



July 15, 2011

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RE: PROTEST OF BLM'S SEPTEMBER 14, 2011 COMPETITIVE OIL AND GAS SALE

This protest is filed on behalf of the Center for Biological Diversity (the "Center"), Sierra Club, and Los Padres ForestWatch pursuant to 43 CFR 3120.1-3. The Center and Sierra Club formally protest the inclusion of all four parcels included in the Bureau of Land Management's ("BLM") September 14, 2011 competitive oil and gas lease sale in California. Los Padres ForestWatch joins this protest with respect to those lease sale parcels located in Monterey County.

INTRODUCTION

As described in the Environmental Assessment ("EA"), BLM proposes offering for sale approximately 2,605 acres of Federal mineral estate for competitive oil and gas leasing. (EA at 7.) Of the approximately 2,605 acres of Federal mineral estate land that are considered for leasing, approximately 360 acres are public surface with Federal mineral estate and approximately 2,245 acres are split-estate (private surface with Federal subsurface minerals). Notably, areas that would be open to leasing in Monterey County

Center for Biological Diversity, Los Padres ForestWatch, Sierra Club
Protest of September 14, 2011 Lease Sale

are in designated “watershed areas” that “are particularly important in this region due to the location of San Antonio Reservoir.” (EA at 16.) Yet, despite the sensitivity of this area, the EA fails to adequately analyze and disclose the grave threats to water quality posed by the hydraulic fracturing (“fracking”) process and other processes used in oil and gas drilling. In addition, the EA fails to take a hard look at the Project’s impacts to global warming caused by the emission of greenhouse gas pollution – pollution that is caused, in part, by wasteful, inefficient production operations that release methane to the atmosphere, the very resource that drilling is meant to produce to provide energy to consumers (methane is the primary constituent of natural gas) – and impacts to endangered species including the California condor, San Joaquin kit fox, and the threatened South-Central Coast steelhead DPS and its designated critical habitat. The EA also grossly understates potential impacts from the lease sale by underestimating the amount of oil and gas activity reasonably expected to occur as a result of the lease sale. Finally, the EA fails to consider reasonable alternatives designed to address the potential for greenhouse gas pollution and methane waste from development that would take place on these leases.

Because the EA fails to disclose and take a hard look at the environmental consequences of the lease sale and fails to consider reasonable alternatives, BLM must withdraw the EA and prepare a valid environmental review that complies with NEPA. Because the EA, despite its inadequacies, raises substantial questions about the sale’s environmental consequences and therefore meets the “significance” threshold of the National Environmental Policy Act (NEPA), BLM should immediately cancel the September, 2011 lease sale and prepare an environmental impact statement (“EIS”) that analyzes the full range of the sale’s impacts. Preparation of an EIS is also merited due to the significant controversy associated with fracking.

The BLM cannot properly rely on or tie to the earlier NEPA documentation in the 2006 Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS) amendment for the Southern Diablo Mountain Range and the Central Coast of California or the analysis and decisions associated with the Record of Decision for the Hollister Field Office RMP for analysis of many of the impacts of the proposed lease sale because, among other things, the impacts of hydraulic fracking on water resources and other resources were not analyzed in that document and, as a result, impacts to the steelhead and its designated critical habitat were never discussed. Nor did the PRMP/FEIS properly address global warming and, specifically, the emission of greenhouse gas pollution from oil and gas production, including pollution caused by wasteful, inefficient production operations that release methane to the atmosphere. BLM’s reliance on eventual reclamation of the sites is also inappropriate in light of the recent GAO report that found many well sites are never adequately reclaimed and that the bonding is inadequate.¹ Similarly, BLM cannot rely on the earlier biological opinions (“BO”) and consultations with the U.S. Fish and Wildlife Service (“FWS”) because the BO did not address potential impacts from fracking wells in this area and did not adequately address impacts to other species including, for example, California condor

¹ GAO Report, GAO-11-292, Oil and Gas Bonds: BLM Needs a Comprehensive Strategy to Better Manage Potential Oil and Gas Well Liability, February 2011.

which Global Positioning System (“GPS”) data show are using many of the areas proposed in the lease sale. Moreover, the 2006 concurrence letter for the RMP from the National Marine Fisheries Service (“NMFS”) is wholly inadequate for the current lease sale because the RMP did not identify or analyze the impacts of water use and wastewater from hydraulic fracking wells that are likely to be developed as a result of the proposed lease sale. Because the water use and wastewater from the proposed project may effect the threatened South-Central Coast steelhead distinct population segment (“DPS”) and its designated critical habitat, BLM must initiate consultation with NMFS on this lease sale in order to fulfill its obligations under the Endangered Species Act.

RELIEF REQUESTED

For these reasons and for those more fully discussed below in the Statement of Reasons, we respectfully request that BLM cancel – not simply defer – this lease sale pending completion of an EIS which considers alternatives to reduce GHG pollution and the impacts from fracking and revisits its decision-making process to address methane waste, water quality, air quality, biological resources and climate change impacts. We also hereby request that BLM advise prospective lessees that this lease sale is under protest and will likely be subject to litigation. In the event BLM proceeds with the lease sale, we hereby request that BLM stay issuance of the leases pending resolution of any litigation. In the event that BLM rejects this request and issues the leases, we hereby request that BLM suspend all activities and operations pertaining to those leases, including lessee unitization and other drilling agreements, pending resolution of any litigation.

INTEREST OF THE PROTESTING PARTIES

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 225,000 members and online activists throughout the United States, including many members who live throughout California including Monterey and Fresno Counties. Center members have visited these public lands in the Hollister BLM 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 gas leasing.

Los Padres ForestWatch is a nonprofit conservation organization working to protect the environment along California's Central Coast with a particular focus on the Los Padres National Forest. ForestWatch is supported by more than 2,200 members and on-line supporters, many of whom are residents of Monterey County, and who value our local wildlands for their wildlife, scenic landscapes, and outdoor recreation opportunities.

The Sierra Club is a nationwide nonprofit conservation organization with more than 150,000 members in California. The Club's purposes are to explore, enjoy, and

protect the wild places of the Earth; to practice and promote the responsible use of the Earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives. The Sierra Club's Ventana and Tehipite Chapters have many members living in the affected counties.

STATEMENT OF REASONS

I. The EA Violates NEPA by Failing to Take a Hard Look at Lease Sale's Environmental Consequences

A. The EA Underestimates Anticipated Well Development, Thereby Resulting in an Understated and Cursory Impacts Analysis

The specific flaws in the EA's analysis as they pertain to affected resources are set forth below. However, there is a fundamental flaw in the EA that infects every part of its analysis – *i.e.*, the document's repeated use of a "Reasonably Foreseeable Development" scenario ("RFD") in order to minimize the agency's action and avoid analysis of the environmental impacts. Through use of the RFD, the EA claims that it need only consider the impacts of drilling *one well on one acre of habitat*. (See, e.g., EA at 96.) But since the November lease sale will actually commit public resources to the development of an undisclosed number of wells on 2,605 acres of land – *i.e.*, much more than the disturbance actually discussed in the EA – this falls woefully short of satisfying NEPA. Indeed, the EA's assumption that only one well on one acre of habitat would be developed relies on outdated trends in well development that ignore recent trends in oil and gas activity.

It should, of course, be obvious that the drilling of that single well is intended to gauge whether additional, production level drilling should take place across the leases. And we presume that oil and gas companies do not acquire leases they have no intent of actual developing. Thus, if production occurs, there is at least a reasonable possibility that development will far exceed the drilling of a single well and its associated infrastructure. Yet, the EA's assumption of only a single well operates to effectively blind BLM from more extensive production while, at the same time, justifying BLM's execution of leases to oil and gas companies that would, if they acquire the lease, "have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and disposed of all the leased resource in a leasehold subject to" only certain conditions, namely the lease stipulations, "specific, nondiscretionary statutes," and limited "reasonable measures" that do not preclude development. 43 C.F.R. § 3101.1-2. The potential direct and indirect environmental impacts of this lease sale are thus significantly greater than those assessed in the EA, making the EA inadequate and its analysis fundamentally flawed.

1. The Environmental Assessment Improperly Relies on Outdated Data.

The Oil and Gas Resources section of the EA primarily relies on two documents for its analysis. (See EA at 32-34.) The first is the Proposed Resource Management Plan and Final Environmental Impact Statement for the Southern Diablo Mountain Range and Central Coast of California, which was prepared by the BLM Hollister Field Office in June 2006 (referred to as the 2006 PRMP/FEIS). BLM tiered the EA with that document pursuant to 40 CFR 1502.20. EA at 6. The second document is the Record of Decision for the Hollister Field Office RMP for the Southern Diablo Mountain Range and Central Coast of California, approved in September 2007 (referred to as the 2007 ROD). *Id.* These documents were prepared to provide “management guidance for use and protection of the resources on approximately 274,000 acres of public lands” across several California counties. U.S. DOI, BLM, *Resource Management Plan for the Southern Diablo Mountain Range and Central Coast of California*, <http://www.blm.gov/ca/st/en/fo/hollister/sdmr-ccrmp.html> (last updated October 25, 2010).

The EA’s reliance on these documents is fundamentally flawed because the data does not represent current information. In fact, the analysis in the documents is based on information that *is over eighteen years old*. The 2006 PRMP/FEIS states that: “Based on the Hollister Oil and Gas Resource Management Plan (RMP) Amendment (BLM 1993), exploratory oil wells have historically been drilled on less than 5 percent of the leases issued on BLM public lands, and only one of 15 to 20 exploratory wells actually results in the discovery of oil.” 2006 PRMP/FEIS at 3.12-1. Later, it also states: “However, based on studies and evaluations of historic trends prior to 1993, BLM geologists have projected that ‘the probability of a new field discovery on public lands in the Hollister Resource Area over the Plan life (15 years) is less than 5 percent.’” *Id.* Thus, most of the predictions in this document, and therefore also those in the EA, are based on trends prior to 1993. Basing impacts on eighteen-year-old data is shockingly inadequate and precludes meaningful and accurate review.

2. The EA’s Reasonable Foreseeable Development Scenario Fails to Account for Recent Increases in Oil and Gas Activity Nationwide and Specifically in the Monterey Shale.

The EA fails to take into account the most recent trends in well development, which are the most crucial in predicting the likely impacts of these lease sales. While the EA admits that “[m]ore recently, natural gas reserves have gained interest nationally and in California with the possibility of expanding production capacity on public lands using hydraulic fracturing technology,” the RFD Scenario fails to take this increased interest and activity into account when evaluating impacts of the lease sale. (EA at 33.) Indeed, all evidence points to increased drilling in relation to historic trends.

Many reports have highlighted the recent nationwide growth in hydraulic fracturing and natural gas development. One report notes that “[a]s a result of hydraulic fracturing and advances in horizontal drilling technology, natural gas production in 2010 reached the highest level in decades,” and that “[h]ydraulic fracturing, used in combination with horizontal drilling, has allowed industry to access natural gas reserves

previously considered uneconomical, particularly in shale formations.”² Another points out that “[s]ince 1998 unconventional natural gas production [hydraulic fracturing] has increased nearly 65 %.”³ The U.S. Department of Energy’s Energy Information Administration also forecasts a massive surge in oil and gas development, in particular shale gas and shale oil from formations like the Monterey Shale.⁴ As the EIA explains in a review of shale gas resources dated July 8, 2011, “[t]he use of horizontal drilling in conjunction with hydraulic fracturing has greatly expanded the ability of producers to profitably recover natural gas and oil from low-permeability geologic plays—particularly, shale plays.” *Id.* As the EIA further explains, “only in the past 5 years has shale gas been recognized as a ‘game changer’ for the U.S. natural gas market.” With specific regard to shale oil, the EIA notes that “[t]he largest shale oil formation is the Monterey/Santos play in southern California, which is estimated to hold 15.4 billion barrels ... of ... total shale oil resources.” *Id.* This surge in well development illustrates the impropriety of relying on decades-old data. When new technology enables industry to tap resources it was unable to access a few years ago, it makes historic baselines meaningless under the current landscape. The EA should account for this new information rather than relying on decades-old data.

Evidence also exists of recent development and interest in the specific areas of this proposed lease sale. For example, Venoco has a new major program underway to drill in the Monterey Shale. As stated in an industry report:

[Venoco] has a major program under way in the shale. This year [2010], it will spend \$48 million on exploration and exploitation in the onshore Monterey, among other activities. It will drill at least 10 wells in the shale, acquire 3-D seismic and continue lease acquisition. Next year, it will ramp drilling up to between 30 and 50 wells.

Venoco started work in the onshore Monterey in 2006; it already owned and operated substantial Monterey assets offshore California. “The offshore has had fairly extensive exploration and development, but surprisingly very little exploration has been done onshore.”

The company now holds 105,000 undeveloped acres in the onshore play and 50,000 held-by-production acres. Two main areas of interest are the Salinas and San Joaquin valleys. “We are delineating and optimizing in all Monterey basins,” said Marquez. “On Venoco’s leases, we have over 10 billion barrels of oil in place.”⁵

² U.S. House of Representatives Committee on Energy and Commerce Minority Staff, *Chemicals Used in Hydraulic Fracturing* (April 18, 2011).

³ All Consulting, *Hydraulic Fracturing Considerations for Natural Gas Wells of the Marcellus Shale* (presented at The Ground Water Protection Council 2008 Annual Forum, Cincinnati, Ohio, September 21-24, 2008), available at http://www.dec.ny.gov/docs/materials_minerals_pdf/GWPCMarcellus.pdf.

⁴ See EIA, *Review of Emerging Sources: U.S. Gas and Shale Oil Plays*, <http://www.eia.gov/analysis/studies/usshalegas/>.

⁵ Williams, Peggy, *Monterey Shale a marvelous target*, *E & P Magazine*, (May 25, 2010), <http://www.epmag.com/2010/May/item60504.php> (last visited Apr. 25, 2011). See also Venoco 10-K

Similarly, in information provided to Venoco investors, Venoco's CEO stated:

"We only planned on drilling five vertical 'science' wells when we established our original 2010 budget," Mr. Marquez explained. "With the sale of the Texas assets we were able to double the Monterey Shale budget and not only drill additional vertical wells, but also drill our first horizontal wells in the play. We are very early in the process of applying new drilling, coring, logging, completion and petrophysics to the Monterey. Before 2010, we'd invested five years to identify the resource, to build a solid lease position and to hire key personnel to pursue this play. We have made very good progress in 2010 by getting the bit into the ground."

"We are very encouraged by the early information in this highly prospective play. We continued to add to our acreage positions during 4Q-2010 and 2011 YTD and have built our acreage position to 183,000 net acres, and we have tens of thousands of additional acres in process. We plan to add a third drilling rig by the end of February and a fourth by the end of the second quarter. While we will keep our expectations modest for 2011, we remain excited about our efforts to exploit this opportunity," Mr. Marquez said.⁶

BLM's extremely low estimates of likely future development also ignores other facts. For example, that several new wells have been drilled in the area of the lease sale in Monterey County quite recently, including a new well by Bradley Road and another by the San Antonio Lake dam.⁷ This further confirms a new and significant commercial interest in not only leasing but developing wells particularly in the Monterey area. Given the recent surge of activity in the natural gas industry, coupled with specific interest in drilling in the Monterey Shale, the EA cannot legitimately rely on historic data to conclude only one well on one acre of land would be developed as a consequence of the lease sale; BLM must affirmatively investigate and collect information and revisit its analysis through a new hard look at the impacts of reasonably foreseeable development.

There is also no support for the notion that only one acre of land will be "permanently" disturbed when the lease sale will irretrievably commit such areas to

Report dated February 11, 2011, available at (stating "We currently have two drilling rigs operating in the onshore Monterey shale, both of which are capable of drilling horizontal wells, and we have secured a third rig, which is scheduled to arrive by March. We are also working to secure a fourth rig in order to execute our 2011 capital expenditure program. Our 2011 capital expenditure budget includes plans to drill approximately 30 gross wells. We also plan to complete the second and final phase of what we believe to be California's largest 3D seismic shoot during the first half of 2011 and to continue leasing throughout the year.").

⁶ Venoco, Inc, Venoco, Inc. Announces Reserves and Operations Update, http://investor.venocoinc.com/phoenix.zhtml?c=193733&p=irol-newsArticle_print&ID=1525229&highlight (last visited July 12, 2011).

⁷ See Exploratory Well Use Permit Drilling Applications by Venoco, dated January 2009.

development on over 2,600 acres, when oil and gas development does not typically result in “temporary” effects, and when most wellpads are larger than one acre. The EA certainly cites no support for the notion that the authorized activities will be temporary. See *State of New Mexico*, 565 F.3d at 715 (holding EIS unlawful where it failed to provide evidentiary support for conclusion that oil and gas drilling would not contaminate aquifer). Indeed, the EA admits elsewhere that a productive parcel would take 10 wells to fully develop with a total surface disturbance of 10 acres for well pads, 12 acres for roads, and 24 acres for a single transmission line 10 miles long. (EA at 83.) In addition, wells can be present for decades and their legacy can be long-lasting or even permanent, as the areas used for oil and gas development activities are scraped bare or otherwise “altered” in order to support roads, road shoulders, parking areas, tank settings, storage areas, pipeline corridors, sumps, and residences and facilities. GAO reports have found that the taxpayer is often paying the bill to clean up equipment and trash debris at abandoned oil and gas sites on public lands, and BLM’s ability to restore such areas is has been called into question.⁸

Moreover, BLM’s approach doesn’t address the differences between surface and directional drilling. See 40 C.F.R. § 1500.2(d) (one of NEPA’s fundamental policies is to “emphasize real environmental issues and alternatives”). This approach forecloses not only analysis of the true impacts of the agency action that is actually being proposed, but in so doing, forecloses the ability of BLM, other agencies, and the public to identify at an early stage the “significant environmental issues” that are “deserving of study”, e.g., in an EIS. This is a major point in the leasing decisionmaking process, and represents an irretrievable commitment of resources – analysis of *all* of the impacts of *all* acres subject to development is required at *this* stage. Thus, the FONSI is unconvincing to the degree that it relies on the idea that the lease sale’s adverse effects will be “temporary.” *Blue Mts. Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1211(9th Cir. 1998) (agency must supply a convincing statement of reasons to explain why a project’s impacts are insignificant).

B. The EA Fails to Analyze the Cumulative Impacts of the Project

As set forth above, the Monterey Shale is currently the focus of significant attention by the oil and gas industry, with permits being issued for exploration and development by the County of Monterey and other entities. Nonetheless, the EA fails to analyze the cumulative impacts of other oil and gas activities in conjunction with this lease sale. These cumulative impacts, and in particular cumulative impacts from greenhouse gas pollution and fracking, were not adequately addressed in the RMP-level EIS. Instead, BLM attempts to frame the instant lease sale as an isolated *de minimis* project. This type of shell game, whereby an analysis of the cumulative impacts of individual actions is avoided, is in direct contravention of NEPA. See *Blue Mountains Biodiversity Project v. United States Forest Service*, 161 F.3d 1208, 1215 (9th Cir. 2008).

⁸ GAO-05-418, “Oil and Gas Development” Increased Permitting Activity Has Lessened BLM’s Ability to Meet Its Environmental Protection Responsibilities (June 2005).

C. The EA Fails to Analyze the Nature, Intensity, and Extent of the Lease Sale's Actual Impacts.

1. Climate Change Impacts

The EA's cursory treatment of greenhouse gases fails to constitute a hard look at impacts from the proposed action. The EA fails to quantify emissions despite readily available methodologies to do so, omits significant sources of emission and fails to consider, as both alternatives and mitigation measures, the many feasible and cost-effective means to reduce the significant quantities of emissions resulting from the proposed action.

a) The EA Fails to Adequately Describe and Identify Emissions from the Proposed Action.

In analyzing the climate change impacts of the proposed action, the EA merely lists sources of greenhouse gas emissions rather than make any effort to quantify these emissions. For example, the EA states that the proposed action would result in "fugitive emissions from valves, flanges, pumps, connectors etc.," but provides no additional information or insight into the magnitude of these emissions, or whether these emissions are avoidable. The EA's failure to provide high quality information – that identifies not only specific sources of greenhouse gas emissions, but also the magnitude of those emissions – to empower informed decisionmaking and public participation violates NEPA. *See, e.g., Sierra Club v. USACE*, 701 F.2d 1011 (2d Cir. 1983).

BLM cannot legitimately claim it was unable to quantify reasonably foreseeable greenhouse gas pollution resulting from the lease sale. There are many available methodologies to quantify greenhouse gas emissions from oil and gas production. In 2002, the American Petroleum Institute ("API") issued a synopsis report on how to measure greenhouse gas emissions.⁹ In 2009, the API released a Compendium of Greenhouse Gas Emission Methodologies for the Oil and Gas Industry, which discusses in depth methods for a consistent estimate of greenhouse gas emissions, and calculations for determining the amount of greenhouse gas per source such as fugitive, combusted or vented emissions.¹⁰ EPA takes an annual inventory of greenhouse gas emissions, and releases the methodology for determining their numbers.¹¹ The most current inventory was released in April 2011, and includes a complex methodology for quantifying

⁹ American Petroleum Institute, *Synopsis Report: Toward a Consistent Methodology for Estimating Greenhouse Gas Emissions from Oil and Natural Gas Industry Operations*, 2002, available at, http://www.climatevision.gov/sectors/oil_gas/pdfs/ghg_synopsis.pdf.

¹⁰ American Petroleum Institute, *Compendium of Greenhouse Gas Emission Methodologies for the Oil and Gas Industry*, Feb. 2004, available at www.api.org/ehs/climate/new/upload/2009_GHG_COMPENDIUM.pdf

¹¹ United States Environmental Protection Agency, *U.S. Greenhouse Gas Inventory*, Apr. 15, 2011, <http://www.epa.gov/climatechange/emissions/usgginventory.html> (last visited May 2, 2011).

greenhouse gas emissions from energy production and usage.¹² The EPA also released an entire annex on the carbon dioxide emissions from fossil fuel use.¹³ All these sources include a vast array of methods currently available for measuring greenhouse gas emissions within the oil and gas industry in a quantifiable format. The Intergovernmental Panel on Climate Change also released a detailed report on how to measure fugitive emissions from the oil and natural gas industry, such as venting, flaring and accidental releases of greenhouse gases.¹⁴

Additional quantification tools are also available, including the reports and technical support documents developed as part of the federal Greenhouse Gas Reporting Program, 40 C.F.R. Pt. 98. Subpart W of Part 98 focuses specifically on oil and gas production. The Technical Support Document for that subpart contains detailed, updated emissions factors for oil and gas production, which BLM could readily use to estimate emissions from possible wells on the leased lands.¹⁵ Importantly, these factors update long-used estimates, which EPA has determined underestimated natural gas production emissions at various steps in the process by a factor of over 1000 in many cases. This is a critical point, as, to the extent the EA provides any quantification of emissions from the proposed action, estimates are grossly understated. Citing to a decade-old report,¹⁶ the EA claims that one new well would only result in .01 tons of methane emissions per year. In fact, as EPA explains:

The following emissions sources are believed to be significantly underestimated in the U.S. GHG Inventory: well venting for liquids unloading; gas well venting during well completions; gas well venting during well workovers; crude oil and condensate storage tanks; centrifugal compressor wet seal degassing venting; scrubber dump valves; onshore combustion; and flaring. The understatement of emissions in the U.S. GHG Inventory were revised using publicly available information for all sources and included in the analysis, except crude oil and condensate storage tanks and flares, and scrubber dump valves. . . . Table 2 provides a comparison of emissions from each segment of the natural gas industry as available in the U.S. GHG Inventory and as calculated based on the revised estimates for the four underestimated sources.

¹² United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2009*, Apr. 15, 2011, available at http://www.epa.gov/climatechange/emissions/downloads11/US-GHG-Inventory-2011-Complete_Report.pdf.

¹³ United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2009: Annex 2, Methodology and Data for Estimating CO2 Emissions from Fossil Fuel Combustion* Apr. 15, 2011, available at <http://www.epa.gov/climatechange/emissions/downloads11/US-GHG-Inventory-2011-Annex-2.pdf>.

¹⁴ Intergovernmental Panel on Climate Change, *2006 IPCC Guidelines for National Greenhouse Gas Inventories: Chapter 4, Fugitive Emissions*, 2006, available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/2_Volume2/V2_4_Ch4_Fugitive_Emissions.pdf.

¹⁵ EPA, *Greenhouse Gas Reporting from the Petroleum and Natural Gas Industry, Background Technical Support Document* (Nov. 2010), http://www.epa.gov/climatechange/emissions/downloads10/Subpart-W_TSD.pdf.

¹⁶ This report is not listed in the EA Appendix, making it impossible to verify the information and its applicability to the proposed action.

Table 1: Comparison of Emissions Factors from Four Updated Emissions Sources

Emissions Source Name	EPA/GRI Emissions Factor	Revised Emissions Factor	Units
1) Well venting for liquids unloading	1.02	11	CH4 – metric tons/yearwell
2) Gas well venting during completions			
<i>Conventional well completions</i>	0.02	0.71	CH4 – metric tons/yearcompletion
<i>Unconventional well completions</i>	0.02	177	CH4 – metric tons/yearcompletion
3) Gas well venting during well workovers			
<i>Conventional well workovers</i>	0.05	0.05	CH4 – metric tons/yearworkover
<i>Unconventional well workovers</i>	0.05	177	CH4 – metric tons/yearworkover
4) Centrifugal compressor wet seal degassing venting	0	233	CH4 – metric tons/yearcompressor

Table 2: Comparison of Process Emissions from each Segment of the Natural Gas and Petroleum Industries

Segment Name	U.S. GHG Inventory Estimate for Year 2006 (MMTCO2e)	Revised Estimate for Year 2006 (MMTCO2e)
Production ²	90.2	198.0
Processing	35.9	39.5
Transmission and Storage	48.4	52.6
Distribution	27.3	27.3

EPA, Greenhouse Gas Reporting from the Petroleum and Natural Gas Industry, Background Technical Support Document (Nov. 2010) at 8-9. Accordingly, oil and gas production emissions are not just significant: they are also far larger than described in the EA.

Indeed, a recent study by Cornell University researchers highlights the significantly larger production emissions of shale gas due to “methane emissions with

flow-back fluids and from drill out of wells during well completion.”¹⁷ The study concludes that, as a result of these emissions, natural gas (specifically shale gas) can lose much of its greenhouse gas emissions advantage against coal-based generation, especially if a 20-year global warming potential is used to calibrate methane’s relative radiative forcing against that of carbon dioxide in order to emphasize the influence of methane emissions on near-term climate change. NEPA, of course, requires BLM to do just that: consider both near-term (i.e., 20-year) warming impacts from greenhouse gas emissions, such as methane, as well as long term warming impacts (i.e., 50 or a 100 year). Notably, recent peer-reviewed science teaches that methane is 33 times as potent as CO₂ over 100 years and 105 times as potent as CO₂ over 20 years.¹⁸ In short, when near-term warming impacts are considered, upstream methane emissions can erode any climate advantage that natural gas may have as a fuel, by canceling out all or some of the emissions gains that natural gas’s more efficient combustion processes otherwise generate.¹⁹ These conclusions should influence BLM’s analysis because, in Monterey County, where the majority of this lease sale will take place, most of the oil and gas potential comes from the Monterey Shale, a largely undeveloped shale play.²⁰ These numbers are particularly important because most of the emissions of shale gas are methane emissions, which is “a far more potent [greenhouse gas] than CO₂.”²¹

The EA also ignores significant emissions sources. For example, significant amounts of greenhouse gasses from natural gas and oil vapors are released into the environment when an oil or natural gas well during the completion phase. In addition, the EA notes elsewhere that “two to five million gallons of water may be necessary to fracture one horizontal well in shale formation.” (EA at 76.) Pumping this large amount of water will require significant amounts of fuel combustion and corresponding greenhouse gas emissions that the EA fails to disclose, much less attempt to quantify.

In addition, because NEPA requires consideration of the direct *and* indirect effects of agency action, a GHG analysis must include a discussion of the emissions resulting from the combustion of resources extracted under a lease sale. 40 CFR § 1508.8 (indirect effects defined as those “caused by an action and are later in time or farther removed in distance, but are still reasonably foreseeable.”) Although the EA estimates that a new well will produce an average of “4,000 barrels per year,” it fails to quantify the greenhouse gas pollution resulting from the inevitable combustion of this non-renewable resource.

¹⁷ Howarth, Robert, et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations*, Climatic Change, (Mar. 31, 2011),

<http://www.eeb.cornell.edu/howarth/Howarth%20et%20al%20%202011.pdf>.

¹⁸ Shindell et al., *Improved Attribution of Climate Forcing to Emissions*, Science 2009 326 (5953), p. 716 (www.sciencemag.org/cgi/content/abstract/326/5953/716).

¹⁹ Howarth, Robert, et al., *Methane and the greenhouse-gas footprint of natural gas from shale formations*, Climatic Change, (Mar. 31, 2011),

<http://www.eeb.cornell.edu/howarth/Howarth%20et%20al%20%202011.pdf>.

²⁰ Williams, Peggy, *Monterey Shale a marvelous target*, E & P Magazine, (May 25, 2010), <http://www.epmag.com/2010/May/item60504.php> (last visited Apr. 25, 2011).

²¹ *Id.*

Accordingly, the EA violates NEPA because it fails to take the requisite hard look at the greenhouse gas impacts of the proposed lease sale because it fails to quantify emissions using readily available methodologies, omits entire categories of emissions resulting from the lease sale, and understates the emissions it does describe. 40 C.F.R. § 1500.1(b) (“NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken.”).

Finally, the EA’s suggestion that emissions need not be quantified if emission reductions are achieved by implementing “best performance standards” adopted by the San Joaquin Valley Air Pollution Control District (SJVAPCD) is without merit. First, BLM has not committed to adopting these performance standards for the proposed action. Indeed, as Monterey County is not within SJVAPCD jurisdiction, there is no assurance that these standards will be implemented. Second, the performance standards identified by SJVAPCD only address a fraction of the sources of emissions resulting from the project. Accordingly, compliance with these standards does not address many of the emission sources resulting from the proposed action and will result in lost and undisclosed opportunities to minimize emissions in direct violation of NEPA. Third, because the California Attorney General has stated that SJVAPCD approach to determining the significance of greenhouse gas impacts “will not withstand legal scrutiny,” reliance on the SJVAPCD standards is not a legitimate basis to conclude emissions from the proposed action need not be quantified.²²

Similarly, the EA’s claim that “specific levels of significance have not yet been established” is also inaccurate. The “CEQA & Climate Change” paper by the California Air Pollution Control Officers Association (CAPCOA) proposes a variety of potential thresholds of significance.²³ According to CAPCOA’s analysis, the only two thresholds that are highly effective at reducing emissions are a threshold of zero or a quantitative threshold of 900-ton CO₂ Equivalent. This is consistent with the Ninth Circuit’s observation that “we cannot afford to ignore even modest contributions to global warming.” See *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 538 F.3d 1172 (9th Cir. 2008). Similarly, the Bay Area Air Quality Management District (“BAAQMD”) has also adopted guidelines to establish thresholds for GHG emissions.²⁴ These thresholds establish 1,100 metric tons of CO₂ equivalent as the standard for most new development, and no net increase in emissions for transportation and other regional plans. These guidelines demonstrate that, contrary to the EA’s assertion, specific thresholds of significance have been established for greenhouse gas pollution.

b) The EA Fails to Consider Alternatives to Reduce Greenhouse Gas Pollution from the Proposed Action.

²² Letter from California Attorney General to David Warner, SJVAPCD dated Nov. 4, 2009 re: Final Draft Staff Report on Greenhouse Gas Emissions Under CEQA.

²³ CAPCOA, CEQA & Climate Change (2008).

²⁴ BAAQMD CEQA Air Quality Guidelines (2010).

As recent CEQ Guidance on Mitigation and Monitoring under NEPA note, “[m]itigation is an important mechanism Federal agencies can use to minimize the potential adverse impacts associated with their actions.”²⁵ Yet, despite the importance of mitigation under NEPA, the EA fails to even identify the many measures that would reduce the greenhouse gas impacts from the proposed action and to consider those measures as reasonable alternatives.

“Clearly, it is pointless to ‘consider’ environmental costs without also seriously considering action to avoid them.” *Calvert Cliffs’ Coordinating Comm., Inc. v. U.S. Atomic Energy Comm.*, 449 F.2d 1109, 1128 (D.C. Cir. 1971). The “heart” of the NEPA process is thus BLM’s duty to consider “alternatives to the proposed action” and to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative uses of available resources.” 42 U.S.C. §§ 4332(2)(C)(iii), 4332(2)(E); 40 C.F.R. § 1502.14(a).

Operating in concert with NEPA’s mandate to address environmental impacts, BLM’s fidelity to alternatives analysis helps “sharply defin[e] the issues and provid[e] a clear basis for choice among options by the decision maker and the public.” 40 C.F.R. § 1502.14. An agency must, accordingly, “[r]igorously explore and objectively evaluate all reasonable alternatives” and specifically “[i]nclude the alternative of no action.” 40 C.F.R. §§ 1502.14(a), (d). Even where impacts are “insignificant,” BLM must still consider alternatives. *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1229 (9th Cir. 1988) (agency’s duty to consider alternatives “is both independent of, and broader than,” its duty to complete an environmental analysis); *Greater Yellowstone Coalition v. Flowers*, 359 F.3d 1257, 1277 (10th Cir. 2004) (duty to consider alternatives “is ‘operative even if the agency finds no significant environmental impact’”).

For example, EPA’s “Natural Gas STAR” program encourages oil and natural gas companies to cut methane waste to reduce climate pollution and recover value.²⁶ These measures are applicable, notably, to both natural gas and oil development (in fact, many wells produce both natural gas and oil). If required by BLM, companies would be able to utilize federal EPA resources to develop and execute a GHG reduction implementation plan.²⁷ EPA has already identified 150 proven technologies and practices to reduce methane waste and make operations more efficient; many of these measures cost less than \$10,000 and would pay back the purchaser within a year.²⁸ EPA’s Natural Gas STAR program suggests there are opportunities to cumulatively and significantly reduce GHG emissions from many small federal actions that approve oil and gas development if the identified technologies and practices are implemented at the proper scale and are properly analyzed by federal agencies. For calendar year 2008, EPA estimated that this

²⁵ CEQ, Memorandum for Heads of Federal Departments and Agencies, Appropriate Use of Mitigation and Monitoring and Clarifying the Appropriate Use of Mitigated Findings of No Significant Impact, (Jan. 14, 2011.)

²⁶ www.epa.gov/gasstar/.

²⁷ www.epa.gov/gasstar/guidelines/keycomponents.html (detailing how the program works).

²⁸ EPA Recommended Technologies and Practices, Natural Gas STAR Program, www.epa.gov/gasstar/tools/recommended.html (recommended technologies and practices).

program avoided 46.3 million tons of CO₂ equivalent, equal to the annual GHG emissions from approximately 6 million homes per year.²⁹

We also attach, and incorporate by reference, an extensive expert report on methane emissions from oil and gas systems and control technologies for those sources. As the report demonstrates, these emissions are both highly significant and susceptible to cost-effective controls.³⁰

Notably, emissions of methane from oil and gas development reflect waste and inefficiencies in the production of oil and gas. BLM is specifically empowered and obligated pursuant to Federal Land Policy and Management Act (“FLPMA”) and the Mineral Leasing Act (“MLA”) to ensure that oil & gas lease decisions conserve natural resources and do not degrade public lands. Pursuant to FLPMA, BLM must “take any action necessary to prevent unnecessary or undue degradation of the [public] lands.” 43 U.S.C. § 1732(b). Written in the disjunctive, BLM must prevent degradation that is “unnecessary” and degradation that is “undue.” *Mineral Policy Ctr. v. Norton*, 292 F.Supp.2d 30, 41-43 (D. D.C. 2003). The protective mandate applies to BLM’s planning and management decisions. *See Utah Shared Access Alliance v. Carpenter*, 463 F.3d 1125, 1136 (10th Cir. 2006) (finding that BLM’s authority to prevent degradation is not limited to the RMP planning process). GHG pollution may cause “undue” degradation, even if the activity causing the degradation is “necessary.” Where GHG pollution is avoidable, it is “unnecessary” degradation. 43 U.S.C. § 1732(b).

The MLA, as amended, also obligates BLM to prevent waste in oil and gas operations, functioning as a corollary to FLPMA’s unnecessary or undue degradation duties. The MLA requires that “[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land...” 30 U.S.C. § 225; *see also* 30 U.S.C. § 187 (“Each lease shall contain...a provision...for the prevention of undue waste...”). The MLA’s legislative history notably provides that “conservation through control was the dominant theme of the debates.” *Boesche v. Udall*, 373 U.S. 472, 481 (1963) (citing H.R.Rep. No. 398, 66th Cong., 1st Sess. 12-13; H.R.Rep. No. 1138, 65th Cong., 3d Sess. 19 (“The legislation provided for herein...will [help] prevent waste and other lax methods...”).

BLM regulations illuminate these requirements. The authorized officer must “require that all operations be conducted in a manner which protects other natural resources and the environmental quality, protects life and property and results in the maximum ultimate recovery of oil and gas *with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources.*” 43 C.F.R. § 3161.2 (emphasis added). Waste is defined as any act or failure to act, not sanctioned by the authorized officer, which results in: “(1) A reduction in the quantity or quality of oil and

²⁹ www.epa.gov/gasstar/accomplishments/index.html#three; *see also id.* (EPA Natural Gas STAR Program Accomplishments for years 2002 - 2007).

³⁰ Megan Williams and Cindy Copeland, *Methane Controls for the Oil and Gas Production Sector* (Nov. 23, 2010).

gas ultimately producible from a reservoir under prudent and proper operations; or (2) avoidable surface loss of oil or gas.” 43 C.F.R. § 3160.0-5. Avoidable losses of oil or gas include venting or flaring without authorization, operator negligence, failure of the operator to take “all reasonable measures to prevent and/or control the loss, ” and an operator’s failure to comply with lease terms and regulations, order, notices, and the like. *Id.*

Ensuring compliance with these obligations through proper analysis and documentation in the NEPA process is important: technologies and practices change, and BLM’s duty to prevent degradation and waste cannot be excused just because the agency apparently lags behind the technological curve. NEPA provides an opportunity for BLM to account for technological progress, get ahead of the technological curve, and thereby satisfy its legal duties. In prior leasing processes and litigation with BLM, BLM has argued that it identifies, reports, and prevents GHG pollution and waste through existing policies. For example, BLM relies on guidance that apparently sets limits on the venting and flaring of natural gas. *See* Notice to Lessees and Operators (“NTL”) 4a. But this guidance was developed in 1980 – well before GHG reduction technologies and practices were developed – and does not, as found by the Government Accountability Office (“GAO”), “enumerate the sources that should be reported or specify how they should be estimated.” GAO, Federal Oil & Gas Leases: Opportunities Exist to Capture Vented and Flared Natural Gas, Which Would Increase Royalty Payments and Reduce Greenhouse Gases, GAO-11-34 at 11, 27 (October 2010). BLM also explained to GAO “that [BLM] thought the industry would use venting and flaring technologies if they made economic sense,” a naïve perspective belied by the lack of information about the magnitude of methane waste and the documented barriers to the deployment of GHG reduction technologies and practices. *Id.* at 20-33.

2. Impacts to Water Quality

The EA states that 2 -5 million gallons of water are needed to fracture each well. This raises several issues that have not been addressed in the EA. *See State of New Mexico v. BLM*, 656 F.3d 963, 714-15 (10th Cir. 2009) (EIS failed to take hard look at water quality impacts from proposed oil and gas lease sale where wells would generate significant amounts of waste water).

The EA fails to answer the following questions:

- Where will the water come from and what are the impacts of extracting such high volumes of water from surface or groundwater sources in this area?
- Much of the fracking fluid will be returned to the surface as toxic waste. Where would the discharge go?³¹

³¹ This produced water, also known as flowback combined with formation waters, has been found to contain arsenic, lead, hexavalent chromium, naturally occurring radioactive materials, barium, benzene and other highly toxic substances. *See*, for example, Natural Resources Defense Council, Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act Concerning the

- What kinds of treatment will be required?
- What is the potential footprint and impact of the necessary treatment facilities?
- How will BLM ensure that wastewater does not go into the Salinas River and impact threatened steelhead populations and designated critical habitat?

The EA's discussion of water quality impacts does not address any of these issues. (EA at 86.) CBD Map 5 shows the close proximity of the leases to many water courses in Monterey County including streams tributary to the Salinas River. CBD Map 2 also shows the close proximity of many of the leases in Fresno County to Jacalitos Creek. NEPA requires BLM to identify and evaluate these issues. In this instance, BLM's statement that its standards stipulations and requirements from other agencies "which have been designed to protect ground and surface water quality, and are expected to preserve ground water integrity in all cases" is unsupported as neither BLM nor the state and local agencies have adopted standards that directly address hydraulic fracturing and its potential impacts on ground and surface water. In fact, the New York Times conducted an extensive investigation into similar issues in the Marcellus Shale play on the East Coast, an investigation that raises serious water quality concerns.³² As this investigation found, drinking water supplies were compromised and wastewater treatment facilities overwhelmed. Even more frightening, the investigation found that "wastewater, which is sometimes hauled to sewage plants not designed to treat it and then discharged into rivers that supply drinking water, contains radioactivity at levels higher than previously known, and far higher than the level that federal regulators say is safe for these treatment plants to handle."³³

3. Seismic Impacts

Oil and gas extraction activities have been linked with increased seismic activity. Because the area of Central California proposed for oil and gas drilling is extremely seismically active, BLM must evaluate these risks.

Specifically, the development of the Fayetteville Shale in Arkansas and corresponding development of deep waste injection wells is associated with a massive increase in earthquake activity in that region, including swarms of micro-earthquakes and significant quakes with magnitudes 3.9 and 4.7.³⁴ The Arkansas Oil and Gas Commission has halted operations at the deep injection wells in response. Although the link between the injection wells and the quakes is not definitive, seismic activity has dropped significantly since injection ceased.

Regulation of Wastes Associated with the Exploration, Development, or Production of Crude Oil or Natural Gas or Geothermal Energy.

³² http://www.nytimes.com/interactive/us/DRILLING_DOWN_SERIES.html

³³ http://www.nytimes.com/2011/02/27/us/27gas.html?_r=1&ref=drillingdown

³⁴ See, e.g., Courtney Spradlin, *Earthquakes Increase Friday*, The Log Cabin Democrat (Apr. 8, 2011); Sarah Eddington, *Shutdown of Wells Extended in Arkansas Quake Study*, Bloomberg BusinessWeek (Apr. 20, 2011); Sarah Eddington, *3.9 Magnitude Quake Hits North-Central Arkansas* (Apr. 8, 2011).

The BLM must assess whether similar risks exist in this seismically active region. If oil and gas extraction activities increase seismic risks, the NEPA analysis must document as much.

4. Impacts to Threatened, Endangered, and Sensitive Species and Their Habitat

a) The EA fails to adequately identify and analyze impacts to species and habitats

Although the EA mentions some potential impacts of the oil and gas development that would occur due to the lease sale to threatened and endangered species, it does not fully evaluate the likelihood of such occurrences or the effects on species, and omits any meaningful discussion of strategies to avoid adverse impacts. NEPA requires more. As courts have repeatedly emphasized that merely identifying potential impacts is inadequate. Identification of a potential impact without including an analysis of the nature, intensity, and extent of the actual impacts of federal activities, and without providing supporting scientific or objective data, is insufficient for purposes of NEPA. *See, e.g., Defenders of Wildlife v. Babbitt*, 130 F. Supp. 2d 121, 128 (D. D.C. 2001) (setting aside agency's EIS where it "states that noise would be increased and both the pronghorn and their habitat would be disturbed" but contains "no analysis of what the nature and extent of the[se] impacts will be"); *see also Nat'l Parks & Conservation Assn. v. Babbitt*, 241 F.3d 722, 743 (9th Cir. 2001) (NEPA document inadequate where it identified "an environmental impact" but "did not establish the intensity of that impact"); *see Citizens Against Toxic Sprays, Inc. v. Bergland*, 428 F. Supp. 908, 922 (D. Or. 1977) ("Conclusory statements which do not refer to scientific or objective data supporting them do not satisfy NEPA's requirement for a 'detailed statement.'")

San Joaquin kit fox: The proposed lease sites in Fresno County are in suitable habitat for the San Joaquin kit fox particularly the areas along Jacalitos Creek,³⁵ and all of the lease sales in both counties are in habitat that may be utilized by kit fox. The San Joaquin kit fox has been under California Endangered Species Act protection for over 39 years and under Federal Endangered Species Act protection for over 43 years. Despite years of conservation efforts, kit fox populations and amount of habitat continue to decline. Modeling suggests that the San Joaquin kit fox is threatened with extinction in the San Joaquin Valley by 2022,³⁶ making the peripheries of its range and corridor areas - areas like those where the lease sales are proposed - even more important for the survival of this imperiled and declining species. In the Recovery Plan for the Upland Species of the San Joaquin Valley, the FWS noted that the loss of habitat for kit fox due to oil and

³⁵ See CBD Map 1 attached. *See also* Petition to Designate Critical Habitat for the Endangered San Joaquin Kit fox (*Vulpes macrotis mutica*) at page 25 (map) available at: http://www.biologicaldiversity.org/species/mammals/San_Joaquin_kit_fox/pdfs/SJ_Kit_Fox_CH_Petition_8-05-2010.pdf

³⁶ McDonald-Madden, E., P.W.J. Baxter and H.P. Possingham 2008. Subpopulation triage: How to allocate conservation effort among populations. *Conservation Biology* 22(3): 656-665.

gas development remains a threat to the species. “[H]abitat loss due to grading and construction for roads, well pads, tank settings, pipelines, and settling ponds. Habitat degradation derives from increased noise, ground vibrations, venting of toxic and noxious gases, and release of petroleum products and waste waters. Traffic-related mortality is also a factor for kit foxes living in oil fields.”³⁷ U.S. Fish and Wildlife Service’s recent 5-year review reconfirmed that only three remaining core areas for the San Joaquin kit fox (SJKF) occur in the species range and that the satellite and corridor areas are critical to future survival.³⁸ As the review noted, oil and gas production remains a threat to the species: “The most significant effect of oil-field development appears to be lowered carrying capacity for populations of both kit fox and their prey species due to changes in habitat characteristics, and to loss and fragmentation of habitat.”³⁹

Based on this dire situation for the kit fox, the Center and Los Padres ForestWatch prepared and submitted a petition to the U.S. Fish and Wildlife Service identifying critical habitat for the San Joaquin kit fox that provides detailed information on many of the ongoing threats to the species. This species is clearly in significant decline and the proposed lease sales could promote further declines by impacting occupied and suitable habitat and fragmenting linkages and movement corridors. None of these issues was adequately addressed in the EA.

The EA notes that kit fox have been sighted near some of the lease sales (EA at 55, 99) but fails to provide sufficient information regarding the use of the lease sale areas by kit fox and no information about any recent surveys for kit fox or sightings on this or other lease areas. While the EA notes the decline in kit fox in the Monterey areas (EA at 56), it provides no information about the potential for recovery in this area. The EA’s conclusory statements that “the total predicted disturbance is trivial and represents only a remote probability of actual disturbance” falls far short of the identification and analysis of potential impacts required under NEPA’s hard look standard.

The EA states that on Unit 4 (leases 16-19) within the designated Panoche Coalinga ACEC the leases will be No Surface Occupancy (NSO) (EA at 99), but that does not cure the failure to address impacts to the kit fox and other listed species on this site or on the remaining lease areas, Based on the known data, all of these should be NSO.

Blunt-nosed leopard lizard: This endangered species has been under state and federal endangered species act protections for over 40 years; it is a fully protected species under California law and cannot be taken. Oil and gas production is a threat to the species. As FWS noted: “Construction of facilities related to oil and natural gas production, such as well pads, wells, storage tanks, pumps, pipelines, and their associated service roads

³⁷ U.S. Fish and Wildlife Service (USFWS) 1998. Recovery Plan for the Upland Species of the San Joaquin Valley, California. Pgs. 340. At 130

<http://esrp.csustan.edu/publications/pubhtml.php?doc=sjvrp&file=cover.html>

³⁸ U.S. Fish and Wildlife Service (USFWS) 2010, San Joaquin kit fox – 5 year review. Pgs. 122. www.fws.gov/ecos/ajax/docs/five_year_review/doc3222.pdf

³⁹ *Id.* at 22.

degrade habitat and cause direct mortality to leopard lizards, as do leakage of oil from pumps and transport pipes. and storage facilities . . . [d]umping of waste oil and highly saline waste water into natural drainage systems also degrades habitat and causes direct mortality.”⁴⁰

The EA notes that endangered blunt-nosed leopard lizards have been well documented on Unit 4 (leases 16-19) but does not provide information about any recent surveys for the lizard on this or other lease areas.⁴¹ The recent 5-year review by the USFWS for the blunt-nosed leopard lizard recognizes the need for affirmative steps to be taken for the recovery of the blunt-nosed leopard lizard.⁴² Because Unit 4 includes habitat for the species, the BLM should have undertaken surveys of these areas before preparing the EA and proposing these leases. Adequate surveys should have been conducted prior to impact analysis, because the most important reason for surveys is to minimize the impacts to rare species and habitats. Any remaining potential habitat is essential to support recovery of this species from the brink of extinction and should be protected.

South Central Coast steelhead and its critical habitat: Because BLM has wholly failed to address the enormous amount of water that would be used for hydraulic fracking and the wastewater or flowback, it has also failed to identify and analyze the potentially significant impacts to aquatic and riparian species, including the steelhead and its critical habitat in the Salinas River. Groundwater pumping or the use of surface water in this area could directly impact flows in the Salinas River and its tributaries to the detriment of the steelhead population. In addition, wastewater or flowback that might enter the streams could also significantly impact the steelhead populations. CBD Map 5 shows that the proposed leases may directly, indirectly and cumulatively affect many streams that are tributaries to the Salinas River which provides critical habitat for steelhead. None of these issues were addressed in the EA.

California Condor: The EA admits that all of the leases in Monterey County are within condor range (EA at 57), but improperly dismisses potential impacts to condor and its habitat from the lease sales and oil and gas drilling and production (EA at 99). As shown on the accompanying map (CBD Map 2), GPS location data for California condors shows that the leases in Monterey County (particularly 3-15) are in areas where condors have been confirmed in recent years. The “opportunity” for interaction between condors and oil rigs in this area is significant and should not have been dismissed by BLM. BLM’s statement that “Condors are monitored intensely by radio and visual surveillance; any interaction with oil installations, and certainly any interaction that caused injury or mortality, would not go unnoticed (EA at 99) is no doubt true. However, the fact that any impacts would likely be known after they occur does not relieve BLM of its duty to identify and analyze impacts before they take place, not after.

⁴⁰ Recovery Plan at 119.

⁴¹ CBD Map 3.

⁴² USFWS 2010, Blunt-nosed leopard lizard – 5 year review. Pgs. 79.
http://www.fws.gov/ecos/ajax/docs/five_year_review/doc3209.pdf

Historically, California condors ranged from British Columbia to Baja (Meretsky 2000) but, because of human activity, their numbers dropped to the brink of extinction. Condors were listed as a critically endangered species in 1967⁴³, and are still one of the most endangered vertebrates. The lease sale parcels are all within the historic and current range of the condor.⁴⁴ While their numbers are slowly rising, this is due entirely to intensive conservation efforts, and the species still faces numerous human-induced threats and is not currently considered to be self-sustaining.⁴⁵ The condor is the subject of one of the largest species recovery efforts in U.S. history, and the U.S. Fish & Wildlife Service has spent upwards of \$40 million to stave off its extinction. In a comment letter on a Forest Service leasing proposal in the Los Padres National Forest, the Department of Justice took note of the “superhuman” efforts of the Fish & Wildlife captive condor breeding program and went on to state that “[t]he proposed oil leasing puts the future success of this effort in jeopardy.”⁴⁶

Currently, there are only 374 California condors left in the world, and 100 in the wild in California.⁴⁷ Of these numbers, a substantial portion of remaining condors reside in relative proximity to the proposed leasing sites in Monterey County.

A significant amount of condor habitat has been lost or has severely decreased in value due to oil and gas projects. In one National Wildlife Refuge that allowed oil and gas development, the Fish and Wildlife Service estimated the 63% of critical condor habitat was lost.⁴⁸ Condors are known to use a wide acreage of habitat; they separate their nesting area from their foraging areas and have been known to fly more than 200 km and traverse their entire habitat range in one day.⁴⁹ Therefore, an accurate estimation of condor habitat loss must take into account the large amount of space they can cover in one day. This is something that the EIS for the RMP does not discuss, making it difficult to determine how BLM arrived at its conclusion that the condor will not be significantly impacted by oil and gas leasing in this area in general and provides no basis for BLM to conclude that condors will not be adversely impacted by this lease sale in particular.

Not only will the actual production facilities themselves eliminate habitat acreage, but so will road and pipeline construction. The existence of such infrastructure will also

⁴³ 32 Fed. Reg. 4001 (1967).

⁴⁴ See, e.g., USFWS, Recovery Plan for the California Condor (1996) at 3 (Figure 1); California Department of Fish and Game, Range Map for Nonlead Centerfire Rifle & Pistol Ammunition (Ridley-Tree Condor Preservation Act, Sec. 2) available at <http://www.dfg.ca.gov/wildlife/hunting/condor/>.

⁴⁵ Merensky, V. J., N. F. R. Snyder, S.R. Beissinger, D.A. Clendenen, J.W. Wiley. 2000. Demography of the California Condor: Implication for Reestablishment 14(4): 957-967.

⁴⁶ U.S. Department of Justice Comment Letter, Comments on Oil and Gas Leasing Proposal for the Los Padres National Forest. April 19, 2002.

http://www.lpfw.org/docs/Oil/FEISdocs/FEIS_H_DOJComments.pdf

⁴⁷ Population Size and Distribution as of April 31, 2011

http://www.dfg.ca.gov/wildlife/nongame/t_e_spp/condor/docs/StatusReport-2011-3-31.pdf

⁴⁸ US General Accounting Office. 2003. National Wildlife Refuges: Opportunities to Improve the Management and Oversight of Oil and Gas Activities on Federal Lands (GAO-03-517). Washington D.C., USA 73p.

⁴⁹ Merensky, V.J., N.F.R. Snyder. 1992. Range Use and Movements of California Condors. 94(2): 313-335.

cause problems by eliminating food sources.⁵⁰ Proposed infrastructure will also break up existing habitat connectivity. This lessens the quality of habitat, and can also lead to changes in hydrology such as erosion, greater sediment loads, and changes in water temperature, presenting risks to many aquatic species including the red-legged frog as well as to the condor. Habitat fragmentation from the proposed leasing will also lead to increases in disturbances to wildlife from human activity, provide greater pathways to predators and increase the spread of invasive species. Habitat fragmentation is of particular concern because all California condors come from only a small number of captive condors and have a very limited amount of genetic variability.⁵¹ To prevent the condors from becoming too inbred, it is important to retain as much habitat connectivity as possible. None of these issues were adequately addressed in the EIS RMP.

General human activity associated with oil and gas extraction could discourage condor use of habitat that may otherwise be suitable for nesting, perching, roosting, or foraging.⁵² Project-related noise, such as from detonations, gas compressors, diesel-powered electric generators, truck engines, etc., could cause adult birds to repeatedly flush from, or eventually abandon, an active nest, or prevent them from choosing otherwise suitable habitat as a nest site. Activity at an oil and gas site can take place 24 hours per day, seven days per week, without any breaks.

Condor expert Dr. Allen Mee provided commentary in response to another BLM leasing project that did not go through. Dr. Mee stated that high levels of noise from a nearby oil pad at another leasing site caused a noticeable reaction in a pair of condor parents at their nesting site. Abnormal behavior included abandoning their care for their less than one month old chick, which is much earlier than any condors have been known to abandon their chick before or since.⁵³

Moreover, condors have been documented landing on oil pads and other production equipment, presenting a threat to their health and safety and reducing their fear of humans.⁵⁴ Dr. Allen Mee, a condor expert, commented on another BLM leasing proposal, noting that:

[T]here is little or no evidence to suggest that adults are “avoiding” oil pads. Condors in southern California have tended to show a seasonal pattern of use of oil pads and the ingestion of trash continues to be the most serious nestling mortality factor. During my intensive observations of the population, especially in 2002, 2003, 2004 & 2005, the oil pads in the Hopper Mt. area were heavily used in late winter and spring with, on occasion, the whole population landing on oil pads. Oil pad use by many condors was constant during this period and required

⁵⁰ GAO-03-517

⁵¹ Cohn, J. P., 1993. The Flight of the California Condor. *BioScience*. 43 (4): 206-209.

⁵² U.S. Dep’t of Interior, USFWS. Biological Opinion on the Proposal to Lease Oil and Gas Resources within the Boundaries of the Los Padres National Forest, California. February 23, 2005.

⁵³ Dr. Allen Mee, Comments on Environmental Assessment for two APDs near Sespe Condor Sanctuary and Hopper Mountain National Wildlife Refuge, June 5, 2007.

⁵⁴ GAO-03-517.

much intervention by USFWS staff to keep condors from spending periods of time at pads. Undoubtedly, condors have and continue to land at pads, especially early in the morning, when FWS staff are not present.⁵⁵

Proximity to oil or gas facilities presents condors with serious risks of injury. In 2002, the Fish and Wildlife Service had to flush a condor from an oil pad, and remove oil from its face and wings. The FWS concluded that the condor became immersed in oil while trying to tear an oily rag from a pipe. The FWS has found numerous other condors with oil on their heads, while photographs and reports demonstrate habituation of condors to oil drilling equipment.⁵⁶

There has been at least one documented incident involving a condor coating itself with oil from exposed pools associated with oil development in the Hopper Mountain National Wildlife Refuge.⁵⁷ Oil and gas operations have been very harmful to nesting condors as well. At least one chick has died after its father dipped its head in a pool of oil and rubbed against the chick.⁵⁸

The U.S. Fish and Wildlife Service (USFWS) has documented that oil and gas waste pits present significant risks to wildlife. Pits can “entrap and kill migratory birds and other wildlife Birds are attracted to reserve pits by mistaking them for bodies of water. . . . The sticky nature of oil entraps birds in the pits and they die from exposure and exhaustion.”⁵⁹ In addition, the New Mexico Department of Game and Fish has expressed concern about the hazards of hydrocarbon toxicity to wildlife including “acute and chronic ingestion or absorption toxicity, loss of thermal stability from oiling of fur or feathers, and reproductive failure due to absorption of chemicals from the maternal bird body through the shell of eggs.”⁶⁰ The Department has also expressed concern that chloride contamination of the soil vadose zone may permanently impact the ability of a closed pit location to support vegetation necessary for productive wildlife habitat.⁶¹

Mountain plover: The mountain plover is proposed to be listed as threatened under the ESA (75 Fed. Reg. 37353-58, June 29, 2010), because of significant declines throughout its range (both summer and winter). Mountain plover are known to be present in the area of the proposed leases. The failure to discuss potential impacts to the

⁵⁵ Dr. Allen Mee, Comments on Environmental Assessment for two APDs near Sespe Condor Sanctuary and Hopper Mountain National Wildlife Refuge, June 5, 2007.

⁵⁶ (Los Padres Forest Watch, et al., Comments on Environmental Assessment for Two APDs Near Sespe Condor Sanctuary and Hopper Mountain National Wildlife Refuge, June 6, 2007).

⁵⁷ United States Forest Service, Effects of the Leasing Decision on the California Condor and other T&E Species, August 12, 2005

⁵⁸ *Id.*

⁵⁹ U.S. FISH & WILDLIFE SERV., REGION 6, ENVTL. CONTAMINANTS PROGRAM, RESERVE PIT MANAGEMENT: RISKS TO MIGRATORY BIRDS i (2009).

⁶⁰ Letter from Lisa Kirkpatrick, Chief, New Mexico Dep’t of Game & Fish, Conservation Services Division, to Florene Davidson, Commission Secretary, EMNRD Oil Conservation Division (Jan. 20, 2006); *see also* Letter from Lisa Kirkpatrick, Chief, New Mexico Dep’t of Game & Fish, Conservation Services Division, to Florene Davidson, Commission Secretary, EMNRD Oil Conservation Division (Mar. 7, 2006).

⁶¹ Letter from Lisa Kirkpatrick, Chief, New Mexico Dep’t of Game & Fish, Conservation Services Division, to EMNRD Oil Conservation Division (Feb. 2, 2007).

mountain plover fails to inform the public and decisionmakers of the potential impact that the proposed project will have including the potential that development will lead to further declines for this species. The leases include areas in California where the mountain plover winters.⁶² The EA fails to provide any information about potential impacts to this species.

Important Bird Areas: In addition, the proposed leases may also adversely affect other birds that depend on both the San Antonio Valley⁶³ and King City Grasslands⁶⁴ Important Bird Areas (“IBA”) which are designated by the Audubon Society based on actual siting data and science. The San Antonio Valley IBA encompasses the area surrounding the San Antonio reservoir which supports breeding bald eagles, American white pelicans in winter and has high densities of riparian obligate species. The King City Grasslands IBA supports populations of birds along the middle Salinas River and the San Antonio River including the last remaining stronghold for burrowing owls in the Central Coast, breeding populations of northern harrier, golden eagle and prairie falcon, and seasonal habitat for ferruginous hawks, loggerhead shrike and other birds. The potential impacts to these species were not identified in the EA.

b) EA improperly ignores the significant risks to species and habitats from foreseeable oil and gas production related spills

The effects of oil and gas production on wildlife include harm caused by oil, gas, and brine spills.⁶⁵ These spills can injure or even kill wildlife by destroying the insulating capacity of feathers and fur and by depleting the oxygen availability in water. The effects of exposure to these toxic substances can lead to reduced fertility, organ damage, immune suppression, and cancer. The impact of spills has lasted for decades in some areas, for instance, raising salt concentrations in soils and destroying an area’s ability to support vegetation, an effect that continues to spread years later.

Exposure to brine (a mixture of water, salts, other minerals, and oil commonly used in oil production) can be lethal to young waterfowl, including damaging feathers, killing needed vegetation, and decreasing needed nutrients in their water supply. Brine production and its subsequent effects needs to be more fully examined by the BLM, especially considering the extent to which brine is used. Over 19.8 million gallons of brine were produced from wells on a National Wildlife Refuge during one year and much of this brine was re-injected back into the ground.

The harmful impacts of oil spills are true for even small spills; for instance, a study of National Wildlife Refuges in Louisiana found that levels of oil contamination near oil and gas facilities were lethal to most species of wildlife despite the lack of occurrence of any large spills.

⁶² See http://ca.audubon.org/maps/pdf/King_City_Grasslands.pdf

⁶³ http://ca.audubon.org/maps/pdf/San_Antonio_Valley.pdf

⁶⁴ http://ca.audubon.org/maps/pdf/King_City_Grasslands.pdf

⁶⁵ GAO-03-517

Spills are not an infrequent occurrence in oil and gas production either. In one report, nearly 20% of oil and gas production facilities examined reported spills. *Id.* The report also noted that the response to spills tends to vary, and that agency staff are often ill-equipped and ill-trained in how to deal with such spills. One review of official spill reports indicates that there have been nearly a dozen oil spills in the Las Padres National Forest area in the last three years alone.⁶⁶

Before going forward with these lease sales, BLM should fully assess alternatives that will prevent such spills. Despite past efforts such as close monitoring of facilities for leaks and prompt clean up efforts, oil spills still occur. For example, recent events such as the January 2007 oil spill at the Sespe Oil Field – Tar Creek Lease released more than 800 gallons of oil and an unknown amount of wastewater into Tar Creek, and coated more than three miles of Tar Creek with oil along the edge of the Sespe Condor Sanctuary.⁶⁷

While the Tar Creek release did not seem to directly affect any condors, other recent spills have. According to the U.S. Forest Service, an adult condor recently became coated with oil “due to a small spill of oil that occurred when the condor was present and flew down to the spill before workers could remove the oil.” And while agencies may attempt to prevent such occurrences by posting crew members at the spill site, spill cleanups may take weeks to complete, and it is unlikely that crew members can be present during the entire cleanup time.

c) The EA improperly ignores the significant risks to species and habitats from foreseeable contamination by toxins in oil and gas, fracking fluids and wastewater

Aside from actual spills, oil and gas extraction have also been found to lead to contamination from toxic substances such as mercury and polychlorinated biphenyls (PCB's).⁶⁸ Such substances are used in equipment such as compressors, transformers, and well production meters. Mercury has been linked to organ and reproductive damage in various species, and PCB's are a known carcinogen in animals. *Id.* At least one condor has died from an excess level of mercury in its body.⁶⁹ Mercury, along with a host of other chemicals, is often used in oil/gas operations.⁷⁰ There is also a risk of condors drinking contaminated water, which is not discussed in the RMP EIS.

⁶⁶ Los Padres Forest Watch, et al., Comments on Environmental Assessment for Two APDs Near Sespe Condor Sanctuary and Hopper Mountain National Wildlife Refuge, June 6, 2007.

⁶⁷ U.S. Dept. of Fish and Game, Environmental Incident Report: Vintage Production California LLC Tar Creek Crude Oil and Produced Water Spills, January 30, 2007 and February 6, 2007.

⁶⁸ US General Accounting Office. 2003. National Wildlife Refuges: Opportunities to Improve the Management and Oversight of Oil and Gas Activities on Federal Lands (GAO-03-517). Washington D.C., USA 73p.

⁶⁹ Wiemeyer et al., Environmental Contaminants in California Condors, *The Journal of Wildlife Management*, Vol. 52, No. 2 (Apr., 1988), pp. 238-247

⁷⁰ GAO-03-517.

D. The EA Fails to Take a Hard Look at the Impacts of Hydraulic Fracking.

The proposed action would permit drilling of wells using a technique known as “hydraulic fracking,” a technology that poses large risks to water quality. The EA fails to sufficiently disclose and analyze these risks and impacts of fracking in Monterey and Fresno counties.

The EA states that information on fracking largely “cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known,” EA at 74, and thereby relies almost entirely on a single EPA website which, in turn, cites an outdated and inadequate 2004 study. This treatment of fracking risks is patently inadequate and compels completion of a full EIS.

As an initial matter, just because BLM claims that it cannot collect information does not obviate the agency’s hard look duties. It is well-established that “[r]easonable forecasting and speculation is ... implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labelling any and all discussion of future environmental effects as ‘crystal ball inquiry.’” *Save Our Ecosystems v. Clark*, 747 F.2d 1240, 1246 n.9 (9th Cir. 1984 (quoting *Scientists’ Inst. for Pub. Info., Inc. v. Atomic Energy Comm.*, 481 F.2d 1079, 1092 (D.C. Cir. 1973)). NEPA merely requires “a reasonably thorough discussion of the significant aspects of the probable environmental consequences” to “foster both informed decision-making and informed public participation.” *Ctr. for Biological Diversity v. NHTSA*, 538 F.3d 1172, 1194 (9th Cir. 2008) (quotations and citations omitted). That latter element is key and bears repeating: NEPA analysis is intended to “foster both informed decision-making and informed public participation.” *Id.* Unfortunately, BLM’s excuse for not taking a hard look at fracking ignores this key element.

Moreover, the 2004 EPA study on which the EA relies, is inappropriate. The study was a narrow literature review that later investigations revealed to have been shaped by improper industry influences. As the Pulitzer-Prize winning investigative journalism project ProPublica explains “documents obtained by ProPublica show that the EPA negotiated directly with the gas industry before finalizing [its] conclusions, and then ignored evidence that fracking might cause exactly the kinds of water problems now being recorded in drilling states.”⁷¹ Indeed, the study documents a disturbing range of oil and gas-linked water contamination, including pages of “water quality incidents” such as major methane leaks into drinking and surface water and contamination that filled tapwater with “globes of black, jelly-like grease and [made it] smell[] of petroleum.”⁷²

⁷¹ Abraham Lustgarten, *Buried Secrets: Is Natural Gas Drilling Endangering U.S. Water Supplies?*, ProPublica (Nov. 13, 2008).

⁷² EPA, *Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs Study*, Chapter 6: Water Quality Incidents (2004), http://www.epa.gov/ogwdw/uic/pdfs/cbmstudy_attach_uic_ch06_water_qual_incidents.pdf.

The EPA official who coordinated the study, Benjamin Grumbles, now concedes that the study “wasn’t meant to be a clean bill of health.”⁷³

Potentially significant impacts from fracking include wastewater discharge into drinking water, air pollution from benzene and toluene, and radiation in drinking water.⁷⁴ Beginning on the water pollution side, the fracking process can involve hundreds of toxic chemicals, which may escape into water supplies either through deep well injection or through more conventional routes, such as migration through faulty casing or via surface spills. An extensive study by the U.S. House of Representatives Committee on Energy and Commerce Minority Staff concluded:

Between 2005 and 2009, the 14 oil and gas service companies used more than 2,500 hydraulic fracturing products containing 750 chemicals and other components. Overall, these companies used 780 million gallons of hydraulic fracturing products – not including water added at the well site – between 2005 and 2009.

Some of the components used in the hydraulic fracturing products were common and generally harmless, such as salt and citric acid. Some were unexpected, such as instant coffee and walnut hulls. And some were extremely toxic, such as benzene and lead. Appendix A [included in these comments] lists each of the 750 chemicals and other components used in hydraulic fracturing products between 2005 and 2009.

The most widely used chemical in hydraulic fracturing during this time period, as measured by the number of compounds containing the chemical, was methanol. Methanol, which was used in 342 hydraulic fracturing products, is a hazardous air pollutant and is on the candidate list for potential regulation under the Safe Drinking Water Act. Some of the other most widely used chemicals were isopropyl alcohol (used in 274 products), 2-butoxyethanol (used in 126 products), and ethylene glycol (used in 119 products).

Between 2005 and 2009, the oil and gas service companies used hydraulic fracturing products containing 29 chemicals that are (1) known or possible human carcinogens, (2) regulated under the Safe Drinking Water Act for their risks to human health, or (3) listed as hazardous air pollutants under the Clean Air Act. These 29 chemicals were components of more than 650 different products used in hydraulic fracturing.⁷⁵

⁷³ Abraham Lustgarten, *Benjamin Grumbles, Former Bush EPA Official: ‘Fracking’ Exemption Went Too Far*, ProPublica (Mar. 9, 2011).

⁷⁴ Ian Urbina, *Regulation Lax as Gas Wells’ Tainted Water Hits Rivers*, The New York Times, Feb. 26, 2011, http://www.nytimes.com/2011/02/27/us/27gas.html?pagewanted=1&_r=1&hp (last visited Apr. 26, 2011).

⁷⁵ U.S. House of Representatives Committee on Energy and Commerce Minority Staff, *Chemicals Used in Hydraulic Fracturing* (Apr. 2011),

In addition, in January 2011, Representatives Waxman, Markey and DeGette sent a letter to Administrator Lisa Jackson of EPA expressing their concern about diesel in fracking fluids.⁷⁶ The Representatives solicited information from natural gas extraction companies, and discovered that 32.2 million gallons of fluids containing diesel fuel were injected into 19 states, in violation of a memorandum of agreement between EPA and the three largest energy companies.⁷⁷ The letter also takes note of the lax monitoring and regulation of fracking procedures.⁷⁸ Yet, the BLM entirely fails to account – or even to acknowledge – the possibility that these chemicals will be used on leasing sites.

Nor does the EA address the risks of water quality contamination from surface storage of these compounds, and of other oil and gas wastes, including produced and flowback water from wells. Surface pits, in particular, are a major source of water pollution. For instance, New Mexico data, summarized by the Oil and Gas Accountability Project, shows 743 instances of ground water contamination, almost all of it occurring over the last three decades. 398 of those incidents – over half – are linked to faulty pits.⁷⁹

<http://democrats.energycommerce.house.gov/sites/default/files/documents/Hydraulic%20Fracturing%20Report%204.18.11.pdf> .

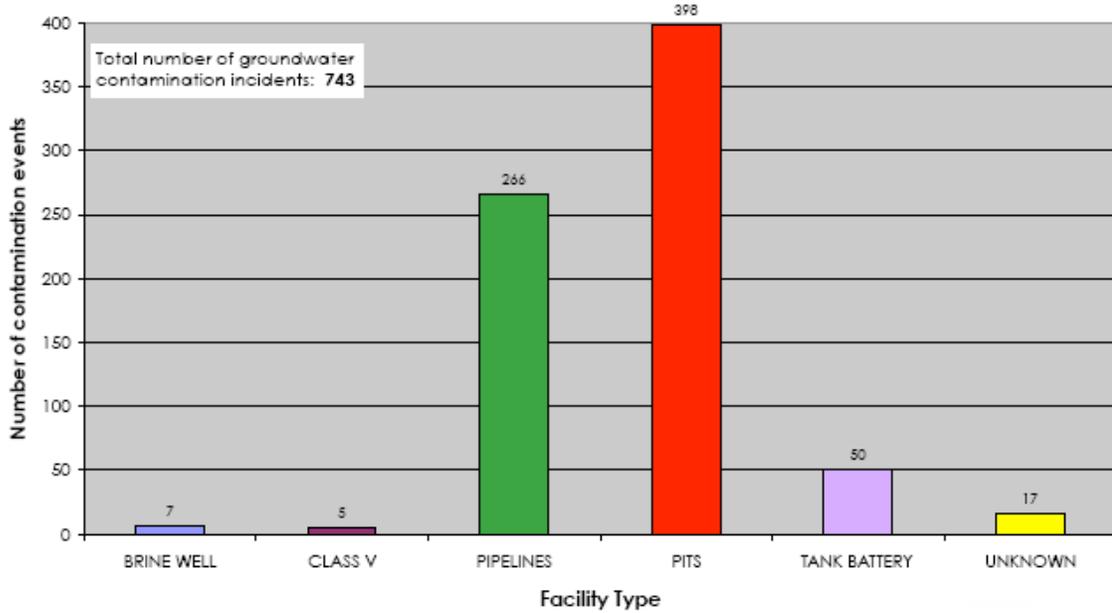
⁷⁶ Letter from Henry A. Waxman, Edward J. Markey and Diana DeGette, Ranking Members, US House of Representatives to Lisa Jackson, Administrator of US EPA, Jan. 31, 2011 (available at <http://democrats.energycommerce.house.gov/index.php?q=news/waxman-markey-and-degette-investigation-finds-continued-use-of-diesel-in-hydraulic-fracturing-f>).

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ OGAP Analysis of data provided in New Mexico Energy, Minerals and Natural Resources Dep't, Oil and Conservation Div., *Cases Where Pit Substances Contaminated New Mexico's Ground Water* (2008). OGAP Analysis and raw data available at http://www.earthworksaction.org/NM_GW_Contamination.cfm.

**Oil and Gas Industry Groundwater Contamination Events
- by oil and gas facility type -**

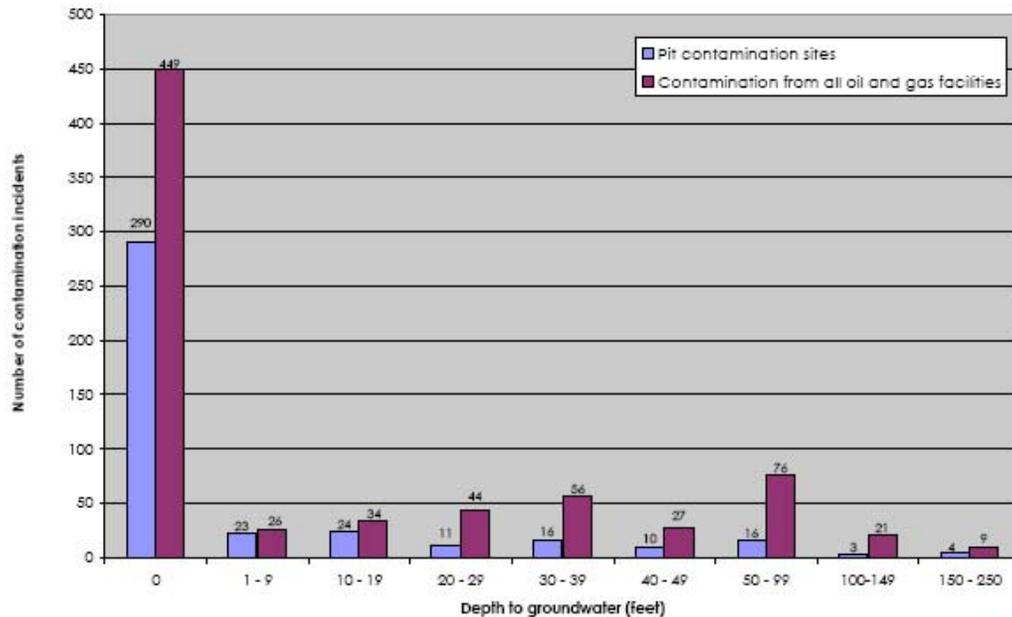


Data Source: New Mexico Oil Conservation Division.
Ground water impact data available at:
<http://www.emnrd.state.nm.us/ocd/Statistics.htm>



The bulk of pit contamination is associated with shallow groundwater, of the sort which can readily flow into drinking water wells, as the New Mexico data demonstrate:

Depth to Groundwater at Oil and Gas Groundwater Contamination Sites



Data Source: New Mexico Oil Conservation Division, Ground water impact data available at: <http://www.emnrd.state.nm.us/ocd/Statistics.htm>



Similar incidents are occurring across the country.⁸⁰ In Pennsylvania, for instance, state authorities were forced to quarantine cattle after a pit leaked into their field, pooling in a smelly pool that killed the grass.⁸¹ In Colorado, leaky pits with torn liners spilled more than 6,000 barrels of waste.⁸² And in Ohio, compromised pit liners and pit wall failures have sent pollution spilling out into the environment.⁸³ Yet, the EA’s thin, five-paragraph long discussion of water quality issues devotes only a single clause to vaguely-described risks from “storage” facilities. This analysis is plainly inadequate.

Likewise, the BLM does not quantify, nor fully address, the risk of potentially catastrophic spills and blow-outs at well sites. This is a serious error because such major spills are not uncommon in shale gas drilling. For instance, a major well blow-out in Pennsylvania recently sent thousands of gallons of contaminated fluid coursing into a stream feeding the Susquehanna River.⁸⁴ The BLM has not demonstrated that such an incident could not occur on these leases, and so should document this risk as well.

⁸⁰ See generally, Natural Resources Defense Council, Petition for Rulemaking to Regulate Oil and Gas Waste (Sept. 8, 2010) (collecting these incidents).

⁸¹ Pro Publica, Nicolas Kusnetz, *A Fracking First in Pennsylvania: Cattle Quarantine* (July 2, 2010), available at <http://www.propublica.org/article/a-fracking-first-in-pennsylvania-cattle-quarantine>.

⁸² See Colorado Oil and Gas Conservation Commission, Inspection/Incident Inquiry, Spill Reports Doc. Nos. 1630424, 1630436, 1630427, 1630428, 1630429, 1630430.

⁸³ See NRDC Petition at 20.

⁸⁴ Associated Press, *Crews Stop Flow of Drilling Fluid from PA Well* (Apr. 22, 2011).

Nor does the EA devote sufficiently serious attention to the magnitude of the air quality impacts of oil and gas extraction. Natural gas infrastructure poses a substantial risk to regional air quality. A recent study by now-EPA Region VI Administrator Dr. Al Armendariz, determined that compressor stations in the Barnett Shale would cumulatively emit 46 tons per day of ozone smog-forming nitrogen oxide (“NOx”) in 2009, along with nearly 20 tons per day of volatile organic compounds (“VOC”).⁸⁵ Adding related sources, such as condensate tanks and fugitive emissions yielded 51 tons per day of NOx emissions, 139 tons of VOC emissions, over 6 tons per day of hazardous air pollutants like carcinogenic benzene, and the equivalent of 32,670 tons per day of carbon dioxide. This cumulative air pollution source’s emissions of NOx and VOCs alone exceed the emissions from all on-road mobile sources in the Dallas-Fort Worth Metropolitan area by more than 30 tons per day.

BLM does not appear to have considered these potential impacts. The EA’s discussion of air quality impacts contains generic emissions factors, but then fails to fully apply them properly by calculating emissions for only a single well. To conduct a proper analysis, the BLM should, at a minimum, acknowledge the maximum range of development possible on the leased lands, and calculate emissions for that maximum development based upon emissions estimates for other shale plays. Such analysis should look at not only direct and indirect air impacts caused by development of these specific leases, but cumulative air impacts. 40 C.F.R. §§ 1508.7, 1508.8.

These failures are emblematic of the BLM’s general failure seriously to engage with the risks of hydraulic fracturing on these lands. The perfunctory discussion in the EA downplays major risks associated with the widespread use of this technology, and should be withdrawn and revised.

E. The EA Fails To Adequately Address Environmental Justice Concerns

Because the proposed lease sale is located in low-income, largely Hispanic areas of Monterey and Fresno counties, the proposed action will disproportionately impact communities of color. Yet the EA fails to address the environmental justice concerns of the proposed action.

II. BLM Must Prepare an EIS for the Proposed Action

The BLM lease sale in Monterey County and Fresno County merits an EIS under NEPA because the project including the foreseeable use of hydraulic fracturing on the leases significantly effects the human environment. Under NEPA, an agency must prepare an EIS when there is a major Federal action that significantly affects the quality of the human environment.⁸⁶ The Ninth Circuit has found that when an agency gives a “ cursory and inconsistent treatment” of an issue, or no references or defense of a

⁸⁵ Dr. Al Armendariz, *Emissions from Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements* at 21-22 (Jan. 26, 2009),

⁸⁶ 42 U.S.C. §4332(C) (1975).

statement is given, an agency must prepare an EIS. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213-14 (9th Cir. 1998).

Oil and gas leasing is an irrevocable commitment of resources that requires preparation of an EIS. *Pennaco*, 377 F.3d at 1160. If BLM chooses not to adopt the No Action alternative and continue with the Proposed Action plan, an EIS is required. An EIS is required if there are “substantial questions whether a project may have a significant effect.” *LaFlamme v. Federal Energy Regulatory Comm’n*, 852 F.2d 389, 397 (9th Cir. 1988). If an agency decides not to prepare an EIS, it must supply a convincing statement of reasons to explain why a project’s impacts are insignificant. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d at 1211. An EIS must be prepared if “substantial questions are raised as to whether a project ... may cause significant degradation of some human environmental factor.” *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992) (citation omitted); *Sierra Club v. U.S. Forest Serv.*, 843 F.2d 1190, 1193 (9th Cir. 1988).

In determining whether or not the effects will be “significant,” or whether substantial questions exist as to the significance of the effects, NEPA’s implementing regulations require BLM to consider the “context” and “intensity” of the likely impacts. “Context” means “that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality.” 40 C.F.R. § 1508.27(b). Also, “[b]oth short- and long-term effects are relevant” for context. *Id.* “Intensity” means the “severity of impact” and is to be judged according to several criteria. *Id.*

The EA fails to adequately assess many of the lease sale’s environmental effects including, but not limited to, impacts to water quality and water resources and cumulative effects. As a result of the EA’s lack of information and detailed analysis, substantial questions remain about whether the leasing will have a significant effect. *Ocean Advocates v. U.S. Army Corps of Engineers*, 402 F.3d 846, 864 (9th Cir. 2005) (citing *Alaska Ctr. for Env’t v. U.S. Forest Serv.*, 189 F.3d 851, 859 (9th Cir. 1999)) (agency cannot avoid preparing an EIS by making conclusory assertions that an activity will have only an insignificant impact on the environment). An EIS is therefore required to complete a thorough and comprehensive study of the lease sale’s impacts.

When the issues raised above are considered pursuant to NEPA’s significance criteria, it is clear that a full EIS that evaluates the impacts of the oil and gas development activities permitted to proceed as a result of the lease sale is warranted. 40 C.F.R. § 1508.27(2). The fact that the lease sale may adversely affect several endangered and threatened species and critical habitat weighs heavily in favor of preparation of an EIS as well. *Id.* at § 1508.27(9). Although BLM states that surveys will be conducted prior to ground-disturbing activities, no recent surveys for most of the affected species have been conducted. BLM improperly dismissed potential impacts to species without adequate analysis including the condor that is found in this area. BLM must analyze all of the potentially significant impacts to environmental resources at the leasing stage and cannot rely on tiering to earlier environmental documents that did not address many of these

issues including GHG emissions, new information regarding the species' status, and new development practices such as fracking that were not previously considered.

When an action “s ignificantly” affects the environment it can also mean that the effects on the environment are “highly c ontroversial”, and “i nvolve unique or unknown risks.”⁸⁷ “The term 'controversial' refers 'to cases where a substantial dispute exists as to the size, nature, or effect of the m ajor federal action r ather than to the exis tence of opposition to a use.’ ”⁸⁸ A ‘substantial dispute’ means that there is ‘evidence [that] casts serious doubt on the re asonableness of an agency’s conclusion.’ ”⁸⁹ “A proposal can be considered controversial if “substantial questions are rais ed as to whether a project . . . may cause significant degradation of some human environm ental factor.” ”⁹⁰ The Ninth Circuit has found that when an agency gives a “cursory and inconsistent treatment” of an issue, or no references or defense of a stat ement is giv en, an agency must prepare an EIS.⁹¹

The EA’s discussion of fracking was not sufficient under NEPA. The controversy and risks involved in fracking require the BLM to prepare an EIS under NEPA and its regulations. Technologies used in fracking are controversial and precarious, additionally; the effects of the technology are mostly unknown.

As for the requirem ent of 40 C.F.R. §1508.27(b)(4), fracking is a “highly controversial” issue. With increased public concern about the potential risks of fracking, public officials have followed. President Barack Obama recently stated regarding natural gas: “...we’ve got to m ake sure that as we’re extracting it from the ground, that the chemicals that are being used don’t leach into the water.”⁹² U.S. Energy Secretary Steven Chu recently stated: “There have been instances where some of the fracking fluids have been found in water. There have been instan ces where natural gas has been appearing in water supplies where it should have never appeared.....”⁹³ Congress has asked EPA to conduct a study on the environm ental and public health effects of fracking.⁹⁴ EPA has identified a num ber of public c oncerns it will high light, including the poss ible contamination on drinking water by fracki ng processes and im pacts from the huge

⁸⁷ 40 C.F.R. §1508.27(b)(4)-(5) (1979).

⁸⁸ *Human Soc’y of the United States v. Locke*, 626 F. 3d 1040, 1057 (9th Cir. 2010), quoting *Found. for N. Am. Wild Sheep v. U.S. Dep’t of Agric.*, 681 F.2d 1172, 1182 (9th Cir. 1982).

⁸⁹ *Id.*, quoting *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 736 (9th Cir. 2001), *abrogated on other grounds*, *Monsanto Co. v. Geerston Seed Farms*, 130 S. Ct. 2743, 2757 (2010).

⁹⁰ *Anderson v. Evans*, 371 F. 3d 475, 489 (9th Cir. 2004), quoting *Nat’l Parks*, 241 F.3d at 736 (quoting *Northwest Env’tl. Def. Ctr. v. Bonneville Power Admin.*, 117 F.3d 1520, 1539 (9th Cir. 1997) (Reinhardt, J., concurring in part and dissenting in part)).

⁹¹ *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1213-14 (9th Cir. 1998), forcing the Forest Service to prepare an EIS for timber salvage sales in a national forest.

⁹² “Remarks by the President in a Town Hall Discussion on Energy in Fairless Hills, Pennsylvania,” April 6, 2011.

⁹³ Interview on The Diane Rehm Show, April 25, 2011, <http://thedianerehmshow.org/shows/2011-04-25/us-energy-secretary-steven-chu>

⁹⁴ United States Environmental Protection Agency, *EPA’s Draft Hydraulic Fracturing Study Plan*, (Mar. 30, 2011), <http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/index.cfm> (last visited Apr. 26, 2011).

volume of water used in fracking.⁹⁵ EPA also plans to discuss the chemicals used in fracking, the toxicity levels of this wide variation of chemicals and possible mitigation efforts to lessen effects of these chemicals.⁹⁶ Overall, the EPA notes many possible risks and concerns about fracking and its effect on drinking water, and plans to study them in depth in their study. Indeed, due to its serious risks, fracking has or is considered being banned in many locales. For example, fracking has been banned in France as well as in the cities of Buffalo, New York, Pittsburgh, Pennsylvania and Morgantown, West Virginia.⁹⁷ In addition, New York state has imposed a moratorium on fracking pending a full environmental review and the imposition of a responsible regulatory regime that the state deemed currently lacking – a regime that would likely prohibit fracking in certain sensitive areas, such as watersheds important to drinking water.⁹⁸ Because there are a multitude of risks and a controversy surrounding the possible utilization of fracking in the lease sale area, BLM should prepare an EIS to more fully address concerns in this critical area.

CONCLUSION

For the reasons set forth above, the Center for Biological Diversity, Los Padres ForestWatch and the Sierra Club protest the September 14, 2011 lease sale. BLM must cancel the lease sale and prepare an EIS that fully addresses its impacts.

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Jeff Kuyper
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Sierra Club

⁹⁵ United States Environmental Protection Agency: Office of Research and Development, *Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources*, 19-22 (Feb 7, 2011), http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/HFStudyPlanDraft_SAB_020711.pdf.

⁹⁶ United States Environmental Protection Agency: Office of Research and Development, *Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources*, 23-27 (Feb 7, 2011), http://water.epa.gov/type/groundwater/uic/class2/hydraulicfracturing/upload/HFStudyPlanDraft_SAB_020711.pdf.

⁹⁷ Davide Catelvecchi, Scientific American, *France becomes first country to ban extraction of natural gas by fracking*, SCIENTIFIC AMERICAN, June 30, 2011; Desmogblog.com, *New Jersey Senate Passes Fracking Ban*, June 29, 2011, <http://www.desmogblog.com/new-jersey-senate-passes-fracking-ban>; wgrz.com, *City of Buffalo Bans Fracking*, <http://origin.wgrz.com/news/article/108668/1/City-of-Buffalo-Bans-Fracking>; CBS News.com, *Pittsburgh Bans Natural Gas Drilling*, Dec. 8 2010, <http://www.cbsnews.com/stories/2010/11/16/national/main7060953.shtml>; WAJR-AM, *Morgantown Bans Fracking*, June 22, 2011, <http://www.wvmetronews.com/news.cfm?func=displayfullstory&storyid=46214>.

⁹⁸ ProPublica, *New York Prooposed Permanent Ban on Fracking Near Watershed and State Land*, June 30, 2011, <http://www.propublica.org/article/fracking-still-on-hold-in-new-york-pending-environmental-review/single>.

Encl.: The following maps and references are included in the accompanying CD for your review and inclusion in the administrative record.

MAPS

- Exhibit 1: CBD Map 1: San Joaquin kit fox habitat suitability modeling
- Exhibit 2: CBD Map 2: SJKF in Fresno area
- Exhibit 3: CBD Map 3: Includes GPS data from California condors
- Exhibit 4: CBD Map 4: Includes sites of BNLL
- Exhibit 5: CBD Map 5: watersheds and steelhead

ENCLOSED REFERENCES

- Exhibit A: Center for Biological Diversity and Los Padres ForestWatch, Petition to Designate Critical Habitat for the Endangered San Joaquin Kit fox (*Vulpes macrotis mutica*) available at: http://www.biologicaldiversity.org/species/mammals/San_Joaquin_kit_fox/pdfs/SJ_Kit_Fox_CH_Petition_8-05-2010.pdf
- Exhibit B: McDonald-Madden, E., P.W. J. Baxter and H.P. Possingham 2008. Subpopulation triage: How to allocate conservation effort among populations. *Conservation Biology* 22(3): 656-665
- Exhibit C: Sarah Eddington, *Shutdown of Wells Extended in Arkansas Quake Study*, Bloomberg BusinessWeek (Apr. 20, 2011)
- Exhibit D: U.S. Fish and Wildlife Service (US FWS) 2010, San Joaquin kit fox – 5 year review. Pgs. 122.
www.fws.gov/ecos/ajax/docs/five_year_review/doc3222.pdf
- Exhibit E: USFWS 2010, Blunt-nosed leopard lizard – 5 year review. Pgs. 79,
http://www.fws.gov/ecos/ajax/docs/five_year_review/doc3209.pdf
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