OFFICE OF THE GOVERNOR

September 7, 2018

The Honorable Ryan Zinke, Secretary
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Re: Comments on the BLM Notice of Intent to Prepare for Potential Amendment to the Resource Management Plan for the Bakersfield Field Office, California and to Prepare an Associated Supplemental Environmental Impact Statement; 83 Federal Register 39116 (August 8, 2018)

Dear Secretary Zinke:

I am enclosing a letter from environmental and natural resources agencies in my administration commenting on the Bureau of Land Management's August 8, 2018 Notice of Intent related to the lease sales on federals lands in California.

It has been more than twenty years since the Bureau of Land Management last expanded the availability of federal public lands and mineral estates for oil and gas leases in the Central Valley and Central Coast of California. Since then, the world's understanding of the threats of climate change has greatly advanced and, in many cases, these threats have become reality. The Bureau's proposal to open up new areas of the state to oil and gas production demonstrates an ignorance of these critical developments, and is contrary to the course California has set to combat climate change and to meet its share of the goals outlined in the Paris Agreement.

The Bureau should abandon this effort and not pursue opening any new areas for oil and gas leases in this state.

Respectfully,

Edmund G. Brown Jr.

September 7, 2018

Sent via U.S. Mail and email to blm_ca_bkfo_oil_gas_update@blm.gov

Bureau of Land Management
Bakersfield Field Office
Attn: Bakersfield RMP Hydraulic Fracturing Analysis
3801 Pegasus Drive
Bakersfield, CA 93308

Re: Comments on the BLM Notice of Intent to Prepare for Potential Amendment to the Resource Management Plan for the Bakersfield Field Office, California and to Prepare an Associated Supplemental Environmental Impact Statement; 83 Federal Register 39116 (August 8, 2018)

To Whom It May Concern:

This letter provides comments by the California Department of Conservation, the California Department of Fish and Wildlife, the California Department of Water Resources, the California Department of Parks and Recreation, the California Air Resources Board and the State Water Resources Control Board on the Bureau of Land Management's (BLM's) Notice of Intent to Prepare Amendments to the Resource Management Plan for the Bakersfield Field Office California and to Prepare an Associated Supplemental Environmental Impact Statement. (83 Fed.Reg. 39116 (August 8, 2018); hereinafter referred to as the "Notice of Intent.")

The Supplemental Environmental Impact Statement will analyze impacts related to opening up new areas of California to oil and gas production that uses hydraulic fracturing or other well stimulation technology. Such operations carry the potential for significant adverse impacts to California's air quality, water quality, sensitive habitats and residents. We recognize that approval of additional oil and gas production leases will undergo further study; however, now is the time for BLM to carefully consider the long-term and region-wide costs and impacts of additional production. More importantly, given the steady decline in production in California, and the potentially significant environmental impacts that may result, BLM should consider whether additional leases are needed at all.

The Notice of Intent provides that the planning process for amendment to the Bakersfield Field Office Resource Management Plan "will include a Supplemental EIS [Environmental Impact Statement or "SEIS"] that will comply with NEPA standards." (83 Fed.Reg. 39116 (August 8, 2018).) The Council on Environmental Quality regulations implementing NEPA require EISs to include discussion of "[p]ossible conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) land use plans,

policies and controls for the area concerned."[1] Additionally, EISs must "discuss any inconsistency of a proposed action with any approved State or local plan and laws (whether or not federally sanctioned). Where an inconsistency exists, the statement should describe the extent to which the agency would reconcile its proposed action with the plan or law."[2]

We recognize that the Supplemental Environmental Impact Statement will build upon existing environmental review conducted for the Bakersfield Field Office's Resource Management Plan. That review may have included consideration of certain impacts described by California state agency comments that follow. The application of hydraulic fracturing, other forms of well stimulation, and enhanced recovery techniques as proposed in the Notice of Intent, however, could make previously unproductive hydrocarbon formations productive, with attendant potential impacts. Where BLM believes a state agency comment was previously addressed in adoption of the Resource Management Plan, we strongly urge BLM to reconsider those impacts in light of potential expansion of those impacts to areas presently not subject to oilfield operations.

The last Resource Management Plan that considered the expansion of oil and gas leases in the area was adopted more than 20 years ago. Since then, our understanding of the threats of climate change has advanced and California has worked aggressively towards having one of the most ambitious and diversified energy portfolios in the world, including an electricity grid powered by solar, wind, geothermal, hydropower, and biomass renewable resources, and a transportation sector fueled with electricity, renewable natural gas, and biofuels. California has a statutory target of reducing greenhouse gas emissions to 40 percent below 1990 levels by 2030, and a plan to reduce petroleum consumption by 45 percent by 2030 to meet this target. This pursuit of renewable energy technologies and zero- and low-carbon fuels serves as California's part in meeting the goals outlined in the Paris Agreement on climate change. Petroleum production in California is already decreasing[3], and opening new public lands to oil and gas extraction—particularly on public lands where no oil and gas production has occurred in decades or ever—is contrary to California's commitment toward a sustainable future without reliance on fossil fuels.

We encourage the federal government to pursue a science-based, environmentally and economically sound national energy strategy that fosters the development of renewable energy sources, rather than opening up new areas for oil and gas extraction.

The California departments identified above provide the following comments in response to the Notice of Intent. The comments include, to the extent practicable given the 30-day comment period, identification of federal, state and local laws, policies, controls and plans which BLM's SEIS should consider, as well as potential impacts that should be studied in depth in the SEIS. BLM's consideration should also include identification of any inconsistencies of its proposed action with the federal, state and local laws, policies, controls and plans and describe reconciliation of its proposed action with any inconsistent laws, policies, controls and plans.

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[1] 40 C.F.R. § 1502.16(c).

[2] 40 C.F.R. § 1506.2(d).

[3] See, for example, the California Department of Conservation's 2016 Report of California Oil and Gas Production Statistics, at page 4 (showing a decline in production averaging about 4% per year since its height in 1985) (available online at ftp://ftp.consrv.ca.gov/pub/oil/annual_reports/2016/2016_Annual_Report_Final_Corrected2.pdf).

1. Federal Regulatory Requirements

Only after considering whether additional leases are even necessary, the California departments request that BLM consider, and reconcile its proposed activities with, all of the following federal requirements in addition to any other federal requirements pertinent to BLM's proposed activities.

a. Federal Land Policy and Management Act (FLPMA)[4]

FLPMA declares the policy of the United States that "the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values."[5] FLPMA requires BLM to, "by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of [public] lands" under its management.[6] FLPMA also requires BLM to manage public lands in accordance with the principles of (1) "multiple use,"[7] defined in part as "harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment"[8]; and (2) "sustained yield,"[9] defined as "the achievement and maintenance in perpetuity of a high-level

[4] 43 U.S.C. § 1701 et seq. The Secretary of the Interior has delegated implementation of FLPMA and other federal statutes to BLM. Per 43 C.F.R 3170.1: "Under Secretarial Order Number 3087, dated December 3, 1982, as amended on February 7, 1983 (48 Fed. Reg. 8,983), and the Departmental Manual (235 DM 1.1), the Secretary has delegated regulatory authority over onshore oil and gas development on federal and Indian (except Osage Tribe) lands to the BLM. For Indian leases, the delegation of authority to the BLM is reflected in 25 C.F.R. parts 211, 212, 213, 225, and 227. In addition, as authorized by 43 U.S.C. 1731(a), the Secretary has delegated to the BLM regulatory responsibility for oil and gas operations on Indian lands. 235 DM 1.1.K."

[5] 43 U.S.C. § 1701(a)(8).

[6] 81 Fed. Reg. at 83,020, citing 43 U.S.C. § 1732(b).

[7] *Ibid.*, citing 43 U.S.C. § 1732(a).

[8] 43 U.S.C. § 1702(c). The full definition of "multiple use" is: "the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; the use of some land for less than all of the resources; a combination of balanced and diverse resource uses that takes into account the long-term needs of future generations for renewable and nonrenewable resources, including, but not limited to, recreation, range, timber, minerals, watershed, wildlife and fish, and natural scenic, scientific and historical values; and harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output." *Ibid.*

[9] 81 Fed. Reg. at 83,020, citing 43 U.S.C. § 1732(a).

annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use."[10]

BLM's regulations implementing FLPMA require BLM's land use authorizations, such as oil and gas leases, to contain terms and conditions to "[m]inimize damage to scenic, cultural and aesthetic values, fish and wildlife habitat and otherwise protect the environment; [r]equire compliance with air and water quality standards established pursuant to applicable Federal or State law; and [r]equire compliance with State standards for public health and safety, environmental protection, siting, construction, operation and maintenance of, or for, such use if those standards are more stringent than applicable Federal standards."[11]

Finally, FLPMA also requires BLM, in developing and revising land use and resource management plans, to "provide for compliance with applicable pollution control laws, including State and Federal air, water, noise, or other pollution standards or implementation plans" and to "coordinate the land use inventory, planning, and management activities of or for such lands with the land use planning and management programs" of the "local governments within which the lands are located" and to "provide for meaningful public involvement of State and local government officials, both elected and appointed, in the development of land use programs, land use regulations, and land use decisions for public lands."[12]

b. Mineral Leasing Act[13]

The Mineral Leasing Act of 1920 requires the Secretary of the Interior to enforce leaseholders' use of "all reasonable precautions to prevent waste of oil or gas developed in the land,"[14] and requires leaseholders to comply with rules "for the prevention of undue waste" to protect "the interests of the United States" and to safeguard "the public welfare."[15]

c. Indian Mineral Acts

Pursuant to the Indian Mineral Leasing Act of 1938[16] and the Indian Mineral Development Act of 1982,[17] BLM has authority to regulate oil and gas development on Indian mineral estate held in trust by the federal government. Among other requirements, BLM must "act in accordance with the trust responsibility of the United States relating to mineral and other trust resources; and act in good faith and in the best interests of the Indian tribes."[18] In determining whether a given action, such as approving leases, is "in the best interest of the Indian mineral owner," BLM must

[10] 43 U.S.C. § 1702(h).

[11] 43 C.F.R. § 2920.7(b)(2)-(4).

[12] 43 U.S.C. § 1712(c)(8)-(9).

[13] 30 U.S.C. § 181 et seq.

[14] 30 U.S.C. § 225.

[15] 30 U.S.C. § 187.

[16] 25 U.S.C. § 396a et seq.

[17] 25 U.S.C. § 2101 et seq.

[18] 25 U.S.C. § 3504(e)(6)(A).

"consider any relevant factor, including, but not limited to . . . potential environmental, social and cultural effects."[19]

d. National Ambient Air Quality Standards (NAAQS)

Under the Clean Air Act's framework of cooperative federalism, the U.S. Environmental Protection Agency (U.S. EPA) must establish and periodically revise national ambient air quality standards (NAAQS) that designate maximum ambient air concentrations for certain pollutants, termed "criteria pollutants."[20] States are required to ensure that their air quality meets the NAAQS, including by submitting, for each promulgation or revision of a NAAQS, a state implementation plan (SIP) that provides for the implementation, maintenance, and enforcement of the NAAQS within the state.[21] SIPs for areas that are not in attainment with a NAAQS ("nonattainment areas") must include "all reasonably available control measures," including "such reductions in emissions from existing sources in the area as may be obtained through the adoption, at a minimum, of reasonably available control technology."[22]

Of the eight counties identified in the Notice of Intent, seven are in non-attainment with particulate matter (PM2.5) NAAQS, ozone NAAQS, or a combination.[23] BLM must consider whether oil and gas activities, including well stimulation, emit criteria pollutants such as PM2.5 and the ozone (photochemical smog) precursors volatile organic compounds (VOCs) and nitrogen oxides (NOx).

Under state law, the California Air Resources Board (CARB) and local air districts operate within a cooperative legal framework for controlling air pollution from a variety of sources to comply with these federal standards, and to assure compliance with California's complementary state law ambient air quality standards and other requirements. For smog-forming pollutants, including VOCs, the local districts have primary responsibility over stationary sources, including oil and gas operations. For air districts with significant oil production, each district has rules aimed to reduce PM2.5, oxides of nitrogen, and VOC emissions, specifically from the oil and gas sector. CARB, in coordination with the local air districts, ultimately must analyze these requirements and assure that the state meets state and federal standards. The area covered by the SEIS includes areas already in extreme non-attainment. Therefore, opening new district territory to oil and gas production and providing additional sources.

e. Hazardous Air Pollutants

Clean Air Act Section 112 and U.S. EPA implementing regulations control emissions of hazardous air pollutants, including from oil and natural gas production.[24] California regulates the same category of pollutants under the heading of "toxic air contaminant," defined as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which

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[19] 25 C.F.R. § 225.3.

[20] 42 U.S.C. §§ 7408-7409.

[21] 42 U.S.C. §§ 7407(a), 7410(a).

[22] 42 U.S.C. §§ 7502(c).

[23] See https://www3.epa.gov/airquality/greenbook/anayo_ca.html

[24] 42 U.S.C. § 7412; 40 C.F.R. § 63.1 et seq.

may pose a present or potential hazard to human health."[25] The category incorporates substances listed as federal hazardous air pollutants and additional toxins.[26] Local air districts may regulate toxic air contaminants beyond the federal standards and BLM must consider local air district regulations for all areas subject to the Notice of Intent.

f. Tribal Issues

The Notice of Intent covers the area of various tribal trust lands, including those of the Tule River Indian Tribe, Santa Ynez Band of Chumash Indians and several of the Paiute tribes along the Eastern Sierra. These tribes, along with others that may not have tribal trust land within the affected area, are certain to have ancestral territory that overlaps with the potential lease areas.

BLM states that it will consult with tribes for the amendment process pursuant to a previous executive order, but does not mention the National Historic Preservation Act (NHPA). NHPA consultation generally requires the federal government attempt to identify solutions to potential adverse effects to historic resources, which can include cultural resources. Though NHPA does not require the federal government to avoid impacts, it is a familiar process to tribes, statutorily enforceable and consequently can be more robust than executive order consultation. BLM should engage in a NHPA consultation for the proposed action.

Due to the complicated history of tribal land disposition in California, a tribe's trust land may not be located in its ancestral territory. We therefore recommend that BLM contact the State's Native American Heritage Commission for assistance in compiling an exhaustive list of tribes with sacred lands and ancestral territory located within the affected area.

2. California State Regulatory Requirements, Policies and Interests

In addition to consideration of the federal requirements set forth above, if BLM determines that additional leases are needed, BLM must also consider all of the following California policies and interests in any Resource Management Plan Amendment and associated SEIS.

a. California's Oil and Gas Regulatory Structure and Requirements to Ensure Environmental Protection and Public Safety in Oil and Gas Production Activities

In recent years, the California Department of Conservation's Division of Oil, Gas, and Geothermal Resources (DOGGR) has undertaken a robust overhaul of California's oil and gas industry, including adoption of some of the most protective regulations in the nation, to ensure environmental protection and public safety. Some of those measures include:

- Regulations for production pipelines[27], requiring testing, inspection, risk management and information available to first responders.

[25] Cal. Health & Safety Code § 39655.

[26] Cal. Health & Safety Code §§ 39655, 39657.

[27] http://www.conservation.ca.gov/index/SiteAssets/Pages/rulemaking/Final%20Text%20of%20Regulations.pdf

- Regulations for well stimulation treatments[28] such as hydraulic fracturing and acid matrix stimulation.
- Completion of the SB 4 Environmental Impact Report[29] analyzing the statewide environmental impacts from well stimulation treatments.
- Creating and funding the DOGGR Office of Enforcement[30] to identify, verify, and take enforcement actions to bring violators back into compliance with the law.
- WellSTAR[31], DOGGR's new database management system, to improve data accuracy, quality, and transparency.

In addition to newly adopted regulations and other protective measures, DOGGR also has two sets of pending regulations going through the rulemaking process. They are:

- Proposed improvements to underground injection control regulations[32] to increase testing, monitoring, and disclosure requirements as well as automatic triggers to cease injections to protect groundwater and public safety.
- Proposed regulations to reduce the risks of idle wells[33] by requiring operators to test them for safety and permanently seal them, based on data-driven priorities.

Other state and local agencies also have relevant environmental protection regulations:
- Regulation for greenhouse gas standards for crude oil and natural gas facilities, require testing, inspection, and emission standards.[34]
- Local air district rules on volatile organic compounds at crude oil facilities.

BLM should collect Well Stimulation (WST) data and records and manage WST operations on BLM leases to be at least consistent with, or exceed, California's requirements[35] for WST operations. DOGGR's WST regulations require rigorous testing and evaluation before, during, and after stimulation operations to ensure that wells and geologic formations remain competent and that drinking water is not contaminated. Operators must disclose all chemical constituents of fluids used in well stimulation, and must notify neighbors before treatments begin. The WST regulations require operators to evaluate the casing, tubing, and cement lining of the wellbore borehole to ensure that the well's construction is more than adequate to withstand operations that are intended to increase the permeability of the hydrocarbon producing formation. In addition, operators are required to analyze the faults, natural fracture zones, and other wells in the area to ensure that they will not cause the migration of fluid to other zones. If there is potential for induced fractures to extend beyond the treated hydrocarbon zone, the regulations

[28] ftp://ftp.consrv.ca.gov/pub/oil/laws/Final%20Text%20of%20SB%204%20WST%20Regulations.pdf

[29] http://www.conservation.ca.gov/dog/Pages/SB4_Final_EIR.aspx

[30] http://www.conservation.ca.gov/dog/Pages/Enforcement.aspx

[31] http://www.conservation.ca.gov/dog/for_operators/Pages/WellSTAR.aspx

[32] http://www.conservation.ca.gov/index/Documents/Text%20of%20Proposed%20Regulations%20UIC.pdf

[33] http://www.conservation.ca.gov/index/Documents/Text%20of%20Proposed%20Regulations.pdf

[34] https://www.arb.ca.gov/regact/2016/oilandgas2016/ogfro.pdf

[35] Cal. Code Regs., tit. 14, §§ 1751, 1761, 1774.4, 1780-1789

impose requirements to help prevent groundwater contamination. The regulations also require operators to monitor and test the well during and after well stimulation treatment to verify that well failure has not occurred.

As described in more detail below, BLM must consider and incorporate California's regulatory environment in its proposed action and the SEIS for the proposed action.

b. Permitting Requirements for Oil and Gas Wells in California

All oil and gas wells located on lands within California (including federal, state, local, and private lands) are permitted, drilled, operated, and maintained, and plugged and abandoned under legal requirements and administrative procedures which DOGGR enforces and administers. DOGGR's permitting authority and process applies to oilfield operations in California on all land administered by BLM whether that land is owned in total by the federal government or is a "split-estate."[36]

Additionally, DOGGR's discretionary approvals of oil and gas well drilling permits, well stimulation treatment permits, or injection or approval requests must comply with the California Environmental Quality Act (CEQA) (Public Resources Code § 21000 et seq.). Though similar to NEPA, CEQA has unique requirements, including a requirement for the adoption of measures to mitigate any significant impacts of a proposed action. If DOGGR is to rely on BLM's SEIS for approval of any oil and gas permits or approval requests, BLM's SEIS must comply with all of CEQA requirements. This means that the SEIS must include separate discussions of mitigation measures, cumulative impacts, and growth-inducing impacts of the proposed action. In addition, please note that CEQA specifically requires analysis of greenhouse gas emissions associated with the proposed action and impacts to tribal cultural resources associated with the proposed action. If the BLM's NEPA review does not incorporate all of CEQA's requirements, DOGGR may be required to conduct additional environmental review prior to any permit approvals.

c. BLM Must Analyze the Full Scope of Oil and Gas Extraction and Recovery Activities

To comply with NEPA and the federal authorities described above, BLM's SEIS must analyze the full scope of activities that may be authorized in the plan amendments, as well as the direct and indirect impacts that may result. While the BLM's Notice of Intent states that "[o]nly those portions of the existing plan that need to be updated to respond to the issues and management concerns identified in the court order and settlement agreement will be reviewed," we note that the analysis should not be limited to hydraulic fracturing. A full understanding of risks from oil and gas production requires studying all types of production wells. Hydraulic fracturing is just one type of completion and recovery technique operators use for extraction of oil and gas. Other enhanced recovery techniques used in California oilfields should also be evaluated in the SEIS for potential impacts to the environment. These recovery techniques include water flood, steam flood, cyclic steam, and dual type that alternates between steam and water flood. Carbon dioxide injection for enhanced oil recovery should also be analyzed in the SEIS as such techniques may occur in future as large volumes of carbon dioxide become available and economical.

[36] See, inter alia, Public Resources Code §§ 3008, 3013, 3106, 3203, and 3204; Cal. Code of Regs., title 14, §§ 1712, 1714; DOGGR Notice to Operators 2017-03.

A number of these enhanced recovery techniques utilize Class 2 injection which DOGGR has primacy to regulate under its Underground Injection Program.[37] Class 2 injection is also commonly used in California oilfields to dispose of produced water and gas, and inject gas for formation pressure maintenance. DOGGR's regulations for well stimulation and underground injection control, for which links are provided above, provide relevant information that BLM must consider for the activities that may accompany oil recovery in order to avoid and mitigate possible impacts from the activities.

Determining the environmental impacts of the full scope of activities encompassed by the proposed action will require careful study, including augmentation of existing information, by BLM. This should not only include all types of production but should include all related equipment and facilities. For example, additional production may increase the need for wastewater treatment, percolation ponds, and injection wells. Potential impacts and informational resources that may inform BLM's SEIS and amendments to the Resource Management Plan are identified below.

d. BLM Must Consider Existing Analyses of Oil and Gas Production in California

In 2015, DOGGR evaluated many of the impacts of existing and potential future oil and gas well stimulation treatments occurring within California in an Environmental Impact Report on well stimulation treatments in California, pursuant to Public Resources Code section 3161 (the SB4 EIR).[38] As part of this update, BLM should consider all information in this EIR. Notably, a key feature of the SB4 EIR is that it analyzed many of the potential impacts associated with oil extraction and also highlighted the need to do additional site-specific evaluations for extraction activities.

In 2015, Kern County also completed an EIR which included impact analyses as well as avoidance, minimization and mitigation standards for 50 years of oil and gas exploration in Kern County. The Kern EIR covers 3,100 square miles within Kern County, including areas that support federal minerals. Compliance with the conditions in the Kern EIR allows oil and gas operators within Kern County, where over 90% of California's oil and gas extraction occurs, to receive expedited local approval. By design, California regulatory agencies are able to rely upon the Kern EIR as a Responsible Agency pursuant to CEQA, as well as to utilize the Kern EIR requirements as a consistent and predictable baseline for required state permits. To avoid interference and conflict with an existing process for oil and gas exploration and extraction in Kern County, as well as a system that facilitates other required state approvals, we recommend incorporating Kern County's analysis and associated requirements into the SEIS, at a minimum for proposed oil and gas activities in Kern County.

After the SB4 EIR was prepared, Kern County certified an EIR for amendments to certain chapters of its zoning ordinance, which include site development standards and permitting procedures for oil and gas exploration, extraction, operations, and production activities in unincorporated Kern County. Recently the Kern County Superior Court issued a writ of

[37] DOGGR's primacy agreement with the U.S. Environmental Protection Agency is available on its public website – http://www.conservation.ca.gov/dog/for_operators/Documents/MOU-MOA/MOA_EPA_UIC_1982.pdf.

[38] DOGGR (2015) "Environmental Impact Report on Analysis of Well Stimulation Treatments in California," available on line at http://www.conservation.ca.gov/dog/Pages/SB4_Final_EIR_TOC.aspx

mandate requiring additional analysis under CEQA, including expanded analysis of impacts to rangeland and grazing land, and environmental impacts from road paving as an air emissions mitigation measure. On August 21, 2018, Kern County notified the public that it has prepared a draft supplemental EIR[39] in response to the court's order.

While DOGGR conducted its analysis in the EIR, the California Council on Science and Technology (CCST) conducted its Independent Scientific Assessment of Well Stimulation in California[40]. That assessment recommended evaluation of the impacts of all oil and gas development beyond those directly associated with well stimulation. According to the CCST Summary Report, about 95% of reported hydraulic fracturing operations in California currently occur in the San Joaquin Valley and Tulare Lake Basin (San Joaquin Valley Basin), and nearly all of it is within four oil fields (Elk Hills, Belridge South, Cymric, and Midway-Sunset) in Kern County. BLM should consider the following CCST recommendations, when evaluating and making decisions on the proposed action:

- Identify opportunities for water conservation and reuse in the oil and gas industry.
- Limit the use of hazardous and poorly understood chemicals.
- Evaluate and report produced water chemistry from hydraulically fractured or acid stimulated wells.
- Protect irrigation water from contamination by hydraulic fracturing chemicals and stimulation reaction products.
- Protect groundwater from shallow hydraulic fracturing operations.
- Control toxic air emissions from oil and gas production wells and measure their concentrations near production wells.
- Assess occupational health hazards from proppant use and emission of volatile organic compounds.
- Ensure safe disposal of produced water in percolation pits with appropriate testing and treatment or phase out this practice.
- Assess and compare greenhouse gas signatures of different types of oil and gas production in California.

Notably, the CCST Summary Report also concluded that the majority of impacts associated with hydraulic fracturing are caused by the indirect impacts of oil and gas production enabled by the hydraulic fracturing; without hydraulic fracturing, oil and gas production from certain reservoirs would not be possible. Well stimulation is a relatively brief operation done after a well is installed, but oil and gas development goes on for years, involving construction of infrastructure and disruption of the landscape and associated habitats. As a result, the SEIS must fully evaluate all impacts associated with hydraulic fracturing (e.g. facilitation of oil and gas development in general), not just the impacts associated with the direct action of hydraulic fracturing.

3. **Potential Environmental Effects**

As BLM considers alternatives for management strategies, the California departments encourage BLM to minimize potential environmental effects from oil and gas development. Specific potential impacts are described in more detail below.

[39] https://psbweb.co.kern.ca.us/planning/pdfs/eirs/oil_gas/Oil_Gas_DSEIR_2018.pdf

[40] https://ccst.us/projects/hydraulic_fracturing_public/SB4.php

a. Greenhouse Gas Emission Effects

California has statutory greenhouse gas and short-lived climate pollutant targets: a greenhouse gas reduction (GHG) target of 40 percent below 1990 levels by 2030,[41] and separate targets for methane reduction (40 percent below 2013 levels by 2030) and anthropogenic black carbon reduction (50 percent below 2013 levels by 2030).[42] The California Air Resources Board's 2017 Climate Change Scoping Plan includes a suite of policies to achieve the state's 2030 GHG reduction target.[43] Successful implementation of all of the policies in the Climate Change Scoping Plan will result in reduced demand for on-road transportation fuels by 45 percent from current levels. BLM should consider in its SEIS that additional leasing and associated activities may impact California's ability to meet its 2030 GHG reduction target and that the oil and gas extraction activities contemplated by the Notice of Intent are unnecessary given the projected reduction in on road fuel demand in the state.

In 2017, the California Air Resources Board adopted the Greenhouse Gas Emission Standards for Crude Oil and Natural Gas Facilities,[44] which limits emissions at all oil and gas facilities in California. The regulation includes emissions standards, permitting and equipment requirements with CARB or local air districts, and emissions testing requirements. BLM must take these standards into account in the SEIS and in any amendments to the Resource Management Plan.

b. Identify Sensitive Receptors and Health Impacts Associated with Proposed Activities Including Hazardous Air Pollutant Impacts

The CCST report found that oil and gas production generally is a concern for potential health impacts on nearby communities, but also found that there is limited data on oil and gas production sites in California. As part of the Clean Air Act, California Air Resources Board (CARB) and local air districts regulate hazardous air pollutants (as toxic air contaminants). The CARB has initiated an ongoing study on air quality in neighborhoods near oil production, the Study of Neighborhood Air Near Petroleum Sources (SNAPS). Additionally, California law passed in 2017 (Assembly Bill 617) created a program to monitor and reduce air pollution at a local level.[45] The SEIS should include a conservative consideration of potential toxic air contaminant emissions and the impact on nearby communities, including results from the California Air Resources Board SNAPS and AB 617 programs as they become available. In the SEIS and throughout its decision-making process, BLM should incorporate newly-available data to evaluate the impacts of any oil and gas activities as well as methods for avoiding adverse human health impacts, such as setback requirements.

The SEIS should give special consideration to the effects of the proposed activities on particularly sensitive receptors such as residences, worksites, schools, daycare centers, playgrounds, or medical facilities. The SEIS should also consider whether the proposed

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[41] Cal. Health & Safety Code § 38566.

[42] Cal. Health & Safety Code § 39730.5.

[43] https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf.

[44] Cal. Code Reg., tit. 17, § 95,665 et seq.

[45] Assembly Bill 617 (C. Garcia, Chapter 136, Statutes of 2017), adding Cal. Health & Safety Code §§ 39607.1, 42705.5, 44391.2.

amendments would impact any disadvantaged communities. BLM should analyze the need for health-risk assessments prior to approval of any new leases and consider that the need for and type of health-risk assessment will vary based on proximity of proposed activities to sensitive uses.

In addition to studying site specific health effects, also note that DOGGR's well spacing statutes generally require newly drilled wells to be at least 100 feet from the outer parcel line and any public road or highway.[46] DOGGR's regulations also require that a well near a sensitive receptor, or "critical well," must be equipped with surface and subsurface safety devices.[47] A "critical well" is defined as a well within 300 feet of a building intended for human occupancy or an airport runway, or within 100 feet of a public street or highway; an operating railway, a navigable body of water or watercourse perennially covered by water; a public recreational facility such as a golf course, amusement park, picnic ground, campground, or any other area of periodic high-density population; or an officially recognized wildlife preserve.[48]

c. Agricultural Easement Considerations

The Division of Land Resource Protection, within the California Department of Conservation, administers an agricultural conservation easement acquisition program. As currently proposed in the Notice of Intent, BLM has identified potential lease areas within the boundaries of an in-progress easement that has no history of oil and gas activity. Any new leases would need to be consistent with the easements to ensure that the conservation purposes are protected.

d. Impacts to the State Water Project and California Aqueduct

Within BLM's Bakersfield Region, the Department of Water Resources (DWR) owns and operates key State Water Project (SWP) facilities, including portions of the California Aqueduct and other appurtenant facilities. DWR identified 121 proposed new BLM oil and gas leases within 1 mile of SWP right-of-way and 38 proposed leases that intersect the SWP right-of-way. It is DWR's standard practice to review new facilities which may impact the SWP within 1 mile of the centerline of the California Aqueduct and associated facilities (SB 2161).

DWR is concerned about proposed new leases within 1 mile of SWP right-of-way increasing DWR operations and maintenance costs on SWP facilities, and potentially interfering with SWP operations and water deliveries. The potential for subsidence could increase in this region with the additional extraction of oil and gas resources on new leases near SWP facilities. Subsidence negatively impacts the SWP due to loss of freeboard which can lead to reduction in capacity and therefore impact water deliveries. In addition, concrete-lined canals (such as the California Aqueduct) can be impacted by uneven settling, resulting from subsidence, that can increase stresses on the concrete, leading to cracking and failure. It can also impact appurtenances to the aqueducts (such as turnouts) which then need to be modified. DWR routinely inspects the Aqueduct and its other facilities, making repairs as needed. When repairs to the Aqueduct are needed, DWR often needs to lower the water levels within the Aqueduct to complete the repair, which can interfere with water deliveries and general SWP operations.

[46] See Pub. Resources Code sections 3600-3609.

[47] See Cal. Code Regs., tit. 14, § 1724.3.

[48] See Cal. Code Regs., tit. 14, § 1720, subd. (a).

If any proposed lease will be utilizing a SWP right-of-way for any purpose (regardless of whether the state owns fee title or has an easement, license, permit, or joint use agreement), DWR will need to issue written authorization prior to the use of the SWP right-of-way (Water Code 12899 and CCR 23.2.6 1-10).[49]

e. Impacts to Surface Water and Groundwater

BLM should evaluate all potential impacts to surface water and groundwater of the proposed action, including impacts associated with all of the following:

- Grading activities to prepare potential drilling sites and access roads and any associated debris generated by these activities;
- Surface spills associated with any fluids used during the drilling or extraction process, including produced water from wells, oil spills and chemicals associated with hydraulic fracturing and other extraction technologies;
- Storm water runoff from extraction sites and all associated areas;
- Potential contamination of groundwater that could result from the unintended subsurface discharge of saline produced water, oil, chemicals, or other drilling fluids into aquifers, especially those that are either current or have potential future beneficial use;
- Access to water rights to use for preparation of site and well drilling that could also lead to areas of groundwater overdraft and/or land subsidence;
- Disposal of produced water into properly permitted injection wells or surface impoundments (ponds);
- Potential water impacts to any disadvantaged communities, including groundwater contamination and water table drawdown;
- Potential impacts of the proposed activity on public supply wells.

BLM should take the following State Water Resources Control Board regulatory authorities into consideration in its SEIS and any amendments to the Resource Management Plan:

- Requirements of Water Code section 10783 for State Water Resources Control Board (State Water Board) regulatory oversight of groundwater monitoring for well stimulation treatments in areas of oil and gas operations, including the State Water Board Model Criteria for groundwater monitoring to assess potential effects of well stimulation treatments;
- Requirements that before well stimulation treatments occur the State Water Board and Regional Water Quality Control Boards have approved a groundwater monitoring plan or have issued a letter to the operator that groundwater monitoring is not required;
- Requirements for a stormwater permit for discharges from oil and gas production sites, including but not limited to discharges of overburden, raw material and other products associated with the proposed activity;
- All requirements of the Sustainable Groundwater Management Act,[50] which provides a framework for sustainable management of groundwater resources by local agencies.

[49] For more information see: https://water.ca.gov/Work-With-Us/Real-Estate/Encroachment-Permits.

[50] California Water Code, section 10720 et seq.

- Requirements to obtain a National Pollution Discharge Elimination System (NPDES) permit for any disposal into surface waters, including strict monitoring and reporting requirements required in NPDES permits.

f. Impacts to Sensitive Habitat and Species

Much of the area subject to the proposed action is characterized by multiple land uses including, but not limited to, irrigated agriculture, urban, industrial, and open space. Kern County's open space areas contain what is remaining of several sensitive San Joaquin Valley habitat types such as annual grassland, alkali desert scrub, Valley saltbush scrub, alkali seep, Valley cottonwood riparian forest, wetlands, ephemeral streams, and desert wash. These habitats support sensitive biological resources including several state Species of Special Concern as well as several state and federally listed threatened, endangered, and state fully protected species.

In Western Kern County, high quality intact habitat for the above referenced sensitive biological resources surrounds the Elk Hills, Belridge South, Cymric, and Midway-Sunset oil fields (identified in this letter's earlier discussion of the CCST Summary Report), and any expansion of oil and gas development in this area may significantly affect special status species such as the state threatened and federally endangered San Joaquin kit fox (Vulpes macrotis mutica), the state threatened San Joaquin antelope squirrel (Ammospermophilus nelsoni), the state and federally endangered giant kangaroo rat (Dipodomys ingens), the state and federally endangered and Fully Protected blunt-nosed leopard lizard (Gambelia sila), and the Species of Special Concern Burrowing Owl (Athene cunicularia).

Most impacts associated with hydraulic fracturing to these habitats adjacent to and within existing oilfields are indirect and are caused by routine and ongoing oil and gas production in general. However, the use of well stimulation allows oil and gas production in existing fields to be protracted and expanded, and may account for new fields to be brought into production in the future. Impacts vary based on the size of the area affected, variation in the intensity of the production infrastructure that can preclude the existence of patches of usable remnant habitat, overlap between areas of production, and the sensitivity of resources impacted. Species such as San Joaquin kit fox and Burrowing Owl will use active well fields to some extent, especially those with habitat remnants.

The SEIS should evaluate impacts to these biological resources, and utilize the CCST Summary Report analysis and recommendations, including but not limited to having BLM support and engage in the efforts of Kern County, the California Department of Fish and Wildlife (CDFW), the oil and gas production industry, and other stakeholders to advance the final drafting and adoption of the Kern County Valley Floor Habitat Conservation Plan (KCVF Plan). The KCVF Plan has been underway for approximately 20 years, but with long periods of inactivity. Directed effort could help the plan become active and see it through completion. The KCVF Plan is integral to implementing conservation strategies that will fully mitigate and set aside permanently protected habitat lands for the benefit of native species in Kern County.

g. Impacts to State-Owned Lands

CDFW owns and manages many thousands of acres in fee title within the action area; approximately 10,000 acres have underlying split estate federal minerals. To date, less than 10% of those minerals are leased, and most impacts have been exploratory and minimal in nature (e.g. establishment of a single well). Most of these CDFW lands, specifically those within Kern County in the Lokern and Semitropic Ecological Reserves [California Code of Regulations Title 14 Sections 550, 550.5, and 630(d)24] were set aside as permanent compensatory habitat mitigation

to offset the impacts of past urban development on several state and federally listed species.[51] Several of these listed species are critically imperiled and their range does not extend much beyond the boundaries of the Southern San Joaquin Valley. These compensatory habitat mitigation lands were primarily acquired in association with state and federal agency requirements of the Metropolitan Bakersfield Habitat Conservation Plan (HCP), approved pursuant to the California Endangered Species Act (CESA) and Section 10 of the Federal Endangered Species Act. The mitigation lands could be impacted and presumably at some point that cumulative impact would trigger the needs to reevaluate the adequacy of the HCP. The surface habitat values of these compensatory habitat mitigation lands were to be protected in perpetuity. As a result, if any of these lands could have additional leases sold as a result of BLM's proposed action, BLM should coordinate with CDFW prior to any ground disturbance. BLM should also implement stringent avoidance and minimization measures for the resources that these lands were acquired to protect. Further, we recommend that habitat compensation be required by BLM of the lease holder(s) to offset the habitat impacts to lands that were intended to be conserved in perpetuity. Notably, measures that would need to be implemented prior to ground disturbance are relevant to BLM's larger analysis of whether to move forward with amendments to the Resource Management Plan. These potential cumulative and indirect effects cannot be deferred to later planning stages.

h. Compensatory Mitigation

Given the significant biological resources present in the proposed action area, it is unclear how any mitigation could be meaningful, significant, and effective (e.g. preventing "unnecessary or undue degradation") absent a BLM requirement for compensatory habitat mitigation. Despite Instruction Memorandum IM 2018-093, which purports to limit BLM's use of compensatory mitigation, NEPA requires a thoughtful analysis of measures to mitigate impacts. In no event should BLM categorically reject any particular type of mitigation at this stage. Therefore, the SEIS should consider, and BLM should require, compensatory habitat mitigation to offset habitat impacts of the proposed amendments to the Resource Management Plan.

i. Impacts to Mineral Resources

Some areas within the BLM lands identified in this proposal are classified by the California Geological Survey as containing mineral resources of regional significance. These areas are underlain by mineral deposits that are of regional, multi-community, or statewide economic significance. Local Mineral Resource Management Policies provide for the conservation and prudent development of these mineral deposits and should be considered in the NEPA/CEQA process.

j. Recreational and Cultural Resources

For those park units containing split-estate lands, oil and gas production has the potential to broadly and directly impact geological resources, cultural resources, water quality, air quality, and wildlife habitat in the parks. Oil and gas lease operations, infrastructure construction, and maintenance would also drive secondary impacts including road-building, commercial access to remote and sensitive sites, waste water, noise, air quality, and negative aesthetic

[51] The Wildlife Conservation Board awards grants to external organizations to purchase lands and preserve conservation values therein. Increased leasing activities could directly affect those grantee organizations ownership of properties in lease areas. Our initial investigation found that an estimated 48,000 acres of conservation lands funded by the Wildlife Conservation Board may be affected by the proposed action. BLM must analyze these potential impacts.

consequences. Traffic and significant risk of other impacts of industrial operations would further damage park visitors' experience and must be analyzed and mitigated.

- Four park units appear to include areas where preliminary review suggests that the United States may hold a reserved mineral right;
- One park unit appears to have overlap with the proposed lease area, but preliminary review has identified no reserved mineral right; and
- Four additional units appear to have areas proposed for mineral extraction outside, but immediately adjacent to, park unit boundaries.

Additional site-specific potential impacts include but are not limited to those summarized below.

1. **Hungry Valley State Vehicular Recreation Area**
   Approximately 548 acres of land purchased by the State of California are dedicated as a State Vehicular Recreation Area (SVRA) in Hungry Valley. Oil and gas extraction (via hydraulic fracturing or other methods) has the potential to have a significant impact on outstanding recreational, and rare cultural and natural resources in this SVRA. Areas potentially open to leasing are within recreational riding areas of the park; culturally sensitive areas of the park (including a Cultural Preserve specifically set aside to protect archaeological resources); and sensitive natural areas (including rare grasslands and a native grassland management area).

2. **Millerton Lake State Recreation Area**
   Millerton Lake State Recreation Area is managed by the Department of Parks and Recreation. Oil and gas operations would have a potentially significant impact on recreational resources (including boating and other outdoor recreation); cultural resources (including on potentially leased parcels that are immediately adjacent to a Cultural Preserve which protects significant archaeological sites); and natural resources, including forested and grassland habitats. Hydraulic fracturing would also have the potential to broadly impact geological resources – including potentially dam safety.

3. **Montana de Oro State Park**
   Approximately 1,217 acres of Montana de Oro State Park may potentially be impacted. Oil and gas operations in this area would pose considerable risks of significantly impacting natural (including coastal sage scrub and forested lands and habitats), National Register of Historic Places-listed archaeological and cultural sites, and recreational resources.

4. **Point Mugu State Park**
   Point Mugu State Park, which could also be impacted, contains rare and restored native plant communities and significant archaeological sites, as well as a unique and remote recreational resource that provides opportunities for solitude and natural character on the fringe of one of the nation's largest urban centers.

Leases on lands adjacent to state parks would have the potential to impact sensitive park resources, including natural (including sensitive shoreline habitats); cultural; and recreational resources, including Morro Rock, and identified California Native American Tribal Cultural Resource and Traditional Cultural Property. Department of Parks and Recreation routinely considers both the direct and indirect effects of adjacent development on its properties.

Under the proposal, new leases could also occur on other lands directly adjacent to or proximate to Park parcels at multiple State Park units. These include:

- Colonel Allensworth State Historic Park
- Point Sal State Beach
- Tomo-Khani State Historic Park
- Fort Tejon State Historic Park

Just as leases within Park boundaries have the potential to impact Park resources, mineral leases on the affected Parks' boundaries could also have significant impacts on Park resources (including wildlife, air quality, water quality, recreational resources, cultural resources, California Native American Tribal Cultural Resources, aesthetic resources, etc.). These sorts of impacts could also be both direct and indirect (arising from operations or extraction-related infrastructure or traffic). Aesthetic resources – including a sense of place – are especially important in historic sites (three of the four such units) that are educational and recreational assets meant to convey the context of an historic or pre-historic scene.

k. Oil Spill Response

If additional oil leases are executed, the California Office of Spill Prevention and Response anticipates needing to obtain and evaluate additional spill response contingency plans and certificates of financial responsibility, and conduct additional spill response drills and exercises.

Additional leases may result in an increased number of spills, which in turn will require response resources (contracts and staffing) and cause habitat and wildlife injuries needing restoration. Again, BLM's SEIS must analyze and mitigate such indirect effects of the proposed amendments.

l. Nuisance

California state law prohibits the "discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property."[52] Nuisance complaints—including odor, noise and vibrations—are common from residents living, working and recreating near some oil and gas facilities in California. BLM should take this requirement into consideration in its SEIS and in any proposed amendment to the Resources Management Plan.

Conclusion

We appreciate the opportunity to provide comments on relevant issues for BLM to consider in carrying out its mission with respect to any potential amendments of the Resource Management Plan and the SEIS associated with those potential amendments. These issues are critical to protect the federal lands subject to the Plan for the use and enjoyment of future generations.

[52] Cal. Health & Safety Code § 41700.

Sincerely,

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