado River fish is contaminant-free water. Any release of contaminants into the floodplain will result in degradation of critical habitat and could result in take of individual fish, including downstream impacts to larvae and juveniles.[134]

In addition, neither the 2008 VFO RMP nor the Draft EA considered the impacts of climate change on these water resources, such as the decline in stream flows. This is a significant omission, as numerous climate change models show anthropogenic climate change is profoundly impacting the Colorado River in ways that are altering temperature, streamflow, and the hydrologic cycle, which we discussed in our previous comment letter. Changes observed to date include rising temperatures, earlier snowmelt and streamflow, decreasing snowpack, and declining runoff and streamflow. Modeling studies project that these changes will only worsen, including continued declines in streamflow and intensification of drought. Climate change is likely to have significant effects on the endangered fish and the Colorado River ecosystem, and the effect of climate change on future flow regimes and water temperatures must be taken into account in the consultation process and considering the sufficiency of the existing Recovery Program.

C. BLM Failed to Respond to Comments

We pointed out several significant foreseeable impacts in our comments on the draft EA. BLM's responses in its Final EA have dismissed nearly all of these issues without providing any evidentiary support or scientific analysis to conclude that the impacts are insignificant. Instead, BLM insists that it will look at these impacts after the leases have been issued and have entered the development stage. BLM's failure to consider public comments violates NEPA's requirement that agencies take a "hard look" at environmental consequences. See W. Watersheds Project v. Kraayenbrink, 620 F.3d 1187, 1206 (9th Cir. 2010).

III. Conclusion

Unconventional oil and gas development not only fuels the climate crisis but entails significant public health risks and harms to the environment. Accordingly, BLM should prepare an EIS that thoroughly analyzes the effects of the proposed lease auction, as compared to the alternative of no new fossil fuel leasing and no fracking or other unconventional well stimulation methods within the VFO planning area. We strongly urge BLM to defer the proposed lease sale, prepare a

[134] Biological Opinion for the GasCo Energy Inc. Field Development Project EIS 26 (2011).

legally adequate EIS for this proposed oil and gas leasing action, and consult under Section 7 of the ESA, prior to allowing the proposed action to move forward. Thank you for your consideration of these comments.

Sincerely,

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