VIA ELECTRONIC MAIL AND VIA U.S. MAIL (WITH REFERENCES)

June 4, 2014

Los Padres National Forest
Attn: Jonathan Schwartz
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Ojai, CA 93023
comments-pacificsouthwest-los-padres-ojai@fs.fed.us

Bureau of Land Management
Attn: Jeff Prude
Bakersfield Field Office
3801 Pegasus Drive
Bakersfield, CA 93308

Re: Comments on Interested Party Letter Dated May 2, 2014 Regarding Applications for Permit to Drill (APDs) in the Sespe Oil Field

Dear Messrs. Schwartz and Prude:

These scoping comments are submitted on behalf of the Center for Biological Diversity and Los Padres ForestWatch in response to the Interested Party Letter issued by the Los Padres National Forest ("LPNF") on May 2, 2014, regarding Applications for Permit to Drill (APDs) in the Sespe Oil Field.

The Letter states that: "The Los Padres National Forest in cooperation with Bureau of Land Management (BLM) is initiating an environmental analysis to evaluate a project in the Sespe Oil Field, and is requesting comments on the proposed action. . . . Under the Onshore Oil and Gas Leasing Reform Act of 1987, Los Padres National Forest is responsible for authorizing surface-disturbing activities on leases. On National Forest System lands, the BLM is responsible for authorizing drilling activities." Many of the potential impacts are associated with both the surface-disturbing activities and the drilling activities. Because the LPNF is undertaking

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environmental review for surface-disturbing activities and the BLM is a cooperating agency for the environmental review of this proposal and will be addressing drilling activities in the proposal, this letter is addressed to both agencies.

The Center for Biological Diversity (the "Center") is a non-profit conservation organization dedicated to the protection of native species and their habitats through science, policy, and environmental law. The Center has more than 775,000 members and on-line advocates throughout California and the United States, including many members who reside and recreate in California including in the Los Padres National Forest. The Center has worked for many years to protect imperiled plants and wildlife, open space, air and water quality, and overall quality of life for people in the southern California region. The Center has actively participated in many planning processes for the LPNF and, along with our allies, challenged the 2005 Oil and Gas Leasing Record of Decision because it failed to adequately address potential impacts to California condor and other species and resources within the LPNF; that lawsuit is still pending. The Center also successfully challenged the leasing plans for the Bureau of Land Management which led the BLM's Hollister Field Office to begin preparation of an Environmental Impact Statement for Oil Leasing and Development that will address fracking and other well stimulation activities and impacts. That critical analysis may also be expanded to the BLM's Bakersfield Field Office as well which covers the area of this proposal.[1]

Los Padres ForestWatch is a local, community-based nonprofit organization working to protect and restore the Los Padres National Forest. We are supported by more than seven hundred members who value our local backcountry for its wildlife habitat, clean water supplies, scenic landscapes, outdoor recreation opportunities, and other benefits that these public lands provide to surrounding communities. ForestWatch has participated in the land management planning process for the Los Padres National Forest since 2004, and has closely followed and reported on the impacts of oil and gas projects to forest resources, including our 2012 research and subsequent report on the extent of fracking in the Los Padres National Forest, and our November 2013 report "Trashing the Sespe: How the Oil Industry is Littering Our Public Lands And Endangering Wildlife." ForestWatch is also a plaintiff in the challenge to the LPNF's Oil and Gas Leasing Record of Decision, a case still pending in Federal court, and continues to gather and track information on the impacts of oil and gas development on public lands and endangered wildlife in the Los Padres including the what little information is currently available to the public regarding fracking of wells in the Forest.

1 See BLM's January 2014 Planning update available at http://www.blm.gov/pgdata/etc/medialib/blm/ca/pdf/pa/energy/minerals/2013.Par.99921.File.dat/2014-01-16_CA_OandG_PlanningUpdate_508.pdf ("The purpose of this planning process is to analyze the effects of alternative oil and gas management approaches on lands with federal mineral estate within the BLM's HFO. The need for the plan amendment is to incorporate new information about well stimulation technologies, natural resource conditions, and socioeconomic trends to update the reasonably foreseeable development scenario (RFD) and HFO Resource Management Plan (RMP). The decision to be made is to establish additional lease stipulations, conditions of approval, or best management practices to guide safe and responsible oil and gas development. Depending on the results of this scoping process, the BLM may also use this process to consider amending RMPs for other field offices in California with oil and gas leasing and development (Bakersfield, Palm Springs-South Coast, Mother Lode, and Ukiah Field Offices).")

I. Introduction

The proposal to drill, frack and operate 8 new wells and construct 7,960 feet of new pipelines in the LPNF threatens water and air quality, many imperiled species, and human health in the region. The proposal states that the applicant will also use existing roads, flowlines/pipelines, and production facilities to treat production fluids and gas from the newly proposed wells. Although the proposal is within the Sespe Oil Field where many active wells, roads, flowlines and other facilities currently exist, including other wells that have been fracked,[2] to date there has been insufficient oversight and reporting to the public regarding the environmental impacts of those ongoing activities. Moreover, the existing land management plans for this area do not provide any detailed environmental review of the effects of those activities. While the application includes a draft Surface Use Plan of Operations ("SUPO") for the new proposal only, we have been unable to locate any other SUPOs for activities in the Sespe Oil Field undertaken by Seneca or other operators. At minimum, a comprehensive SUPO is needed that addresses the entire oil field, not just these 8 wells. As detailed below, the first step that the agencies must undertake is identifying and disclosing baseline conditions to provide a basis for a detailed and through environmental review in an Environmental Impact Statement ("EIS").

II. Background on Fracking

A. Fracking Has Greatly Increased Oil and Gas Activities Across the Country

Recent development of hydraulic fracturing and related technologies has enabled the economic recovery of previously inaccessible oil and gas resources, causing a massive boom in oil and gas production around the country, and increased interest in many areas of California.[3] The first California petroleum deposits exploited were economically attractive conventional deposits.[4] However, a massive amount of oil and gas is contained in shale deposits that, due to the low permeability of shale, are generally more difficult to exploit economically.[5]

Recently, industry has begun overcoming this difficulty in extracting the oil and gas in shale by incorporating new fracking techniques.[6] First, industry uses slick-water – a combination of water, proppant, and chemicals, developed in the mid-1990s – to help fracture the target formation more effectively.[7] The chemicals in slick-water, also called fracking fluid, are highly

2 Compilation of Records of Fracked Oil Wells in the Sespe Oil Filed Since 2011.
3 CITI, Resurging North American Oil Production and the Death of the Peak Oil Hypothesis at 2, 14 (Feb. 15, 2012) ("CITI").
4 McDonald, Robert, *California's Silent Oil Rush*, New Times at 3 ("McDonald New Times").
5 United States Energy Information Administration, *Annual Energy Outlook 2012* at 58 (Jun. 2012) ("USEIA 2012a"); United States Energy Information Administration, *Review of Emerging Resources: U.S. Shale Gas and Shale Oil Plays* at 75-77 (Jul. 2011) ("USEIA 2011"); Arthur, Daniel et al., All Consulting, Hydraulic Fracturing Considerations for Natural Gas Wells of the Marcellus Shale, 2008 Annual Forum (2008) ("Arthur").
6 *See, e.g.*, U.S. Energy Information Administration, Short Term Energy Outlook Supplement: Key drivers for EIA's short-term U.S. crude oil production outlook (Feb 14, 2013) ("USEIA Key Drivers"); Orszag, Peter, Fracking Boom Could Finally Cap Myth of Peak Oil, Bloomberg (Jan. 31, 2012), http://www.bloomberg.com/news/2012-02-01/fracking-boom-could-finally-cap-myth-of-peak-oil-peter-orszag.html
7 Arthur at 9-10; Tompkins, *How will High-Volume (Slick-water) Hydraulic Fracturing of the Marcellus (or Utica)*

hazardous. One study found that more than 75 percent of the chemicals could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems; approximately 40 to 50 percent could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37 percent could affect the endocrine system; and 25 percent could cause cancer and mutations.[8] Another fracking study reviewed noted that benzene was the largest contributor to cancer risk for people living near a well.[9] Second, horizontal drilling – meaning drilling sideways through a formation – greatly increases the portion of the well that passes through shale, allowing the fracture of more of the formation.[10] Fracking of horizontal wells appeared in the early 1990s.[11] Third, "multi-stage" fracks help to control the pressure in the well by dividing the well into shorter segments.[12] Each stage in a frack may extend 300 to 500 feet and require 300,000 to 600,000 gallons of water, meaning that, all in all, the fracking of a well may consume millions of gallons of water.[13] Industry began using multi-stage fracking in 2002.[14]

Due to multi-stage slickwater hydraulic fracturing and horizontal drilling (hereinafter "fracking"), the oil and gas sector is now producing huge amounts of shale oil and shale gas, rapidly transforming the domestic energy outlook. Fracking has now pushed exploration into geological formations previously considered uneconomic to develop.[15] Nine out of ten natural gas wells are now fracked,[16] and in 2010, natural gas production reached the highest level in decades.[17] Further, in May 2012, BLM estimated that about 90 percent of wells currently drilled on Federal and Indian lands are fracked.[18] According to the BLM and the Forest Service, all wells in the Sespe Oil Field have been fracked at least once. Despite this long history of fracking in the Sespe Oil Field, the risks and potential impacts of fracking here have never been evaluated.

Shale Differ from Traditional Hydraulic Fracturing?, Marcellus Accountability Project at 1 (Feb. 2011); Waxman, Henry et al., United States House of Representatives, Committee on Energy and Commerce, Minority Staff, *Chemicals Used in Hydraulic Fracturing* (Apr. 2011) ("Waxman"); New York State Department of Environmental Conservation, Revised Draft Supplemental Generic Environmental Impact Statement on the Oil, Gas and Solution Mining Regulatory Program, Well Permit Issuance for Horizontal Drilling and High-Volume Hydraulic Fracturing to Develop the Marcellus Shale and Other Low-Permeability Gas Reservoirs at 5-5 (Sep. 7, 2011) ("NYDEC SGEIS").

8 Colborn, Theo et al., Natural Gas Operations for a Public Health Perspective, 17 Human and Ecological Risk Assessment 1039 (2011) ("Colborn 2011").

9 McKenzie, Lisa et al., Human Health Risk Assessment of Air Emissions form Development of Unconventional Natural Gas Resources, Sci Total Environ at 5 (2012), doi:10.1016/j.scitotenv.2012.02.018 ("McKenzie 2012").

10 USEIA 2012a at 63.

11 Venoco, Inc., Monterey Shale Focused Analyst Day Slide Show at 23 (May 26, 2010) ("Venoco Slide Show").

12 NYDEC SGEIS at 5-93.

13 *Id.*

14 *Id.* at 5-5.

15 Wiserman, Hannah, Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation, 20 Fordham Envtl. Law Rev. 115, 122 (2009) ("Wiserman").

16 OMB Watch, The Right to Know, the Responsibility to Protect: State Actions are Inadequate to Ensure Effective Disclosure of the Chemicals Used in Natural Gas Fracking at 2 (2012); Lustgarten, Abraham, Hydrofracked: One man's quest for answers about natural gas drilling, ProPublica at 4 (2011); Environmental Working Group, Cracks in the Façade at 3 (2011).

17 Waxman at 1.

18 U.S. Bureau of Land Management, Oil and Gas: Well Stimulation Including Hydraulic Fracturing, on Federal and Indian Lands, 77 Fed. Reg. 27691, 27,693 (May 11, 2012).

This trend also holds true for shale oil. The U.S. Energy Information Administration ("EIA") notes that "[c]rude oil production increased by 790,000 barrels per day (bbl/d) between 2011 and 2012, the largest increase in annual output since the beginning of U.S. commercial crude oil production in 1859." [19] The EIA expects an even larger increase from 2012 to 2013.[20] Shale oil production has been increasing at a particularly rapid rate in the Bakken and Eagle Ford shales.[21] New fracking techniques have been central to this growth. For example, horizontal drilling operations in the Bakken shale have been the primary force behind a quadrupling of North Dakota's oil production since 2005.[22] While the most recent EIA report estimates far lower likely yields from fracking for gas in the Monterey Shale than previously estimated, [23] oil fracking is likely to continue at a high rate.

The impacts associated with fracking have caused some jurisdictions to place a moratorium or ban on fracking. In 2011 France became the first country to ban the practice,[24] and in May of 2012, Vermont became the first state to ban fracking.[25] New York has halted the practice while it researches the issue,[26] and Pennsylvania, ground zero for the fracking debate, has banned "natural-gas exploration across a swath of suburban Philadelphia . . . ."[27] In California efforts to institute a fracking moratorium are ongoing[28] and new interim reporting regulations were put in place in January 2014,[29] although investigations show that those reporting requirements are not being met by many operators.[30]

While hundreds of fracked wells in nine counties (Kern, Los Angeles, Monterey, Sacramento, Santa Barbara, Ventura, Colusa, Glenn, and Sutter) are now listed on the website

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19 USEIA Key Drivers at 1.
20 *Id.*
21 U.S. Energy Information Administration, Bakken formation oil and gas drilling activity mirrors development in the Barnett, Today In Energy (November 2, 2011), http://www.eia.gov/todayinenergy/detail.cfm?id=3750; U.S. Energy Information Administration, Five states accounted for about 56% of total U.S. crude oil production in 2011, Today in Energy (Mar 14, 2012), http://www.eia.gov/todayinenergy/detail.cfm?id=5390;.U.S. Energy Information Administration, Eagle Ford Oil and Natural Gas Well Starts Rose sharply in First Quarter 2012, Today in Energy (Apr 23, 2012), http://www.eia.gov/todayinenergy/detail.cfm?id=5950.
22 U.S. Energy Information Administration , North Dakota's oil production has more than quadrupled since 2005, Today in Energy (November 22, 2011), http://www.eia.gov/todayinenergy/detail.cfm?id=4010
23 Sahagun, Louis, *U.S. officials cut estimate of recoverable Monterey Shale oil by 96%* (May 20, 2014), http://www.latimes.com/business/la-fi-oil-20140521-story.html
24 Castelvecchi, Davide, France becomes first country to ban extraction of natural gas by fracking, Scientific American Observations Blog (June 30, 2011 08:27 PM).
25 CNN Staff Writer, *Vermont first state to ban fracking*, CNN U.S. (May 17, 2012).
26 Esch, Mary, *New York Fracking Moratorium Causes Drilling Company to Shut off Gas in Avon, NY*, Huffington Post (Jul. 9, 2012).
27 Philly.com, Editorial, Fracking ban is about our water, The Inquirer (Jul. 11, 2012).*see also* CBS, Pittsburgh Bans Natural Gas Drilling, CBS/AP (Dec. 8, 2010 08:36 AM.), http://www.cbsnews.com/stories/2010/11/16/national/main7060953.shtml; Wooten, Michael, City of Buffalo Bans Fracking, WGRZ.com (Feb 9, 2011); Raleigh Telegram Staff Writer, Raleigh City Council Bans Fracking Within City Limits, The Raleigh Telegram (July 11, 2012); Kemble, William, *Woodstock bans activities tied to fracking*, Daily Freeman (Jul. 19, 2012); MetroNews.com, *Morgantown Bans Fracking* (June 22, 2011).
28 *See, e.g.*, SB 1132.
29 *See* 14 Cal. Code of Regs. § 1783 *et seq.*
30 NBC Bay Area, *Are Regulators Ignoring California's New Fracking Law?* (May 28, 2014), http://www.nbcbayarea.com/investigations/Are-Regulators-Ignoring-Californias-New-Fracking--260840501.html

Frac Focus, on which companies voluntarily disclose partial information about their wells, many more may also be fracked.[31] California's Division of Oil, Gas, and Geothermal Resources ("DOGGR") has stated that 700 wells per year in California are fracked.[32] For example, in Kern County, Halliburton has stated that 50 to 60 percent of new wells being drilled were hydraulically fractured.[33] Moreover, companies are already using in California the modern techniques and tools that are the hallmark of modern fracking including horizontal drilling and multi-stage fracs.[34] Companies are also already using dangerous fracking fluid in California, injecting chemicals like trimethylbenzene into the ground in Los Angeles County.[35] This is great cause for concern because fracking is occurring in the absence of any adequate federal or state oversight. DOGGR – charged with regulating oil and gas activities and protecting California's water, public health, and environment – in the past asserted that it did not track or monitor the practice, and that operations were not required to notify the state when they frack. [36] Starting January 1, 2014, under Senate Bill 4's interim regulations, well operators must submit a Notice of Well Stimulation to DOGGR at least 10 days prior to a well stimulation event including hydraulic fracturing (fracking) or acidizing, but the public is only required to be notified after wells are fracked. 14 Cal. Code of Regs. §§ 1783, 1788. Furthermore, investigation indicates that compliance has not been consistent to date.

B. Current Information on Fracking in the Sespe Oil Field Is Inadequate

Since 2011, the oil industry has fracked at least 18 oil wells on private land that is intermingled with national forest and BLM land in the Sespe Oil Field. These fracking operations were approved without any public notice, environmental review, or input from the U.S. Forest Service. Instead, they were all routinely issued over-the-counter approvals by the County of Ventura Planning Division and/or the California Department of Oil, Gas, and Geothermal Resources ("DOGGR"). In one of these recent fracking operations, DOGGR officials received a Notice of Intention to Rework Well 48-33 on the White Star lease on June 22, 2012, and three days later issued a one-page Permit to Conduct Well Operations authorizing the fracking. According to records submitted by Seneca Resources Corporation, the fracking operation was completed a few days later on July 5, 2012.

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31 FracFocus.org, Home Page - FracFocus Chemical Disclosure Registry (2012), http://fracfocus.org. ("FracFocus home")

32 Clean Water Action, Clean Water Action California's Position on Hydraulic Fracturing (2012).

33 Environmental Working Group, California Regulators: See No Fracking, Speak No Fracking (Feb. 2012) ("See/Speak No Fracking").

34Petzet, Alan, Venoco gears to probe California Monterey on Land, Oil and Gas Journal Vol. 109 at page 27 (Jan 24, 2011).

35 FracFocus, Hydraulic Fracturing Fluid Product Component Information Disclosure for Plains Exploration API Number 0403726720, Los Angeles County, Fracture Date Sep. 15, 2011; *see also* McDonald New Times at 3; FracFocus.org, What Chemicals are Used?, http://fracfocus.org/chemical-use/what-chemicals-are-used (last visited March 22, 2013) ("FracFocus, Chemicals"); Earthworks, Hydraulic Fracturing 101 (2012) ("Earthworks, Fracking 101"); Colborn 2011 at 1041.

36 Letter from Bruce Reeves, Chief Counsel, California Department of Conservation, to George Torgun, Earthjustice, Re: Public Records Act Request dated June 18, 2012 (DOC TM # 12-00873); *see also* Letter from Elena M. Miller, State Oil and Gas Supervisor, California Division of Oil, Gas, & Geothermal Resources, to The Honorable Fran Pavley, California State Senate re hydraulic fracturing in California, February 16, 2011 at 2.

The public's ability to gather information and submit meaningful comments on proposed fracking operations in the Sespe Oil Field is minimal, regardless of whether the fracking is occurring on private or national forest land. Oil wells on private land are within the County's jurisdiction, falling within the boundaries of 21 Conditional Use Permits (CUPs). The County issued these CUPs between 1948 and 1976. The County considers Zoning Clearances to be "ministerial entitlements," meaning that they are granted with little or no personal judgment so long as the requested use complies with standards in the Zoning Ordinance. Zoning Clearances are issued by the Planning Director or Planning Division staff without any public notice or hearing.

Similarly, drilling operations into federal leaseholds in the Sespe Oil Field have historically been conducted without any public notice or environmental review of the potential impacts of fracking. For example, the BLM approved the most recently drilled wells on federal leases – Powell Wells 3 and 4 – without disclosing, evaluating, or even mentioning fracking in the accompanying 2010 Environmental Assessment. Both wells were fracked when they were drilled in 2011, according to DOGGR well records. Nor was the practice of fracking disclosed or evaluated in the Forest Service's 2005 forest-wide evaluation of oil and gas leasing in the Los Padres National Forest.

Given the extensive (and recent) history of fracking in the Sespe Oil Field without proper public notice or environmental review, it is vitally important to conduct a thorough, comprehensive and transparent analysis for these proposed eight new wells.

III. The Forest Service and BLM Must Prepare an EIS to Comply with NEPA.

A. Legal Background

i. Purpose of NEPA Analysis

NEPA is the "basic charter for protection of the environment." 40 C.F.R. § 1500.1(a). In NEPA, Congress declared a national policy of "creat[ing] and maintain[ing] conditions under which man and nature can exist in productive harmony." *Or. Natural Desert Ass'n v. Bureau of Land Mgmt.*, 531 F.3d 1114, 1120 (9th Cir. 2008) (quoting 42 U.S.C. § 4331(a)). NEPA is intended to "ensure that [federal agencies] … will have detailed information concerning significant environmental impacts" and "guarantee[] that the relevant information will be made available to the larger [public] audience." *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998).

Under NEPA, before a federal agency takes a "'major [f]ederal action[] significantly affecting the quality' of the environment," the agency must prepare an environmental impact statement (EIS). *Kern v. U.S. Bureau of Land Mgmt.*, 284 F.3d 1062, 1067 (9th Cir. 2002) (quoting 43 U.S.C. § 4332(2)(C)). In order to determine whether a project's impacts may be "significant," an agency may first prepare an EA. 40 C.F.R. §§ 1501.4, 1508.9. If the EA reveals that "the agency's action may have a significant effect upon the . . . environment, an EIS must be prepared." *Nat'l Parks & Conservation Ass'n v. Babbitt*, 241 F.3d 722, 730 (9th Cir. 2001)

(internal quotations omitted). If the agency determines that no significant impacts are possible, it must still adequately explain its decision by supplying a "convincing statement of reasons" why the action's effects are insignificant. *Blue Mountains Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998). Further, an agency must prepare all environmental analyses required by NEPA at "the earliest possible time." 40 C.F.R. § 1501.2. "NEPA is not designed to postpone analysis of an environmental consequence to the last possible moment," but is "designed to require such analysis as soon as it can reasonably be done." *Kern*, 284 F.3d at 1072.

"An EIS is a thorough analysis of the potential environmental impact that 'provide[s] full and fair discussion of significant environmental impacts and … inform[s] decisionmakers and the public of the reasonable alternatives which would avoid or minimize adverse impacts or enhance the quality of the human environment.'" *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004) (citing 40 C.F.R. § 1502.1). An EIS is NEPA's "chief tool" and is "designed as an 'action-forcing device to [e]nsure that the policies and goals defined in the Act are infused into the ongoing programs and actions of the Federal Government.'" *Or. Natural Desert Ass'n*, 531 F.3d at 1121 (quoting 40 C.F.R. § 1502.1).

An EIS must identify and analyze the direct, indirect, and cumulative effects of the proposed action. This requires more than "general statements about possible effects and some risk" or simply conclusory statements regarding the impacts of a project. *Klamath Siskiyou Wildlands Center v. BLM*, 387 F.3d 989, 995 (9th Cir. 2004) (citation omitted); *Oregon Natural Resources Council v. BLM*, 470 F.3d 818, 822-23 (9th Cir. 2006). Conclusory statements alone "do not equip a decisionmaker to make an informed decision about alternative courses of action or a court to review the Secretary's reasoning." *NRDC v. Hodel*, 865 F.2d 288, 298 (D.C. Cir. 1988).

Where there is incomplete information that is relevant to the reasonably foreseeable impacts of a project and essential for a reasoned choice among alternatives, the agencies must obtain that information unless the costs of doing so would be exorbitant or the means of obtaining the information are unknown. 40 C.F.R. § 1502.22. Even in those instances where complete data is unavailable, the EIS also must contain an analysis of the worst-case scenario resulting from the proposed project. *Friends of Endangered Species v. Jantzen*, 760 F.3d 976, 988 (9th Cir. 1985) (NEPA requires a worst case analysis when information relevant to impacts is essential and not known and the costs of obtaining the information are exorbitant or the means of obtaining it are not known) *citing Save our Ecosystems v. Clark*, 747 F.2d 1240, 1243 (9th Cir. 1984); 40 C.F.R. § 1502.22. NEPA also requires agencies to ensure the scientific integrity and accuracy of the information used in its decision-making. 40 CFR § 1502.24. The regulations specify that the agency "must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential." 40 C.F.R. § 1500.1(b).

ii. Need for Analysis Cannot Be Cabined by Proposal

Agencies must provide robust analysis and cannot narrow the purpose and need statement

to fit only the proposed project and then shape their findings to approve that project without a "hard look" at the environmental consequences. To do so would allow an agency to circumvent environmental laws by simply "going-through-the-motions." The purpose behind the requirement that the purpose and need statement not be unreasonably narrow, and NEPA in general is, in large part, to "guarantee[ ] that the relevant information will be made available to the larger audience that may also play a role in both the decision-making process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989). The agency cannot camouflage its analysis or avoid robust public input, because "the very purpose of a draft and the ensuing comment period is to elicit suggestions and criticisms to enhance the proposed project." *City of Carmel-by-the-Sea*, 123 F.3d at 1156. The agencies cannot circumvent relevant public input by narrowing the purpose and need so that no alternatives can be meaningfully explored or by failing to review a reasonable range of alternatives.

It is well established that NEPA review cannot be "used to rationalize or justify decisions already made." 40 C.F.R. § 1502.5; *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000) ("the comprehensive 'hard look' mandated by Congress and required by the statute must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.") As Ninth Circuit noted an "agency cannot define its objectives in unreasonably narrow terms." *City of Carmel-by-the-Sea v. U.S. Dept. of Transportation*, 123 F.3d 1142, 1155 (9th Cir. 1997); *Muckleshot Indian Tribe v. U.S. Forest Service*, 177 F. 3d 900, 812 (9th Cir. 1999). The statement of purpose and need and alternatives are closely linked since "the stated goal of a project necessarily dictates the range of 'reasonable' alternatives." *City of Carmel*, 123 F.3d at 1155. The Ninth Circuit recently reaffirmed this point in *National Parks Conservation Assn v. BLM*, 586 F.3d 735, 746-48 (9th Cir. 2009) (holding that "[a]s a result of [an] unreasonably narrow purpose and need statement, the BLM necessarily considered an unreasonably narrow range of alternatives" in violation of NEPA).

iii. Alternatives Requirement is at the "Heart" of the NEPA Analysis

The "heart" of the NEPA process is an agency'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). The CEQ regulations require the action agency to "rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." 40 C.F.R. § 1502.14(a).

Agencies must consider alternatives whether preparing an EIS or an EA. "A properly-drafted EA must include a discussion of appropriate alternatives to the proposed project. 42 U.S.C. § 4332(2)(E); 40 C.F.R. § 1508.9(b)." *Davis v. Mineta*, 302 F.3d 1104, 1120 (9th Cir. 2002).

> The alternatives provision of NEPA applies whether an agency is preparing an EIS or an EA, and NEPA's implementing regulations require an EA to include "brief discussions of the need for the proposal, of alternatives as required by [42 U.S.C. § 4332(2)(E)], of the environmental impacts of the proposed action and alternatives, and a listing of agencies and persons consulted." 40 C.F.R. § 1508.9(b) (2000); *see also Bob Marshall Alliance*, 852 F.2d at 1229.("Any proposed federal action involving unresolved conflicts as to the proper use of resources triggers NEPA's consideration of alternatives requirement, whether or not an EIS is also required."). In short, NEPA "requires that alternatives . . . be given full and meaningful consideration." *Bob Marshall Alliance*, 852 F.2d at 1229.

Native Ecosystems Council v. United States Forest Serv., 428 F.3d 1233 (9th Cir. 2005) "A 'viable but unexamined alternative renders [the] environmental impact statement inadequate.'" *Muckleshoot Indian Tribe v. U.S. Forest Serv*., 177 F.3d 800, 814 (9th Cir. 1999) (quoting *Citizens for a Better Henderson v. Hodel*, 768 F.2d 1051, 1057 (9th Cir. 1985)).

"The purpose of NEPA's alternatives requirement is to ensure agencies do not undertake projects "without intense consideration of other more ecologically sound courses of action, including shelving the entire project, or of accomplishing the same result by entirely different means." *Envtl. Defense Fund, Inc. v. U.S. Army Corps of Engrs.*, 492 F.2d 1123, 1135 (5th Cir. 1974). The courts, in the Ninth Circuit as elsewhere, have consistently held that an agency's failure to consider a reasonable alternative is fatal to an agency's NEPA analysis. *See, e.g.*, *Idaho Conserv. League v. Mumma*, 956 F.2d 1508, 1519-20 (9th Cir. 1992) ("The existence of a viable, but unexamined alternative renders an environmental impact statement inadequate."). An agency will be found in compliance with NEPA only when "all reasonable alternatives have been considered and an appropriate explanation is provided as to why an alternative was eliminated." *Native Ecosystems Council v. U.S. Forest Serv.*, 428 F.3d 1233, 1246 (9th Cir. 2005); *Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228-1229 (9th Cir. 1988). If the agencies reject an alternative from consideration, they must explain why a particular option is not feasible and was therefore eliminated from further consideration. 40 C.F.R. § 1502.14(a). The courts will scrutinize this explanation to ensure that the reasons given are adequately supported by the record. *See Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 813-15 (9th Cir. 1999); *Idaho Conserv. League*, 956 F.2d at 1522 (while agencies can use criteria to determine which options to fully evaluate, those criteria are subject to judicial review); *Citizens for a Better Henderson*, 768 F.2d at 1057.

At minimum, the Forest Service and BLM must consider a "no project" alternative that denies the proposal and does not allow any new wells to be drilled or pipelines to be built, an alternative that denies the drilling proposal but allows for pipeline relocation, an alternative that limits water use, an alternative that limits the use of all toxic chemicals in any fracking operations, and at least one alternative that does not allow fracking or other well stimulation techniques to be used in any of the proposed wells.

iv. Baseline Information and Analysis of the Affected Environment Must Be Comprehensive

NEPA requires the agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." 40 C.F.R. § 1502.15. The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process:

> "NEPA clearly requires that consideration of environmental impacts of proposed projects take place *before* [a final decision] is made." *LaFlamme v. FERC*, 842 F.2d 1063, 1071 (9th Cir.1988) (emphasis in original). Once a project begins, the "pre-project environment" becomes a thing of the past, thereby making evaluation of the project's effect on pre-project resources impossible. *Id*. Without establishing the baseline conditions which exist in the vicinity … before [the project] begins, there is simply no way to determine what effect the proposed [project] will have on the environment and, consequently, no way to comply with NEPA.

Half Moon Bay Fisherman's Mark't Ass'n v. Carlucci, 857 F.2d 505, 510 (9th Cir. 1988). "In analyzing the affected environment, NEPA requires the agency to set forth the baseline conditions." *Western Watersheds Project v. BLM*, 552 F.Supp.2d 1113, 1126 (D. Nev. 2008). "The concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process." Council of Environmental Quality, Considering Cumulative Effects under the National Environmental Policy Act (May 11, 1999).

Such baseline information and analysis must be part of any environmental review and be subject to public review and comment under NEPA. The lack of an adequate baseline analysis fatally flaws an EIS or EA. "[O]nce a project begins, the pre-project environment becomes a thing of the past and evaluation of the project's effect becomes simply impossible." *Northern Plains v. Surf. Transp. Brd.*, 668 F.3d 1067, 1083 (9th Cir. 2011). "[W]ithout [baseline] data, an agency cannot carefully consider information about significant environment impacts. Thus, the agency fail[s] to consider an important aspect of the problem, resulting in an arbitrary and capricious decision." *Id*. at 1085.

In *Idaho Conservation League v. U.S. Forest Service*, 2012 WL 3758161, 2012 U.S. Dist. LEXIS 124659 (D. Idaho 2012), the Idaho federal court concluded that the Forest Service acted arbitrarily and capriciously by authorizing exploratory hardrock mineral drilling without fully analyzing the baseline groundwater and hydrology. Such analysis must include "a baseline hydrogeologic study to examine the existing density and extent of bedrock fractures, the hydraulic conductivity of the local geologic formations, and [measures of] the local groundwater levels to estimate groundwater flow directions." *Idaho Conservation League*, 2012 WL 3758161, at *16; 2012 U.S. Dist. LEXIS 124659, at *49. *See also Shoshone-Bannock Tribes of Fort Hall Reservation v. U.S. Dept. of Interior*, 2011 WL 1743656, at *10, 2011 U.S. Dist. LEXIS 48492 (D. Idaho 2011).

B. Current Land Management Plans Did Not Analyze or Address Key Issues Raised By this Proposal And Must Be Updated to Include Significant New Information.

The Forest Service has never taken a comprehensive look at the impacts of the existing oil and gas operations in the Sespe Oil Field nor has the BLM. As detailed below, significant new information renders the existing Forest Plan, and BLM's existing RMP and proposed RMP invalid. For example, the proposed BLM Bakersfield RMP from 2012 is not consistent with FLPMA which requires BLM to prepare and maintain adequate inventory data on the resources of an area and that information be used to inform the planning process. 43 U.S.C. § 1711(a); 43 U.S.C. § 1701(a)(2). As noted by the EPA, the BLM has failed to properly identify or quantify air quality baseline and impact data, such as secondary PM2.5 formation resulting from nitrogen oxides, volatile organic compounds and sulfur oxides associated with foreseeable activities under the Proposed RMP. Moreover, BLM has failed to maintain an inventory of impacts and emissions from existing active wells as well as from the 4000 new wells BLM anticipates will be drilled under the Proposed RMP. Nor has BLM properly monitored the use and expansion of fracking on lands in the plan area, including maintaining an inventory of all chemicals used in such processes. Similarly, BLM has failed to adequately inventory the groundwater resources on its lands as well as those likely to be affected by oil development and other activities under the plan. For each of these reasons and others, the BLM cannot rely on the proposed RMP because BLM failed to comply with 43 U.S.C. § 1711(a) and 43 U.S.C. § 1701(a)(2).

The recent boom in fracking has and will continue to expand development of oil and gas in California including within the Sespe Oil Field. In their planning documents the Forest Service and BLM relied on decades-old development data resulting in unrealistic Reasonably Foreseeable Development scenarios and impacts analyses that did not fully address the effects of fracking on the environment. Accordingly, the ESA consultations were also based on the agencies' limited analysis and inaccurate development predictions. However, fracking is likely to lead to more wells and far greater impacts associated with the additional wells that neither the agencies nor FWS or NMFS has fully considered.

Because the current planning relies on outdated and inadequate analysis, it must be updated to include this significant new information. *See Center for Biological Diversity & Sierra Club v. BLM*, 937 F. Supp. 2d 1140 (N.D. Cal. 2013). Moreover, the agencies must undertake such analysis before proceeding with any new site-specific approvals. As the Forest Service and BLM are aware, the agencies bear an affirmative duty to "be alert to new information that may alter the results of its original environmental analysis, and continue to take a 'hard look at the environmental effects of [its] planned action, even after a proposal has received initial approval.'" *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 557 (9th Cir. 2000) (citing *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374 (1989)). An agency is not free to ignore the possible significance of new information. *Blue Mountains Biodiversity Project v. U.S. Forest Serv.*, 229 F. Supp.2d 1140, 1147-48 (D. Or. 2002). New information is reviewed for significance based on same factors for determining significant impacts under 40 C.F.R. § 1508.27(b). *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 374-75 n.20 (1989).

An agency must prepare a supplemental EIS (SEIS) when "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts." 40 C.F.R. § 1502.9(c)(1). The first step in this process is determining and documenting whether there are significant new information or changed circumstances. *Great Old Broads for Wilderness v. Kimbell*, 709 F.3d 836, 855 (9th Cir. 2013) ("An agency must document its decision that no SEIS is required to ensure that it remains alert to new information that may alter the results of its original environmental analysis, and continue[s] to take a hard look at the environmental effects of [its] planned action, even after a proposal has received initial approval."). The agency must make a "reasoned decision based on . . . the significance—or lack of significance—of the new information" that NEPA requires. *Friends of the Clearwater v. Dombeck*, 222 F.3d 552, 557 (9th Cir. 2000).

Courts have recognized a "limited role within NEPA's procedural framework SIRs for [Supplemental Information Reports] and similar 'non-NEPA' environmental evaluation procedures." *Idaho Sporting Congress v. Alexander*, 222 F.3d 562, 566 (9th Cir. 2000). "Specifically, courts have upheld agency use of SIRs and similar procedures for the purpose of determining whether new information or changed circumstances require the preparation of a supplemental EA or EIS." *Id.* In condoning the use of SIRs, however, the Ninth Circuit has "repeatedly warned that once an agency determines that new information is significant, it must prepare a supplemental EA or EIS; SIRs cannot serve as a substitute." *Id.* An SIR can be used "to make the initial significance determination, not to supplant any documentation that would be required if the threshold were met." *Price Road Neighborhood Ass'n, Inc. v. U.S. Dept. of Transp.*, 113 F.3d 1505, 1510 (9th Cir. 1997).

The existing wells, pipelines/flowlines, roads and operations (including all aspects of fracking operations) must be fully identified as part of the environmental baseline and in the cumulative analysis. The 2006 FEIS for the LPNF Forest Plan provides little more than general statements about oil and gas drilling, with almost no analysis and no discussion whatsoever of fracking impacts. The 2005 FEIS for Oil &Gas Leasing on the LPNF similarly fails to provide any information on fracking and is currently being challenged in Federal court by our organizations and others. The BLM's RMP for this area similarly fails to address fracking or its impacts.

C. The Forest Service and BLM Must Prepare an Environmental Impact Statement

The Forest Service and BLM must prepare an EIS because the drilling, construction, and operation of the proposed pipelines and wells, including fracking, could result in significant impacts to the environment.

In considering the potential for the proposal to result in significant effects, NEPA's regulations require the agencies to evaluate ten factors regarding the "intensity" of the impacts. 40 C.F.R. § 1508.27(b). The Ninth Circuit has held that the existence of any "one of these factors may be sufficient to require preparation of an EIS." *Ocean Advocates v. United States Army Corps of Eng'rs*, 402 F.3d 846, 865 (9th Cir. 2005); *Nat'l Parks & Conservation Ass'n*, 241 F.3d

at 731. Several of these "significance factors" are implicated by the proposed new wells and pipelines and clearly warrant the preparation of an EIS.

i. The proposal poses threats to public health and safety

The oil and gas activities that are proposed could cause significant impacts to public health and safety. 40 C.F.R. § 1508.27(b)(2). Fracking would pose a grave threat to the region's water and air quality. One study found that more than 75 percent of the chemicals used in fracking could affect the skin, eyes, and other sensory organs, and the respiratory and gastrointestinal systems; approximately 40 to 50 percent could affect the brain/nervous system, immune and cardiovascular systems, and the kidneys; 37 percent could affect the endocrine system; and 25 percent could cause cancer and mutations.[37] The exposure of the public to these harmful pollutants would plainly constitute a significant impact, and thus, the threats to public health dictate preparation of an EIS. Operational accidents both at the wells and along the pipelines also pose a significant threat to public health. For example in August 2008, Newsweek reported that an employee of an energy-services company got caught in a fracking fluid spill, and was taken to the emergency room, complaining of nausea and headaches.[38] The fracking fluid was so toxic that it ended up harming not only the worker, but also the emergency room nurse who treated him. [39]

ii. The unique characteristics of the area require an EIS

An EIS is required where there are unique characteristics of the geographic area including, for example, proximity to wild and scenic rivers, wetlands and ecologically critical areas. 40 C.F.R. § 1508.27(b)(3). The proposed project site is in close proximity to the Hopper Mountain National Wildlife Refuge, wilderness areas, and is upstream from Sespe Creek which includes designated critical habitat for southern steelhead and riparian habitat utilized by many imperiled and common species. Moreover, Sespe Creek is designated as a Wild & Scenic River and is considered by the U.S. Forest Service as an Area of High Ecological Significance. Each of these factors alone would likely be sufficient to require and EIS; the many high ecological values and sensitivity of this area make an EIS essential.

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

An EIS is required when the effects on the quality of the human environment are likely to be highly controversial. 40 C.F.R. § 1508.27(b)(4). The controversy regarding new fracking wells and pipelines in the Forest is evident. Oil and gas operations can cause significant impacts to human health, water resources, air quality, imperiled species, and seismicity. The potential for these significant impacts to occur is particularly clear in light of the proposed fracking as part of

37 Colborn 2011; *see also* Waxman, Chemicals Used in Hydraulic Fracturing (Apr. 2011) (a survey of chemicals used by some of the companies that have employed fracking, finding that oil and gas companies have used fracking products containing at least 29 products that are known or possible carcinogens, regulated for their human health risk, or listed as hazardous air pollutants)
38 Wiserman at 138-39.
39 *Id.*

the project operations. As explained in these comments, fracking can cause significant effects, and the controversy regarding fracking spans the public arena, scientific discourse, local governments, and the halls of Congress.[40]

iv. The proposal presents highly uncertain or unknown risks

An EIS must also be prepared when an action's effects are "highly uncertain or involve unique or unknown risks." 40 C.F.R. § 1508.27(b)(5). While it is clear that oil and gas activities can cause great harm, there remains much to be learned about the specific pathways through which harm may occur and the potential degree of harm that may result. Additional information is needed, for example, about possible rates of natural gas leakage, the potential for fluids to migrate through the ground in and around the parcels, and the potential for drilling to affect local faults. More information is also needed on where water for the fracking operations is to be obtained and how and where waste water and other fluids will be disposed. NEPA clearly dictates that the way to address such uncertainties is through the preparation of an EIS.

v. The Proposal May Have Precedential Effect

An EIS is also required when the action may establish a precedent for future actions with significant effects. 40 C.F.R. § 1508.27(b)(6). The Forest Service and BLM must also thoroughly consider site-specific impacts, alternatives, minimization and mitigation strategies because this proposal may have a precedential effect including the likelihood that approving this proposal will encourage other proposals on previously leased lands to also move forward – which has not happened on Forest Service lands in this area in decades.

vi. The proposal will have cumulatively significant impacts.

An EIS is also required when the action is related to other past, present and reasonable foreseeable future actions that may together have cumulatively significant effects on the environment. 40 C.F.R. § 1508.27(b)(7). The proposed wells and pipelines must be considered along with the existing wells and pipelines in the area already in operation, many of the wells already undertaking fracking, and reasonably foreseeable future actions of this kind. In addition, many of the existing operations in the Sespe Oil Field (both on Forest Service land and other lands) have been fracking and undertaking other operations related activities without any prior analysis in any NEPA document. Among the activities that have not been evaluated in the past are fracking itself including its impacts to ground water, seismic activity, and air quality, the source of the water and chemicals used in fracking, and the transportation and disposal of toxic waste fluids and contaminated water after fracking is completed. The Forest Service and BLM must examine all of these cumulative impacts in an EIS before considering approval of this proposal.

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40 U.S. Environmental Protection Agency, Study of the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources, Progress Report (Dec. 2012); U.S. Environmental Protection Agency, Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources (November 2011); NYDEC SGEIS; Reddall, Braden, *California Growers join greens to query frack safety*, Reuters.com, Jun 29, 2012.

vii. The Proposal Will Adversely Affect Endangered and Threatened Species and Their Habitat

An EIS may also be required when an action "may adversely affect an endangered or threatened species or its habitat." 40 C.F.R. § 1508.27(b)(9). Here, the project could result in significant impacts to protected species including California condors and southern steelhead. In particular, as explained in more detail below, the proposal could result in a number of impacts to these species, including both lethal and sub-lethal impacts. For example, the California condor could be significantly affected due to its extremely small population which, even after decades of recovery, is still facing a high risk of extinction. California condors have already suffered from direct impacts of oil wells and pipelines in this area[41] and additional impacts to this critically endangered species must be fully considered in an EIS.

D. The Forest Service and BLM Must Look at the Whole of the Action in the Analysis

The agencies must look at the whole of the action including not just the pipelines and wells drilled but the transportation of fluids including water onto the site and removal of waste fluids from the site—and the impact of those operations even if they take place off the forest lands. The Forest Service and BLM cannot arbitrarily limit the scope of the environmental analysis. The NEPA regulations and case law require that the agencies must evaluate all "reasonably foreseeable" direct and indirect effects of the proposed project. 40 C.F.R. § 1508.8; *Davis v. Coleman*, 521 F.2d 661, 676 (9th Cir. 1975).

NEPA requires that an agency conduct all environmental analyses at "the earliest possible time." 40 C.F.R. § 1501.2; *see also N.M. ex rel. Richardson v. Bureau of Land Mgmt.*, 565 F.3d 683, 718 (10th Cir. 2009). Here, this means that Forest Service and BLM must analyze all reasonably foreseeable impacts now—not segment the project approval into phases for analysis so that it is unable to prevent environmental impacts.

E. The Forest Service and BLM Must Take a Hard Look at Potential Impacts from the Proposal

i. The Forest Service and BLM Must Adequately Investigate and Analyze the Project's Impacts to Water Resources

Oil and gas activities pose great danger to water resources. This includes harms that are common to oil and gas operations in general, and impacts that fracking in particular can cause.

41 There are several documented cases of California condors being harmed by oil drilling activities. In April 2002, the FWS had to flush condor number 100 from an oil pad, and later recorded oil on its face and wings. The U.S. Fish and Wildlife Service determined that the condor became oiled while trying to tear an oily rag from a pipe. Photographs and reports demonstrate habituation of condors to oil drilling equipment. The U.S. Forest Service also noted in 2005 that a condor became oiled due to "a small spill of oil that occurred when the condor was present and flew down to the spill before the workers could remove the oil." Other condors have been found with oil on their heads as well, according to FWS.

Like all activities on the forest, the proposal must *at minimum* comply with the Forest Service Water Quality Management Handbook's[42] Best Management Practices for mining (which includes leasable minerals). However, because that Handbook does not address fracking, the Forest Service analysis in the EIS must go further and consider the impacts to both surface and ground water quality and how to protect these resources from harm.

a. All Oil and Gas Operations Pose Risks to Water

Oil and gas operations are significant threats to water. Onshore oil and gas operations in the United States create about 56 million barrels of produced water *per day*.[43] California wells produced roughly 3 billion barrels of waste water in 2011, which is about 15 times the amount of oil the state produced.[44] This waste can reach fresh water aquifers and drinking water.[45] Surface pits are a major source of pollution. In California, pollution from an unlined surface pit killed numerous almond trees.[46] Also, New Mexico data shows 743 instances of groundwater contamination, almost entirely over the last three decades.[47] Underground waste injection wells are another major threat. This is of particular concern because U.S. EPA has found that DOGGR's Class II underground injection well program to be insufficiently protective of groundwater resources.[48] Also, many other extremely harmful spills and releases occur before those wastes reach storage or disposal sites, including spills from equipment failures, accidents, negligence, or intentional dumping.[49] Construction of oil and gas infrastructure, such as well pads and roads, can also harm water quality by increasing sediment levels.[50]

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42 R5 FSH 2509.22 - SOIL AND WATER CONSERVATION HANDBOOK, CHAPTER 10 - WATER QUALITY MANAGEMENT HANDBOOK, Amendment No.: 2509.22-2011-1, Effective Date: December 5, 2011 at 129-136. Available at http://www.fs.fed.us/im/directives/field/r5/fsh/2509.22/r5-2509-22-10-2011-1.docx

43 U.S. Government Accountability Office, Energy-Water Nexus: Information on the Quantity, Quality, and Management of Water Produced during Oil and Gas Production, Report to the Ranking Member, Committee on Science, Space and Technology, House of Representatives at 13 (January 2012).

44 California Division of Oil, Gas, and Geothermal Resources, 2011 Preliminary Report of California Oil and Gas Production Statistics at 3 (Apr. 2012); California Department of Conservation Division of Oil, Gas, and Geothermal Resouces, Producing Wells and Production of Oil, Gas, and Water by County - 2011, Excerpted from Final Report of 2011 California Oil and Gas Production Statistics (2012).

45 Natural Resources Defense Council, Petition for Rulemaking Pursuant to Section 6974(a) of the Resource Conservation and Recovery Act Concerning the Regulation of Wastes Associated with the Exploration, Development, or Production of Crude Oil or Natural Gas or Geothermal Energy at 17 (Sep. 8, 2010) ("NRDC Petition for Rulemaking").

46 See/Speak No Fracking at 6; *see also* Miller, Jeremy, Oil and Water Don't Mix with California Agriculture, High Country News (2012);

47 New Mexico Oil and Conservation Division, 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); *see generally* NRDC Petition for Rulemaking; Nicholas, Kusnetz, *A Fracking First in Pennsylvania: Cattle Quarantine*, ProPublica (July 2, 2010).

48 NRDC Petition for Rulemaking at 20; Walker, James, California Class II UIC Program Review, Report submitted to Ground Water Office USEPA Region 9 at 119 (Jun. 2011); U.S. Environmental Protection Agency Region IX, Letter from David Albright, Manager Ground Water, to Elena Miller, State Oil and Gas Supervisor Dept of Conservation re California Class II Underground Injection Control (UIC) Program Review final report (July 18, 2011); Miller, Elena, Letter from Elena M. Miller, State Oil and Gas Supervisor, California Division of Oil, Gas, & Geothermal Resources to The Honorable Fran Pavley, California State Senate re hydraulic fracturing in California (February 16, 2011).

49 U.S. Dept. of Fish and Game, Environmental Incident Report: Vintage Production California LLC Tar Creek

b. Fracking Multiplies the Risks to Water Resources

While much remains to be learned about fracking,[51] it is clear that the practice poses major dangers to water resources. Despite this danger, fracking remains essentially unregulated in California,[52] and around the country, federal and state laws have not kept pace with the dramatic growth in drilling and impacts.[53]

Fracking requires an enormous amount of water to frack each well. Specifically, the Final EIS for Oil and Gas Leasing, Los Padres National Forest states on page 12 of Appendix C that "[a]lthough it will vary significantly from well to well, approximately 40,000 barrels or up to 1,700,000 gallons of water may be required to drill an oil or gas well to the depth of 9,000 feet…. More water is required if the underground rocks are fractured and drilling fluids are lost into the formation." A well fracked in the Sespe Oil Field last year (White Star 535-33) used 3,427,167 gallons of water to drill to a depth of only 5,880 feet, according to documents submitted to DOGGR – suggesting that water consumption rates for fracked wells can be much higher than initially considered in the 2005 forestwide leasing EIS.

The extraction of water for fracking can lower the water table, affect biodiversity, harm local ecosystems, and reduce water available to communities.[54] In California, where water is often in short supply, this is a major concern, and even more so in years of drought such as this one.[55] The environmental document should identify the source of the water to be used, and how it will be transported to the site (i.e. via truck or pipeline).

The fluids associated with fracking can also contaminate the environment. The spilling or leaking of fracking fluids, flowback, or produced water is a huge problem. Harmful chemicals present in these fluids can include volatile organic compounds ("VOCs"), such as benzene, toluene, xylenes, and acetone.[56] As much as 25 percent of fracking chemicals are carcinogens,[57] and flowback can even be radioactive.[58] Spills can occur at the surface, and underground. At the

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Crude Oil and Produced Water Spills, January 30, 2007 and February 6, 2007.

50 Entrekin, Sally, *et al.*, Rapid Expansion of Natural Gas Development Poses a Threat to Surface Waters, 9 Front Ecol Environ 503, 507 (2011) ("Entrekin").

51 United States Government Accountability Office, Unconventional Oil and Gas Development – Key Environmental and Public Health Requirements (2012); United States Government Accountability Office, Oil and Gas – Information on Shale Resources, Development, and Environmental and Public Health Risks (2012).

52 E&E News, Brown aims to demonstrate control over fracking (2012); SF Examiner Editorial, Oil fracking needs state's oversight (2012); Thill, Scott, California's Unregulated Fracking Problem, Salon (2012).

53 NRDC, In Fracking's Wake: New Rules are Needed to Protect Our Health and Environment from Contaminated Wastewater (2012).

54 International Energy Agency, Golden Rules for the Golden Age of Gas at 31-32 (2012).

55 Lynch, Kristen, Letter to the Editor in response to Oil fracking needs State's oversight, San Francisco Examiner (Sept. 11, 2012).

56 U.S. Environmental Protection Agency, Draft Plan to Study the Potential Impacts of Hydraulic Fracturing on Drinking Water Resources (Nov. 2011) ("EPA Plan to Study Fracking Impacts").

57 Colborn 2011.

58 EPA Plan to Study Fracking Impacts; White, Ivan E., Consideration of radiation in hazardous waste produced from horizontal hydrofracking, National Council on Radiation Protection (2012).

surface, pits or tanks can leak fracking fluid or waste.[59] Also, many fluids must be transported to and/or from the well, and this presents an opportunity for spills.[60] Indeed, there are multiple reports of truckers dumping waste uncontained into the environment.[61] Fracking fluid can also spill at the surface during the fracking process. For instance, mechanical failure or operator error during the process has caused leaks from tanks, valves, and pipes.[62]

Underground, fracking can contaminate groundwater in a number of ways. First, faulty well construction, cementing, or casing,[63] as well as the injection of fracking waste underground, can all lead to leaks.[64] Also, fluids may contaminate groundwater by migrating through newly created or natural fractures.[65] These sorts of problems at the well are not uncommon. Dr. Ingraffea of Cornell University has noted an 8.9 percent failure rate for wells in the Marcellus Shale.[66] Also, the Draft EPA Investigation of Ground Water Contamination near Pavillion, Wyoming, found that chemicals found in samples of groundwater were from fracked wells.[67] These results have been confirmed with follow-up analyses.[68] Moreover, another study based on modeling found that active transport of fracking fluid from a fracked well to an aquifer could occur in less than 10 years.[69] Finally, nearby active and abandoned wells provided additional pathways for contamination. In the last 150 years, as many as 12 million "holes" have been drilled across the United States in search of oil and gas, many of which are old and decaying, or are in unknown locations.[70] Fracking can contaminate water resources by intersecting one of

59 *See, e.g.*, E&E Staff Writer, Fracking Fluid leaks from wellhead in Colo., E&E News (Feb 14, 2013). ("At least 84,000 gallons of water contaminated from hydraulic fracturing seeped from a broken wellhead and into a field . . . ."); Michaels, Craig, et al., Fractured Communities: Case Studies of the Environmental Impacts of Industrial Gas Drilling, Riverkeeper (2010).at 12; NRDC Petition for Rulemaking at 20.
60 Warco, Kathy, *Fracking truck runs off road; contents spill*, Observer Reporter (Oct 21, 2010).
61 Kusnetz, Nicholas, *North Dakota's Oil Boom Brings Damage Along with Prosperity* at 4, ProPublica (June 7, 2012) ("Kusnetz North Dakota"); E&E News, Ohio man pleads not guilty to brine dumping (Feb. 15, 2013).
62 Natural Resources Defense Council, Water Facts: Hydraulic Fracturing can potentially Contaminate Drinking Water Sources at 2 (2012) ("NRDC, Water Facts"); Food & Water Watch, The Case for a Ban on Fracking (2012) ("Food & Water Watch 2012") at 5.
63 NRDC, Water Facts at 2; Food & Water Watch 2012 at 7.
64 Kusnetz, North Dakota; Lustgarten, Abraham, Polluted Water Fuels a Battle for Answers, ProPublica (2012); Lustgarten, Abraham, Injection Wells: The Poison Beneath Us, ProPublica at 2 (2012); Lustgarten, Abraham, Whiff of Phenol Spells Trouble, ProPublica (2012).
65 U.S. Environmental Protection Agency, Draft Investigation of Ground Water Contamination near Pavillion, Wyoming (2011) ("EPA Draft Pavillion Investigation."); Warner, Nathaniel R., et al., Geochemical Evidence for Possible Natural Migration of Marcellus Formation Brine to Shallow Aquifers in Pennsylvania, PNAS Early Edition (2012).
66 Ingraffea, Anthony R., Some Scientific Failings within High Volume Hydraulic Fracturing Proposed Regulations 6 NYCRR Parts 550-556, 560, Comments and Recommendations Submitted to the NYS Dept. of Environmental Conservation (Jan 8, 2013).
67 EPA Draft Pavillion Investigation.
68 Drajem, Mark, *Wyoming Water Tests in Line with EPA Finding on Fracking*, Bloomberg (Oct. 11, 2012); U.S. Environmental Protection Agency, Investigation of Ground Water Contamination near Pavillion, Wyoming Phase V Sampling Event - Summary of Methods and Results (September 2012); Myers, Tom, Review of DRAFT: Investigation of Ground Water Contamination near Pavillion Wyoming Prepared by the Environmental Protection Agency, Ada OK (Apr. 30, 2012).
69 Myers, Tom, Potential Contaminant Pathways from Hydraulically Fractured Shale to Aquifers (Feb. 2012).
70 Kusnetz, Nicholas, *Deteriorating Oil and Gas Wells Threaten Drinking Water, Homes Across the Country*, ProPublica (April 4, 2011).

those wells. For instance, one study found at least nineteen instances of fluid communication in British Columbia and Western Alberta.[71]

c. Several key questions regarding water use and impacts must be addressed in the EIS

The Forest Service is coordinating its review with the BLM because some aspects of the proposed project will be reviewed by and approved by BLM. Some of the key questions that must be addressed by the agencies include:

- Where will the water come from and what are the impacts of extracting it?
- What chemicals will be used in the drilling and fracking process?
- How will the Forest Service and/or BLM ensure the collection and disclosure of that information?
- What is the source of sand used in the fracking, and what are the environmental, worker, and public health impacts of extracting and transporting it?
- What limitations will the Forest Service and/or BLM place on the chemicals used in order to protect public health and the environment?
- What measures will the Forest Service and/or BLM require to ensure adequate monitoring of water impacts, both during and after drilling, and for the entire production cycle?
- What baseline data is available to ensure that monitoring of impacts can be carried out effectively? How will the Forest Service and/or BLM collect baseline data that is not currently available?
- Much of the fracking fluid return to the surface as toxic waste. The application states that existing facilities will be used; what is the status of those facilities? Where does the discharge go?
- What is the distance of likely subsurface migration of fracking fluids, as well as the potential for those fluids to escape into the groundwater by way of a faulty casing?
- What kinds of treatment will be required for waste water at existing facilities or elsewhere?
- How will fracking fluid be transported to the site, and what is the risk of accidents and spills en route?
- How will waste fluids be transported from the site, and what is the risk of accidents and spills en route either in trucks, existing or new flowlines/pipelines?
- What is the footprint and existing and potential impact of the necessary treatment facilities for waste?
- What is the potential for flowline/pipeline rupture in an earthquake or from other causes? And what measures will be taken to prevent spills into surface waters, creeks and streams? What is the status of existing spill containment features, and have they been successful in mitigating against the impacts and extent of spills? What emergency measures will be formulated for such an eventuality?

71 BC Oil & Gas Commission, Safety Advisory 2010-03, Communication During Fracture Stimulation (2010).

- What additional bonding will be required for potential impacts to surface and ground waters and other forest resources due to the risks from fracking, water contamination, and and/or from trucking accidents or flowline/pipeline rupture?

The EIS must address all of these issues regarding water quality impacts, and others, in order to meet the requirements of NEPA.

ii. BLM has Failed to Adequately Analyze Air Pollution Impacts

Oil and gas operations emit numerous air pollutants, including volatile organic compounds (VOCs), NO_X, particulate matter, hydrogen sulfide, and methane. Fracking operations are particularly bad, emitting especially large amounts of pollution, including toxics. The EIS must take a hard look at air pollution impacts.

Oil and gas operations emit large amounts of VOCs and NO_X.72 VOCs make up about 3.5 percent of the gases emitted by oil or gas operations.[73] The VOCs emitted include the BTEX compounds – benzene, toluene, ethyl benzene, and xylene – which Congress listed as Hazardous Air Pollutants.[74] There is substantial evidence of the harm from these pollutants.[75] With regard to NO_X, its primary sources are compressor engines, turbines, other engines used in drilling, and flaring.[76] Further, both VOCs and NO_X are ozone precursors, and thus, due to emissions of these pollutants, many regions around the country with substantial oil and gas operations are now suffering from extreme ozone levels. [77] A recent study of ozone pollution in the Uintah Basin of northeastern Utah, a rural area that experiences hazardous tropospheric ozone concentrations, found that oil and gas operations were responsible for 98 to 99 percent of VOCs and 57 to 61 percent of NO_X emitted from sources within the Basin considered in the study's inventory.[78] Ozone can result in serious health conditions, including heart and lung disease and mortality.[79]

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72 Sierra Club et al. comments on New Source Performance Standards: Oil and Natural Gas Sector; Review and Proposed Rule for Subpart OOOO (Nov. 30, 2011) ("Sierra Club Comments") at 13.
73 Brown, Heather, Memorandum to Bruce Moore, U.S.EPA/OAQPS/SPPD re Composition of Natural Gas for use in the Oil and Natural Gas Sector Rulemaking, July 28, 2011 ("Brown Memo").at 3.
74 42 U.S.C. § 7412(b).
75 Colborn 2011; McKenzie 2012; Food & Water Watch 2012.
76 *See, e.g.*, U.S. Environmental Protection Agency, Oil and Gas Sector: Standards of Performance for Crude Oil and Natural Gas Production, Transmission, and Distribution: Background Technical Support Document for Proposed Standards at 3-6 (July 2011); Armendariz, Al, Emissions for Natural Gas Production in the Barnett Shale Area and Opportunities for Cost-Effective Improvements (2009) ("Armendariz") at 24.
77 Armendariz at 1, 3, 25-26; Wendy Koch, *Wyoming's Smog Exceeds Los Angeles' Due to Gas Drilling*, USA Today (May 9, 2011); Craft, Elena, Environmental Defense Fund, Do Shale Gas Activities Play a Role in Rising Ozone Levels? (2012); Colorado Dept. of Public Health and Environment, Conservation Commission, Colorado Weekly and Monthly Oil and Gas Statistics (July 6, 2012) at 12.
78 Lyman, Seth and Howard Shorthill, Final Report: 2012 Uintah Basin Winter Ozone & Air Quality Study, Utah Department of Environmental Quality (2013); *see also* Gilman, Jessica et al., Source signature of volatile organic compounds from oil and natural gas operations in northeastern Colorado, Envtl Sci and Technology (Jan 14, 2013), DOI: 10.1021/es304119a.
79 U.S. Environmental Protection Agency, Integrated Science Assessment (ISA) for Ozone (O3) and Related Photochemical Oxidants (2013).

The oil and gas industry is also a major source of particulate matter. The heavy equipment regularly used burns diesel fuel, generating fine particulate matter.[80] The particulate matter emitted by diesel engines is a particularly harmful.[81] Vehicles also kick up fugitive dust, which is particulate matter, by traveling on unpaved roads.[82] Further, both NO_X and VOCs, which are heavily emitted by the oil and gas industry, are particulate matter precursors.[83] Some of the health effects associated with particulate matter exposure are "premature mortality, increased hospital admissions and emergency department visits, and development of chronic respiratory disease."[84]

Oil and gas operations can also emit hydrogen sulfide. The hydrogen sulfide is contained in the natural gas and makes that gas "sour."[85] Hydrogen sulfide may be emitted during all stages of operation, including exploration, extraction, treatment and storage, transportation, and refining. EPA has identified large parts of California (roughly co-extensive with the Monterey Shale) as areas where natural gas tends to contain hydrogen sulfide.[86] Long−term exposure to hydrogen sulfide is linked to respiratory infections, eye, nose, and throat irritation, breathlessness, nausea, dizziness, confusion, and headaches.[87]

Further, oil and gas operations emit significant amounts of methane. In addition to its role as a greenhouse gas, methane contributes to increased concentrations of ground-level ozone, the primary component of smog, because it is an ozone precursor.[88] Methane's effect on ozone concentrations can be substantial. One paper modeled reductions in various anthropogenic ozone precursor emissions and found that "[r]educing anthropogenic CH_4 emissions by 50% nearly halves the incidence of U.S. high-O_3 events . . . ."[89]

Fracking results in additional air pollution that can create a severe threat to human health. One analysis found that 37 percent of the chemicals found at fracked gas wells were volatile, and that of those volatile chemicals, 81 percent can harm the brain and nervous system, 71 percent can harm the cardiovascular system and blood, and 66 percent can harm the kidneys.[90] Also, the

80 Earthworks, Sources of Oil and Gas Pollution (2011).
81 Bay Area Air Quality Management District, Particulate Matter Overview, Particulate Matter and Human Health (2012).
82 U.S. Environmental Protection Agency, Regulatory Impact Analysis for the Proposed Revisions to the National Ambient Air Quality Standards for Particulate Matter (June 2012), http://www.epa.gov/ttnecas1/regdata/RIAs/PMRIACombinedFile_Bookmarked.pdfat 2-2, ("EPA RIA")
83 EPA RIA at 2-2.
84 U.S. Environmental Protection Agency, National Ambient Air Quality Standards for Particulate Matter Proposed Rule, 77 Fed. Reg. 38,890, 38,893 (June 29, 2012).
85 Sierra Club Comments.
86 *Id.* at 100.
87 U.S. Environmental Protection Agency, Office of Air Quality Planning and Standards, Report to Congress on Hydrogen Sulfide Air Emissions Associated with the Extraction of Oil and Natural Gas (EPA-453/R-93-045) at i (Oct. 1993) ("USEPA 1993").
88 U.S. Environmental Protection Agency, Oil and Gas Sector: New Source Performance Standards and National Emission Standards for Hazardous Air Pollutants Reviews Proposed Rule, 76 Fed. Reg 52,738 (Aug 23, 2011).
89 Fiore, Arlene et al., Linking ozone pollution and climate change: The case for controlling methane, 29 Geophys. Res Letters 19 (2002); *see also* Martin, Randal et al., Final Report: Uinta Basin Winter Ozone and Air Quality Study Dec 2010 - March 2011 (2011) at 7.
90 Colborn 2011 at 8.

South Coast Air Quality Management District ("SCAQMD") has identified three areas of dangerous and unregulated air emissions from fracking: the mixing of the fracking chemicals, the use of the silica, or sand, as a proppant, which causes the deadly disease silicosis, and the storage of fracking fluid once it comes back to the surface.[91] Preparation of the fluids used for well completion often involves onsite mixing of gravel or proppants with fluid, a process which potentially results in major amounts of particulate matter emissions.[92] Further, these proppants often include silica sand, which increases the risk of lung disease and silicosis when inhaled.[93] Finally, as flowback returns to the surface and is deposited in pits or tanks that are open to the atmosphere, there is the potential for organic compounds and toxic air pollutants to be emitted, which are harmful to human health as described above.[94]

The EIS must consider current local air quality and the significant risk of additional impairment from the proposed project, associated transportation, and other cumulative projects. The CAA also requires the agencies to comply with, *inter alia*, the national primary and secondary ambient air quality standards, 40 C.F.R. § 50.1-50.14, along with requirements for the prevention of significant deterioration of air quality, 40 C.F.R. §§ 51.166 & 52.21, protection of visibility, 40 C.F.R. § 51.300, along with the general conformity prohibition, 40 C.F.R. § 51.580. Because the project is located in an area that is in non-attainment for criteria pollutants, including ozone, strict compliance with the CAA is critical. The agencies must adequately describe the baseline conditions and calculate the true impacts of the proposal on air quality including direct, indirect, and cumulative impacts.

Further, the EIS must also identify numerous available methods for controlling air pollution emissions NEPA's requirement that the agency identify mitigation measures, 40 C.F.R. § 1508.25, and consider all reasonable alternatives. *Ctr. for Biological Diversity v. Nat'l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1217 (9th Cir. Cal. 2008) (citing 40 C.F.R. § 1502.14(a)). We are also providing a summary of some of the technologies available to reduce pollution emissions from oil and gas operations that the Forest must consider in the EIS. [95]

iii. The EIS Must Analyze the Project's Climate Change Impacts

Oil and gas operations are a major cause of climate change. This is due to emissions from the operations themselves, and emissions from the combustion of the oil and gas produced.

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91 South Coast Air Quality Management District, Draft Staff Report on Proposed Rule 1148.2 - Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers (January 2013).at 15 ("SCAQMD Revised Draft Staff Report PR1148-2").

92 *Id.*

93 South Coast Air Quality Management District, Response to Questions re air quality risks of hydraulic fracturing in California,Submission to Joint Senate Hearing (2013) at 3.

94 SCAQMD Revised Draft Staff Report PR1148-2 at 15.

95 For methane and VOCs, EPA's New Source Performance Standards controlling VOC emissions from onshore oil and gas activities do not satisfy the agencies' obligation to consider methane and VOC air pollution controls. These controls are aimed only at controlling VOC emissions, are not tailored to controlling methane emissions, are not applicable until 2015, and apply only to gas wells and not oil wells. Thus, the new NSPS would not have any effect at all on methane emissions from the type of wells proposed here and would also not affect activities occurring before 2015. NEPA requires more of from the agencies.

Natural gas emissions are generally about 84 percent methane.[96] Methane is a potent greenhouse gas that contributes substantially to global climate change. Its global warming potential is approximately 33 times that of carbon dioxide over a 100 year time frame and 105 times that of carbon dioxide over a 20 year time frame.[97]

Oil and gas operations release large amounts of methane. While the exact amount is not clear, EPA has estimated that "oil and gas systems are the largest human-made source of methane emissions and account for 37 percent of methane emissions in the United States or 3.8 percent of the total greenhouse gas emissions in the United States." [98] For natural gas operations, production generates the largest amount; however, these emissions occur in all sectors of the natural gas industry, from drilling and production, to processing, transmission, and distribution.[99] Fracked wells leak an especially large amount of methane, with some evidence indicating that the leakage rate is so high that shale gas is worse for the climate than coal.[100] In fact, a research team associated with the National Oceanic and Atmospheric Administration recently reported that preliminary results from a field study in the Uinta Basin of Utah suggest that the field leaked methane at an eye-popping rate of nine percent of total production.[101]

For the oil industry, emissions result "primarily from field production operations . . . , oil storage tanks, and production-related equipment . . . ."[102] Emissions are released as planned, during normal operations and unexpectedly due to leaks and system upsets.[103] Significant sources of emissions include well venting and flaring, pneumatic devices, dehydrators and pumps, and compressors.[104]

The Forest and BLM must consider the potential direct, indirect, and cumulative impacts this proposal will have on the climate in order to comply with NEPA. The agency may not simply conclude that the operation will have a negligible effect on climate change without performing an analysis to support that conclusion. The necessary tools are available to the Forest

96 Brown Memo to EPA at 3; Power, Thomas, The Local Impacts of Natural Gas Development in Valle Vidal, New Mexico, University of Montana (2005) ("Power").
97 Howarth, Robert, et al., Methane and the greenhouse-gas footprint of natural gas from shale formations, Climactic Change (Mar. 31, 2011) ("Howarth 2011"); Shindell, Drew, Improved Attribution of Climate Forcing to Emissions, 326 Science 716 (2009).
98 U.S. Environmental Protection Agency, Natural Gas STAR Program, Basic Information, Major Methane Emission Sources and Opportunities to Reduce Methane Emissions ("USEPA, Basic Information"); *see also* Petron, Gabrielle, et al., Hydrocarbon emissions characterization in the Colorado Front Range: A pilot study, 117 Journal of Geophysical Research (2012).
99 USEPA, Basic Information.
100 Howarth 2011; Brune, Michael, Statement of Sierra Club Executive Director Michael Brune Before the Committee on Oversight & Government Reform (May 31, 2012); Wang, Jinsheng, et al., Reducing the Greenhouse Gas Footprint of Shale (2011); Alvarez, Ramon et al., Greater focus needed on methane leakage from natural gas infrastructure, Proc of Nat'l Acad. Science Early Edition (Feb 13, 2012) at 3; *see also* Howarth, Robert, et al., Venting and Leaking of Methane from Shale Gas Development: Response to Cathles et al., (2012); Hou, Deyi, et al., Shale gas can be a double-edged sword for climate change, Nature Climate Change at 386 (2012)
101 Tollefson, Jeff, Methane leaks erode green credentials of natural gas, Nature News (Jan 2, 2013).
102 Williams, Megan & Cindy Copeland, Earthjustice, Methane Controls for the Oil and Gas Production Sector (2010).
103 *Id.*
104 USEPA, Basic Information.

Service and BLM to estimate the potential resulting emissions,[105] and to determine their significance.[106] The agencies must quantify emissions even if the local air pollution district "best performance standards" will be adopted, as noted by the California Attorney General in discussing approaches to determining significance of emissions.[107] In performing a full analysis of climate impacts, the Forest Service and BLM must consider all potential sources of greenhouse gases. Including, for example, the greenhouse gas emissions generated by transporting large amounts of water for fracking.

iv. The EIS must Thoroughly Address Impacts to Threatened, Endangered, and Sensitive Species

The EIS must provide sufficient analysis of impacts to threatened, endangered, and sensitive species. The Sespe Oil Field is located in one of the most ecologically sensitive areas along California's central coast. The field is drained by several streams that flow into Sespe Creek, which is formally classified as "critical habitat" for endangered southern steelhead. The Sespe Creek watershed historically supported a large steelhead run. Several other imperiled species are found in Sespe Creek, including arroyo toads, California red-legged frogs, and endangered songbirds like southwestern willow flycatchers and least Bell's vireos, prompting the U.S. Forest Service to classify Sespe Creek as an Area of High Ecological Significance.

The EIS must do more than just mention some potential impacts to imperiled species, it must fully evaluate the likelihood of the impacts as well as the ultimate effects on populations. Impacts of fracking on both listed and common wildlife must be evaluated. Recent reviews of scientific literature across the country and in California found that fracking and other unconventional oil and gas exploration and development activity such as acidization and cyclic steaming, can have wide-ranging impacts wildlife and ecosystems including (1) habitat loss, fragmentation and degradation, (2) harm from oil and gas wastewater, (3) mortality, lower reproductive success, and negative health effects, and (4) declines in density and abundance. [108]

105 U.S. Environmental Protection Agency, Executive Summary: Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990 – 2012, April, 2014 ("US GHG Inventory 2014"); U.S. 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 (2012); U.S. Environmental Protection Agency, Greenhouse Gas Emissions Reporting from the Petroleum and Natural Gas Industry Background Technical Support Document, Climate Change Division Washington D.C. (2010).

106 CEQ's draft NEPA guidance on considering the climate change impacts of a project states that "if a proposed action would be reasonably anticipated to cause direct emissions of 25,000 metric tons or more of CO_2-equivalent greenhouse gas emissions on an annual basis, agencies should consider this an indicator that a quantitative and qualitative assessment may be meaningful to decision makers and the public." Council on Environmental Quality, Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions (Feb. 18, 2010).

107 Brown, Edmund, Letter from California Attorney General Edmund Brown to David Warner, SJVAPCD re: Final Draft Staff Report on Greenhouse Gas Emissions Under CEQA (Nov. 4, 2009).

108 Center for Biological Diversity, Review of Impacts of Fracking and Other Unconventional Oil and Gas Extraction on Wildlife (updated Feb. 13, 2014).; Center for Biological Diversity, 2014, February 13 (Updated). Review of Impacts of Oil and Gas Exploration and Development on Wildlife in California.

The EIS must provide an analysis of the nature, intensity, and extent of potential impacts, along with supporting science and data, and further, it must consider the many effects that all aspects of the proposal— for example, wells, pipelines, fracking, trucking water and frack fluids and waste to and from the sites, and microtrash – may have on species.

a. Impacts to the California Condor

The EIS must analyze potential effects to the California condor. The Sespe area provides important habitat for endangered California condors. Recognizing this importance, the Sespe Condor Sanctuary was established in 1947 and includes 53,000 acres that surround the oil field on three sides. The 2,471-acre Hopper Mountain National Wildlife Refuge – a field base of operations for biologists involved with reintroducing condors to the wild – was established in 1974 and is located along the field's southern boundary. The project site is within close proximity to condor designated critical habitat and data shows that the condor continue to heavily rely on this area for roosting, foraging, bathing, perching, nesting and other essential life activities.[109] The EIS must analyze potential impacts to condors.

Historically, California condors ranged from British Columbia to Baja, but because of human activity their numbers dropped to the brink of extinction. At one point there were only 27 condors left, with all of those birds living in captivity.[110] Today, while the condor's numbers are slowly rising, with a significant proportion of the population living in the wild, the species is still not considered to be self-sustaining.[111] Thus, any threats must be taken very seriously.

It is clear that oil and gas operations in general can imperil condors both through habitat degradation or destruction and by directly causing injury or mortality.[112] And even existing operations in the Sespe have already had a significant impact to condor populations that have never been adequately identified and analyzed by the Forest Service or BLM. Habitat degradation can occur in a number of ways. Infrastructure, like production facilities, road, and pipelines will eliminate habitat and food sources, discourage habitat use, and break up habitat connectivity.[113] Habitat fragmentation is of particular concern because of the condors' lack of genetic diversity.[114] Also, oil and gas disturbances, such as loud noises from drilling, can lead to condors abandoning their chicks as has already been documented in the Sespe area.[115] The

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109 Los Padres Forest Watch, Trashing the Sespe: How the Oil Industry is Littering Our Public Lands and Endangering Wildlife (2013) at 6 ("Trashing the Sespe Report"); Center for Biological Diversity, Map of Condor Locations in Los Padres National Forest from 2012 (2014).

110 Grantham, Jesse, Reintroduction of California Condors into Their Historic Range: The Recovery Program in California, California Condors in the 21st Century, Mee and Hall eds, pp 122-138, at 124 (2007).

111 Meretsky, Vicky J. et al., Demography of the California Condor: Implication for Reestablishment, Conservation Biology 14(4): 957-967 (2002).

112 California Department of Justice, Comments on Oil and Gas Leasing Proposal for the Los Padres National Forest, (April 19, 2002).

113 U.S. Government Accountability Office, Oil and Gas: Information on Shale Resources, Development, and Environmental and Public Health Risks, GAO 12-732 (September 2012); USDOI & 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).

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

115 Mee, Allen, Comments from Dr. Allen Mee on Environmental Assessment for two APDs near Sespe Condor

heavy use of this area by condor116 and close proximity of the proposal to condor breeding areas is of particular concern.

Oil and gas activities can also directly harm condors because condors do not reliably avoid oil pads. California condors visiting operations can result in the oiling of birds, which can be fatal. In one incident, a condor put his head in the puddle, and later brought the oil back to its nest, where the oil got on its chick's downy feathers.[117]

An additional major threat from oil operations is the creation of microtrash, meaning small pieces of trash that condors will consume or feed to their young. Condors that land on oil pads pick up and pull on man-made items and trash, and will regularly ingest the material.[118] The pervasiveness of the problem is startling: seven out of eight chicks examined between 2002 and 2005 held quantities of trash, with one chick containing 222.5 grams of foreign materials.[119] A study notes multiple chick mortalities due to microtrash consumption: one died from acute zinc toxicosis resulting from the consumption of metallic objects; another was euthanized following surgery to remove trash; and the cause of death in a third chick was never conclusively determined, but the presence of numerous trash items was the most significant post-mortem finding.[120] The extensive issues with microtrash in the Sespe Oil Field is documented in the November 2013 report "Trashing the Sespe: How the Oil Industry is Littering Our Public Lands and Endangering Wildlife." [121] The EIS must thoroughly consider the direct, indirect, and cumulative impacts of microtrash to condors in the region.

b. The EIS Must Consider Impacts to Southern Steelhead and Other Aquatic and Riparian Species

The project site is upstream/upgradient from southern steelhead critical habitat in the Sespe and its tributaries. As a result the steelhead population and its habitat is at risk from this proposal both from potential impacts to surface waters from spills (of both oil and produced water) and from the potential for groundwater contamination from fracking at the project site and ground water depletion. Because the water use and wastewater from the proposed project may

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Sanctuary and Hopper Mountain National Wildlife Refuge (June 5, 2007); Mee, Allan & Noel F.R. Snyder, California Condors in the 21st Century – Conservation Problems and Solutions, California Condors in the 21st Century, Mee and Hall eds, at 269 (2007) ("one pair [of condors] that nested within 1 km of an active oil pad in 2004 may have been directly disturbed at the nest by extremely loud and constant noise from drilling over a period of 1-2 weeks").

116 Center for Biological Diversity, Map of Condor Locations in Los Padres National Forest from 2012 (2014).

117 Kelly, David, *Condor Chick Is Stained With Oil*, Los Angeles Times (2002); Los Padres Forest Watch, Comments on Environmental Assessment for Two APDs Near Sespe Condor Sanctuary and Hopper Mountain National Wildlife Refuge at 5 (2007); U.S. Fish & Wildlife Service, Region 6 Envtl. Contaminants Program, Reserve Pit Mgmt.: Risks to Migratory Birds (2009); Kirkpatrick, Lisa, Letter from Lisa Kirkpatrick, Conservation Services Division Dept of Fish and Game, to New Mexico Oil and Conservation Division, Environmental Bureau re OCD Rule "Pits and Below-Grade Tanks" NMAC 19.15.2.40; NMGF Project No. 11251 (Feb 2, 2007).

118 Mee, Allan, Janet A. Hamber, and Jennie Sinclair, Low Nest Success in a Reintroduced Population of California Condors, California Condors in the 21st Century, Mee and Hall eds, at 178 (2007).

119 *Id.* at 170.

120 *Id.*

121 Trashing the Sespe Report.

affect the threatened southern steelhead distinct population segment ("DPS') and its designated critical habitat, the agencies must fully consider impacts to this species and other aquatic species and initiate consultation with NMFS in order to fulfill its obligations under the Endangered Species Act.

In addition, the full action area of the proposal must include areas at risk from water extraction for the proposed activities, transportation, and waste disposal—without yet knowing where the water is proposed to be extracted, where fracking fluids may be transported, or where wastes will be transported and dumped it is hard to say how many other imperiled species may be put at risk from this proposal. The areas near and adjacent to the Sespe Oil Field provide habitat for many other riparian obligate species including Southwestern willow flycatcher, least Bell's vireo, and arroyo toad. All of the potential effects to these species and the water resources they depend on must be fully identified and analyzed in the EIS and in consultation with USFWS and NMFS.

v. The EIS Must Consider the Potential for the Proposal to Induce Seismic Activity

The potential for oil and gas activities to induce earthquakes is a critical issue in California. Although most people usually associated earthquakes with natural causes, some seismic events are related to human activity and are called "induced seismic events." Such events are well documented, with reports going back to the 1920s.[122] Energy technologies that involve injection or withdrawal of fluids from the subsurface have caused earthquakes large enough to be felt and measured.[123] In fact, in California, oil and gas extraction has in the past likely induced strong earthquakes, including two over 6.0 in magnitude.[124]

A recent report showed that fracking in particular is capable of triggering earthquakes.[125] The report "concluded that the events observed within remote and isolated areas of the Horn River Basin between 2009 and 2011 were caused by fluid injection during hydraulic fracturing in proximity to pre-existing faults."[126] The observed seismic events ranged in magnitude between

122 National Research Council, Induced Seismicity Potential in Energy Technologies (2012) ("NRC 2012") at 3; Grasso, J.R. Mechanics of Seismic Instabilities Induces by the Recovery of Hydrocarbons, 139 Pure and Applied Geophysics 3-4, 507 (1992); Kanamori, Hiroo, A Slow Earthquake in the Santa Maria Basin, California, 82 Bulletin of the Seismological Society of America 2087 (1992); Kerr, Richard, Learning How to NOT Make Your Own Earthquakes Seismology (2012).

123 NRC 2012 at 3, 5; Ellsworth, William et al., Abstract: Are Seismicity Rate Changes in the Mid-continent Natural or Man-made? Seismological Society of America (2012) ("Ellsworth"); Arthur; Horwitt, Dusty & Alex Formuzis, Environmental Working Group, USGS: Recent Earthquakes "Almost Certainly Manmade" ("Horwitt & Formuzis"); *see also* Olson-Sawyer, Kai, Fracking Operations Can Cause Earthquakes? "Almost Certainly," Says U.S. Geological Survey, EcoCentric (2012); Henry, Terrence, More on the Science Linking Fracking Disposal Wells to Earthquakes, State Impact (2012).

124 NRC 2012 at 28.

125 BC Oil and Gas Commission, Investigation of Observed Seismicity in the Horn River Basin (Aug. 2012) ("BC Oil and Gas Commission"); *see also* Jardine, Nick, *UK Fracking Firm Admits They Are Causing Earthquakes*, Buisness Insider (Nov. 7, 2011), *available at* http://www.businessinsider.com/fracking-earthquakes-uk-2011-11.

126 *Id.*

2.2 and 3.8 ML on the Richter scale.[127] Oil and gas activities have also recently caused seismic events in Ohio,[128] Oklahoma,[129] and Texas.[130]

The March 2014 report "On Shaky Ground: Fracking, Acidizing, and Increased Earthquake Risk in California" provides detailed information about the risk of increased earthquakes due to fracking and other oil and gas extraction techniques now commonly used in California.[131] Groundwater loss, which may be exacerbated by use of groundwater in fracking, is also implicated in increased seismicity in California.[132]

Thus, any expansion of oil and gas activities in the Sespe Oil Field, as proposed, including fracking, increases the risk of induced earthquakes.[133] This should be of great concern due to California's large faults and history of disastrous earthquakes. The EIS must consider potential seismic effects and the increased risk of pipeline failure and other impacts from increased earthquake activity. It has sometimes been stated, by BLM and other agencies, that fracking in California is different than fracking elsewhere. However, the new technological developments in fracking have only recently begun appearing in the state. The EIS must recognize the growing evidence linking fracking operations to earthquakes and analyze all potential seismic effects along with risk of other associated direct, indirect, and cumulative effects.

vi. The EIS Must Consider Social Impacts to Communities

The EIS must analyze the potential for numerous negative social impacts that are associated with oil and gas development, particularly its boom-and-bust cycle.[134] Such development can lead to unwanted wells, gas flares that can be seen for long distances, and heavy truck traffic.[135] Further, oil and gas development can overwhelm infrastructure and public institutions, especially roads and schools.[136]

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127 *Id.*

128 Ohio Department of Natural Resources, Executive Summary: Preliminary Report on the Northstar 1 Class II Injection Well and the Seismic Events in the Youngstown, Ohio, Area (2012) ("Ohio DNR Northstar"); Fountain, Henry, *Disposal Halted at Well After New Quake in Ohio,* New York Times (January 1, 2012).

129 Holland, Austin, Examination of possibly induced seismicity from hydraulic fracturing in the Eola Field, Garvin County, Oklahoma, Oklahoma Geological Survey Open-File Report OF1-2011 (2011) ("Holland"); Soraghan, Mike 2012. *Victims think drilling triggered shaking, and that's OK.* E&E News, July 24, 2012

130 Frohlich, Cliff, Two-year survey comparing earthquake activity and injection-well locations in the Barnett Shale, Texas, Proceedings of the National Academy of Sciences (2012).

131 Arbalaez, Jhon et al., On Shaky Ground: Fracking, Acidizing, and Increased Earthquake Risk in California, Center For Biological Diversity, Earthworks, and Clean Water Action (2014).

132 Amos, Colin et al., Uplift and seismicity driven by groundwater depletion in central California, Nature, doi:10.1038/nature13275 (2014).

133 *See* Mulkern, Anne C., *Calif. drilling will trigger temblors -- industry expert*, E&E News (Dec. 10, 2012).

134 *See, e.g.*, Food & Water Watch, Exposing the Oil and Gas Industry's False Jobs Promise for Shale Gas Development (2011); PortageCitizens.org, Oil/Gas Driling - Myths v. Reality (2011); Jacquet, Jeffrey, Community and Economic Impacts Of Marcellus Shale Natural Gas Development, Cornell University (2010) at 8; Mufson, Steven, *In North Dakota, the gritty side of an oil boom*, The Washington Post (July 18, 2012) ("Mufson"); Morrison, Richard K., Economic Impacts, Save Colorado From Fracking Blog post (Feb 13, 2014 9:12 AM), http://www.savecoloradofromfracking.org/harm/economic.html ("Save Colorado from Fracking – Economic").

135 *Id.*; Levy, Marc, *Crime is up in gas boom towns*, Times Union (Oct 26, 2011); Brown, Matthew, *Bakken Oil*

The EIS should evaluate the potential trucking routes through Fillmore to access the Sespe Oil Field, and consider various alternatives to reduce or eliminate traffic impacts to adjacent residences, local businesses, schools, and farms. Moreover, the EIS should evaluate the impacts of truck traffic along Squaw Flat Road, which is a popular route used by hikers, campers, hunters, backpackers and other forest users to access the Dough Flat Trailhead into the Sespe Wilderness.

F. Cumulative analysis must include all current activities in the Sespe Oil Field.

The cumulative analysis must thoroughly explore the "impact on the environment that results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions." 40 C.F.R. § 1508.7. Because the leases at issue here and any approvals for existing production activities in the Sespe Oil Field were initiated without consideration of the impacts of fracking and that analysis must be included here and taken into account in the cumulative impacts analysis.

IV. The Forest Service and BLM Must Comply with Existing Plans and Must Update the Plans to Reflect Significant New Information.

After a forest plan is approved, the Forest Service implements the forest plan when approving or denying site-specific projects. *Forest Guardians v. U.S. Forest Serv*., 329 F.3d 1089, 1092 (9th Cir. 2003). Site specific actions may include resource plans, permits, contracts, and other instruments for occupancy or use of forest lands. *Inland Empire Pub. Lands Council v. U.S. Forest Serv*., 88 F.3d 754, 757 (9th Cir. 1996). NFMA requires that the proposed site-specific actions be consistent with the governing Forest Plan, *Forest Guardians v. U.S. Forest Serv*., 329 F.3d at 1097, and the Forest Service's failure to comply with the provisions of a Forest Plan is a violation of the NFMA. *Native Ecosystems Council v. U.S. Forest Serv*., 418 F.3d 953, 961 (9th Cir. 2005).

FLMPA also requires BLM to adhere to its adopted plans. *See ONRC v. Brong*, 492 F.3d 1120, 1125 (9th Cir. 2007). Further, FLPMA expressly requires BLM to prevent unnecessary or undue degradation of public lands. 43 U.S.C § 1732(b). Activities like the proposed wells, pipelines, and fracking are likely to cause unnecessary and undue degradation of the subsurface resources BLM is mandated to protect as well as unnecessary and undue degradation of the surface resources of the Forest harming water and air quality, increasing seismic risks and impacting imperiled fish and wildlife and their habitats.

Moreover, as discussed above, the because the Plans at issue here are outdated—having not taken a hard look at fracking in their evaluation of the impacts of oil and gas operations-- the Forest Service and BLM must also revise those Plans.

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136 Save Colorado from Fracking – Economic; Mufson.

V. The Agencies Must Consult with the U.S. Fish and Wildlife Service and National Marine Fisheries Service to Comply with the Endangered Species Act.

Because the proposal may affect several listed species, including but not limited to the California condor, southern steelhead, southwestern willow flycatcher, and least Bell's vireo, and may affect critical habitat for species as well, the agencies must consult with USFWS and NMFS to ensure their actions will not jeopardize Endangered Species Act ("ESA") listed species or destroy or adversely modify critical habitat. The ESA requires that each federal agency "insure that any action authorized, funded, or carried out" by the agency "is not likely to jeopardize the continued existence" of any listed species by consulting with FWS. 16 U.S.C. § 1536(a)(2).

Neither the Forest Service nor BLM can rely on existing biological opinions that were not based on site-specific information or analysis and did not analyze current extraction techniques or water use. The existing biological opinions we are aware of are entirely outdated and do not reflect the current environmental status of the sites. The opinions fail to consider new information regarding the potential impacts of fracking and the associated water use. Indeed, the oil and gas drilling activities that have already been authorized in the Sespe Oil Field by the Forest Service and BLM have been "modified in a manner that causes an effect to the listed species . . . that was not considered in the biological opinion[s]," and the agencies, at minimum, must reinitiate consultation for both the current Forest Plan and RMP on that basis. 50 C.F.R. § 402.16(c). With the emergence of newly combined, controversial, and environmentally destructive fracking techniques and an anticipated increase in oil and gas drilling because of those techniques, the Forest Service and BLM should have already reinitiate consultation with FWS and NMFS as required by the ESA. 50 C.F.R. § 402.16. The agencies cannot continue to authorize leasing and drilling impacts that have not been fully analyzed and expressly authorized through a biological opinion in violation of Section 7 of the ESA to ensure against jeopardy to listed species. Additionally, by allowing activities that harm or harass listed species without coverage from any valid and legally operative incidental take statement, the agencies are also violating Section 9 of the ESA. 16 U.S.C. § 1538(a)(1)(B).

The agencies cannot approve this proposal without first assessing the current status of all affected species, without considering the site-specific effects on those species, and without regard to the way fracking dramatically changes the type and degree of potential harms. To do so would clearly violate the ESA. The agencies must initiate and complete consultation with USFWS and NMFS before moving forward with any approvals for the proposal. 16 U.S.C. § 1536(a)(2).

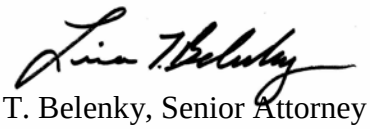
VI. Conclusion

For the reasons set forth above, the Center for Biological Diversity and Los Padres ForestWatch urge the Forest Service (along with BLM) to prepare a full EIS for this proposal that fully addresses all of the potential impacts to resources including but not limited to fish and wildlife, ground and surface water quality and resources, seismic safety, and air quality. The EIS should include at least one alternative that does not allow any new wells to be drilled or pipelines

to be built and, if drilling is considered, at least one alternative that does not allow fracking or other well stimulation techniques to be used in any of the proposed wells.

If you have any questions regarding this scoping letter, please do not hesitate to contact us via email or telephone as indicated below.

Sincerely,



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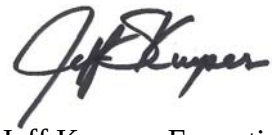

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