

# 1. Introduction

The Bureau of Land Management (BLM) Central Coast Field Office<sup>1</sup> (CCFO) has prepared this Draft Resource Management Plan Amendment and Environmental Impact Statement (RMPA/EIS) for Oil and Gas Leasing and Development to analyze the effects of alternative oil and gas management approaches on lands with Federal mineral estate within the CCFO Planning Area. The current management decisions for oil and gas resources are described in the Hollister Field Office Resource Management Plan for the Southern Diablo Mountain Range and Central Coast of California (BLM, 2007a).

Resource Management Plans (RMPs) are land use plans that establish goals and objectives for resource management and guide land management actions, which are based on the principles of multiple use and sustained yield. Over time, decisions on how the land is managed need to be revised or amended to respond to new, intensified, or changed uses on public land, prompting an RMP revision or amendment. Here, a court order and settlement agreement, have prompted the BLM to prepare this Draft RMPA to the 2007 Hollister Field Office RMP. The court in *Center for Biological Diversity v. Bureau of Land Management* found it unreasonable for the BLM to “consider only a single exploratory well scenario solely based on past data” based on the record in the case.<sup>2</sup> In settlement of this and a related case, the BLM agreed to prepare an EIS addressing oil and gas development within the CCFO that includes analysis of two non-NSO (no surface occupancy) issued leases and 12 non-NSO prospective leases. In part, the BLM is preparing this EIS to consider impacts that may result from hydraulic fracturing and other well stimulation techniques.<sup>3</sup>

Stimulation, with respect to petroleum production, refers to a range of techniques designed to increase the permeability of the rocks through which oil flows, thereby increasing the production of oil from the reservoir. The most common types of stimulation are hydraulic fracturing, acid fracturing, and matrix acidizing. Since adopting the 2007 Hollister Field Office RMP, the BLM and the State of California have sponsored independent third-party extensive statewide studies of the geology of oil and gas basins and industry activities, including well stimulation treatments, such as hydraulic fracturing, acid matrix stimulation and acid fracturing.<sup>4</sup> These studies improve the understanding of past and present exploration and development in the CCFO Planning Area. An oil reservoir is considered to be unconventional if some type of well stimulation is required to make production economically feasible (CCST, 2014, pg. 48-49). This technology can include techniques that alter reservoir permeability or the fluid viscosity to increase the rate of oil flow from the reservoir to the well (CCST, 2014, pg. 48-49).

The California Council on Science and Technology (CCST) reports are incorporated in this RMPA/EIS by reference. The CCST report *Advanced Well Stimulation Technologies in California* was released in August 2014. This report synthesizes and assesses the available scientific and engineering information associated with well stimulation techniques, including hydraulic fracturing. It includes information on the geol-

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<sup>1</sup> The Central Coast Field Office, currently located in Marina, California, was previously called the Hollister Field Office.

<sup>2</sup> 937 F. Supp. 2d 1140, 1156 (N.D. Cal. 2013).

<sup>3</sup> During the scoping period for this RMPA, the BLM received a number of comments from the public expressing concern about potential impacts from hydraulic fracturing (see Section 1.3). Although hydraulic fracturing has been used as a production stimulation method in California since the late 1960s and is considered a standard technique for production, analysis of potential impacts from hydraulic fracturing and other well stimulation techniques is included in this Draft EIS due, in part, to the comments on this issue received during scoping.

<sup>4</sup> The California Council on Science and Technology (CCST) released its Independent Scientific Assessment (ISA) on Advanced Well Stimulation Technologies in California, commissioned by BLM, in August 2014 (CCST, 2014). In January 2015, the CCST released Volume I of the State’s ISA of Well Stimulation in California, which was required by Senate Bill (SB) 4 (CCST, 2015a). CCST Volumes II and III were released in July 2015.

ogy for oil and gas potential in California with respect to any changes in the potential due to advanced well stimulation techniques (CCST, 2014).

The CCST also released the report *An Independent Scientific Assessment of Well Stimulation in California* in three volumes. The report synthesizes and assesses the available scientific information associated with well stimulation treatments in California including hydraulic fracturing, matrix acidizing, and acid fracturing. Volume I “Geology and Well Stimulation Treatments” (January 2015) describes what well stimulation treatments are, how they are conducted and practiced in California, and where they have been and are being used in the State (CCST, 2015a). Volume II “Potential Environmental Impacts of Hydraulic Fracturing and Acid Stimulations” (July 2015) discusses how well stimulation could affect water, atmosphere, seismic activity, wildlife and vegetation, and human health. Volume II reviews available data, and identifies knowledge gaps and alternative practices that could avoid or mitigate these possible impacts (CCST, 2015b). Volume III “Case Studies of Hydraulic Fracturing and Acid Stimulations in Select Regions: Offshore, Monterey Formation, Los Angeles Basin and San Joaquin Basin” (July 2015) presents four case studies that assess environmental issues and qualitative risks for specific geographic regions: Offshore, Monterey Formation, Los Angeles Basin, and the San Joaquin Basin (CCST, 2015c).

To support the preparation of this RMPA, the BLM is completing an EIS that provides a comprehensive evaluation of the environmental issues and impacts associated with the Draft RMPA and alternatives. The National Environmental Policy Act (NEPA) requires the BLM to consider a range of alternatives in its planning process and to analyze and disclose the potential environmental impacts of proposed RMPA decisions. The alternatives and impact analyses are documented in the EIS. The EIS impact analysis will also address the 14 leases within the CCFO Decision Area that do not contain No Surface Occupancy (NSO) stipulations (i.e., non-NSO leases), per the July 2014 settlement agreement to resolve the disputes set forth in Case No. 11-06174 and Case No. 13-1749.<sup>5</sup>

This RMPA/EIS was prepared using the BLM’s planning regulations (43 Code of Federal Regulations [CFR] Part 1600) and guidance issued under the authority of the Federal Land Policy and Management Act (FLPMA) of 1976. Section 102 of the FLPMA sets forth the policy for periodically projecting the present and future use of public lands and their resources through the use of a planning process. Sections 201 and 202 of the FLPMA are the statutory authorities for land use plans prepared by the BLM. The associated EIS is included in this document to meet the requirements of NEPA, the Council on Environmental Quality (CEQ) regulations for implementing NEPA (40 CFR Parts 1500-1508), Department of the Interior (DOI) Implementation of the National Environmental Policy Act of 1969 Final Rule (43 CFR Part 46), and the requirements of BLM’s NEPA Handbook H-1790-1 (BLM, 2008) and Land Use Planning Handbook H-1601-1 (BLM, 2005).

In the Federal Register notice initiating this planning process, the BLM indicated it may also use this process to consider amending RMPs for four other field offices in California with oil and gas leasing and development (Bakersfield, Palm Springs–South Coast, Mother Lode, and Ukiah Field Offices). The BLM considered public comments from scoping, the results of the CCST reports, and an internal evaluation of the RMPs for these five field offices to determine the proper geographic scope of this RMPA. The Mother Lode and Ukiah field offices were not included in this RMPA because their resources are primarily natural gas with an affected environment and environmental effects that vary substantially from

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<sup>5</sup> The *Center for Biological Diversity v. Bureau of Land Management* (Case No. 11-06174) decision determined that the BLM violated NEPA when it failed to prepare an EIS prior to issuing two non-NSO leases. BLM has agreed to prepare an EIS to analyze and assess the adequacy of proposed stipulations for the two non-NSO leases referenced in Case No. 11-06174, and has suspended operations and production on those leases. The BLM has also agreed to not issue and to assess the adequacy of proposed stipulations for 12 prospective non-NSO leases identified in Case No. 13-01749, pending completion of the EIS (*Center for Biological Diversity v. Bureau of Land Management*, 2014).

the Central Coast Field Office. At the time the court remanded the 2007 Hollister Field Office RMP, the Bakersfield and South Coast RMPs were already under revision. The BLM determined that it was more appropriate to continue with the revised RMPs rather than initiate a new amendment for these plans during the active revision process. Because the Central Coast does have oil development potential, and was not in the midst of a plan revision, the BLM determined that the Central Coast Field Office would be the appropriate geographic scope for this particular RMPA.

## 1.1 Purpose and Need for Amending the 2007 Hollister Resource Management Plan

The purpose of this amendment to the 2007 Hollister Field Office RMP is to determine which BLM-managed lands or subsurface Federal minerals are open or closed to oil and gas leasing, and which stipulations or restrictions apply to protect specific resources, based on an analysis of oil and gas exploration and development in excess of levels evaluated in the 2007 RMP. The RMPA would not authorize any actual drilling for exploration or development of oil and gas resources. Actual drilling authorization would be analyzed on a site specific basis dependent on the project specifications before the BLM at that time.

In response to the Hollister litigation and settlement agreement, the BLM developed a new Reasonably Foreseeable Development (RFD) Scenario paying greater attention to the current and future use of well stimulation technologies, including hydraulic fracturing, acid matrix stimulation, and acid fracturing, as well as future uses of enhanced oil recovery (see Appendix B). Because this RFD Scenario forecasts a greater amount of development as compared to the RFD Scenario developed for the 2007 RMP, there is a need to consider whether the land use plan decisions in the 2007 RMP should be adjusted. An RMPA is also needed to address the current and potential future uses of well stimulation technologies, as well as future uses of enhanced oil recovery.

There is also a need to determine appropriate stipulations for the two suspended non-NSO leases referenced in Case No. 11-06174 and the 12 prospective non-NSO leases identified in Case No. 13-01749.

**Decisions to be made:** Through the RMPA, the BLM will identify which lands are open or closed to oil and gas leasing and which stipulations would be applied on oil and gas exploration and development activities in order to protect environmental resources. For the 14 leases subject to the settlement agreement, the determination will be an implementation-level decision; the implementation decision will determine whether the leases should be issued, and if so, whether the current lease stipulations are sufficient or if additional stipulations are needed.

## 1.2 Planning Area Description

The Planning Area is the geographical boundaries of the CCFO. This includes 6.8 million acres of Federal, State, and private lands across all or portions of the following 12 counties in western-central California:

- |                |                 |               |
|----------------|-----------------|---------------|
| ■ Alameda      | ■ Monterey      | ■ San Mateo   |
| ■ Contra Costa | ■ San Benito    | ■ Santa Clara |
| ■ Fresno       | ■ San Francisco | ■ Santa Cruz  |
| ■ Merced       | ■ San Joaquin   | ■ Stanislaus  |

The CCFO manages public land in 11 of these counties; there are currently no BLM-managed public lands in San Francisco County (see Figure 1-1). Public land parcels vary in size from less than 40 acres to more than 50,000 acres. The most notable holdings are located on the Central Coast at the former Fort Ord military base and in the western San Joaquin Valley.

The Decision Area for the RMPA includes approximately 793,000 acres of BLM-administered subsurface mineral estate underlying public lands or split estate lands within the CCFO Planning Area boundary. Split estate means lands where the surface is owned by an entity or person other than the BLM but the Federal subsurface mineral estate is managed by the BLM. (Onshore Oil and Gas Order No. 1, part II). Split estate leases are included in the Decision Area and would be subject to the oil and gas resource management decisions of the RMPA. “The BLM must comply with NEPA, the National Historic Preservation Act, the Endangered Species Act, and related Federal statutes when authorizing lease operations on split estate lands where the surface is not Federally owned and the oil and gas is Federal.” (Onshore Oil and Gas Order No. 1, part VI). (See Appendix G for further details.) The BLM lands at the Coast Dairies are not a part of the Decision Area because BLM does not manage the mineral estate underlying the Coast Dairies.

### **1.2.1 Area Profile of Oil and Gas Development**

Overall, there are five major sedimentary basins in California with reservoirs of known economically viable oil and gas resources: the Los Angeles, Ventura, Santa Maria, Salinas, and San Joaquin Basins. As shown on Figure 1-2 and 1-3, portions of the CCFO Planning Area are within the San Joaquin Basin in San Benito and Fresno Counties and portions of the CCFO Planning Area are within the Salinas Basin in Monterey County. Figure 1-3 shows the plays and active oil and gas wells within the CCFO Planning Area.

Since 2002, well drilling activity in California has largely occurred outside of the CCFO Planning Area. Of the 12 counties in the CCFO Planning Area, six have had some levels of well development activity since 2002 — Alameda, Contra Costa, Fresno, Monterey, San Benito, and Santa Clara. Existing wells are located on BLM-administered mineral estate in Contra Costa, Fresno, Monterey, San Benito, and Santa Cruz Counties. No wells are located on BLM-administered mineral estate in Alameda, Merced, San Francisco, San Joaquin, San Mateo, Santa Clara, or Stanislaus Counties. In general, most of the new well activity in the CCFO Planning Area occurs in the eastern portion of the area (i.e., over 97 percent of all well development since 2002 occurred in four fields in Fresno and Monterey Counties).

As of mid-2014, there are 65 authorized oil and gas leases on Federal mineral estate within the CCFO Decision Area, covering approximately 41,200 acres. Eighty (80) active producing oil and gas and service wells and 66 idle wells are located on Federal mineral estate within the CCFO Decision Area. Over 99 percent of the wells in the CCFO Planning Area are located within oil and gas field boundaries, with less than 1 percent being classified as wildcats (outside administrative field boundaries<sup>6</sup>). Of the total 4,292 producing and service wells within the CCFO Planning Area, the 146 wells that occur on Federal authorized leases amount to BLM involvement with 3.4 percent of all current oil and gas activity within the CCFO Planning Area boundary.

### **1.2.2 Planning Approach**

The BLM uses an ongoing planning process to ensure that land use plans and implementation decisions remain consistent with applicable laws, regulations, orders, and policies. This process involves public participation, assessment, decision-making, implementation, plan monitoring, and evaluation, as well as adjustment through maintenance, amendment, and revision. The planning process also allows for continuous adjustments to respond to new issues and changed circumstances. The BLM will make decisions using the best information available. These decisions may be modified as the BLM acquires new inform-

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<sup>6</sup> An oil and gas field is a geographical area under which an oil or gas reservoir lies. Oil and gas field boundaries are defined by the California Division of Oil, Gas and Geothermal Resources (DOGGR). Administrative field boundaries are drawn on section or quarter-section lines and incorporate all producing wells within a field.

ation and knowledge of new circumstances relevant to land and resource values, uses, and environmental concerns. Modifying land use plans through maintenance and amendment on a regular basis reduces the need for major revisions of land use plans (BLM, 2005).

Under FLPMA Section 102, the BLM is required to manage the public lands on the basis of multiple use and sustained yield and to meet the needs of present and future generations. As the planning process can represent a constant balancing of competing needs, interests, and values, the BLM must utilize public outreach efforts to identify concerns raised by both citizens and cooperating/coordinating agencies in the preparation of informed, sustainable land use planning decisions. In addition to the scoping process (see Section 1.3), the BLM conducted a Social and Economic Workshop (held on February 4, 2015). These public meetings have sought to identify attitudes and values relevant to planning issues and alternatives, as well as suggestions regarding sources of data and methods of analysis. By involving the local public in discussions of appropriate data and methods early in the planning process, there is a greater likelihood that the resulting EIS analysis will be useful to the BLM and the public.

Oil and gas leasing and development on Federal mineral estate requires multiple stages of BLM environmental analysis and authorization. Environmental review under NEPA is required at each phase. The RMPA will identify areas as open or closed to fluid mineral leasing and specify appropriate stipulations for those areas identified as open. The environmental review for leasing parcels identifies which parcels should be offered for leasing and the conditions under which leasing and eventual development should occur. The environmental review for the development of leased parcels (including well stimulation techniques) is a site-specific analysis of potential impacts from the proposed project and includes specific conditions of approval to avoid, minimize, or mitigate impacts to sensitive resources.

### *Leasing*

Parcels that are nominated for leasing must be reviewed and approved by the BLM prior to leases being sold at an auction. BLM's Instruction Memorandum No. 2010-117 describes the deliberate, interdisciplinary parcel review process that must occur before a lease sale is held. This review is conducted and documented in accordance with NEPA. The purpose of lease parcel review by the field office is to determine whether a parcel should be offered for leasing, and if so, the conditions under which leasing and eventual development should occur. The CCST reports, and future information developed about oil and gas extraction and well stimulation technology in California, will be used at the leasing stage during the State Director review of parcels to offer for lease. During this review, the BLM will consider the likelihood that the parcels offered for sale will require the use of well stimulation technologies, and disclose the impacts and risks of well stimulation technology based on the best available information at the time, and how those risks can be avoided, minimized or mitigated through the application of Best Management Practices (BMPs) and Conditions of Approval (COAs). Upon completing this review, the State Director will determine whether to offer the parcel for lease, and if so, what stipulations, COAs, and BMPs to attach to the lease.

### *Development*

Onshore Oil and Gas Order Number 1 requires Federal oil and gas operators to conduct operations to minimize impacts to surface and subsurface resources, prevent unnecessary surface disturbance, and conform to currently available technology and practice. Per Onshore Order Number 1, BLM may approve, defer, or deny an Application for Permit to Drill. Drilling and abandonment activities must adhere to the provisions and standards of Onshore Oil and Gas Order Number 2 to protect subsurface resources. Onshore Oil and Gas Order Number 7 provides the methods and approvals necessary to dispose of produced water associated with oil and gas operations.

Measures to avoid, minimize, or mitigate impacts, in addition to those identified in the Onshore Oil and Gas Orders and the regulations in 43 CFR 3160, are incorporated in the Approved RMP as Standard

Operating Procedures (SOPs) and BMPs. Examples of these measures include: reducing the area of disturbance to the smallest practical area and using previously disturbed areas to the extent practicable; setting and cementing surface casings to sufficient depths to protect usable water bearing zones; using a closed-loop drilling system to reduce water usage; and placement of production facilities and equipment to maximize interim reclamation. In addition, every permit approval includes a list of COAs that are tailored to the specific location and type of activity being approved. When the BLM receives applications to conduct activities on leases (e.g., applications for permits to drill or sundry notices of intent), additional NEPA analysis is required. During this site-specific, implementation-level analysis, the BLM may consider additional mitigation measures to address any anticipated impacts, including those from well stimulation techniques. The CCST reports, and future information developed about oil and gas extraction and well stimulation technologies in California, will be used at the development stage to assist the BLM in identifying new BMPs to address the impacts of advanced well stimulation technologies. BLM California will also implement additional policy requirements regarding Applications for Permit to Drill and Sundry Notices as discussed in Instruction Memorandum No. CA-2014-031. As technologies evolve and new information becomes available, the BLM will continue to identify new BMPs to prevent or mitigate the impacts of oil and gas development.

### **1.2.3 Monitoring, Evaluation, and Adaptive Management**

Once the BLM approves a land use plan or amendment, it must monitor and periodically evaluate the land use plan decisions. Land use plan monitoring is the process of (1) tracking the implementation of land use plan decisions (implementation monitoring) and (2) collecting data/information necessary to evaluate the effectiveness of land use planning decisions (effectiveness monitoring)

Evaluation is the process of reviewing the land use plan and the monitoring data to determine whether the land use plan decisions and the NEPA analysis are still valid and whether the plan is being implemented. Land use plans are evaluated to determine if: (1) decisions remain relevant to current issues, (2) decisions are effective in achieving (or making progress toward achieving) desired outcomes, (3) any decisions need to be revised, (4) any decisions need to be dropped from further consideration, and (5) any areas require new decisions.

The BLM's Monitoring and Evaluation process is described in more detail beginning on page 32 of the BLM Land Use Planning Handbook (H-1610-1) (BLM, 2005).

The BLM developed a Reasonably Foreseeable Development (RFD) Scenario to estimate future oil and gas development within the Planning Area. The analysis in Chapter 4 is based, in part, on the RFD Scenario. However, oil and gas leasing and development on Federal mineral estate requires multiple stages of BLM environmental analysis and authorization, as explained in detail in Section 1.2.2.

As part of the implementation of the oil and gas decisions in this amendment, and standard land use planning monitoring and evaluation, the BLM will periodically consider whether planning decisions remain relevant or if the BLM should consider new planning decisions in light of changed circumstances or new information.

## **1.3 Scoping/Issues**

Scoping is the term used in the CEQ regulations implementing NEPA (40 CFR 1500 et seq.) to define the early and open process for determining the scope of issues to be addressed in the planning process. The scoping process serves a number of purposes. It provides an avenue to involve the public in identifying significant issues related to potential land use management actions and helps identify any issues that are not significant and can thereby be eliminated from detailed analysis. Information collected during scoping may also be used to develop the alternatives to be addressed in the NEPA document. The list of stakeholders and other interested parties is also confirmed and augmented during the scoping process.

The formal public scoping period for the RMPA/EIS began on August 5, 2013, with the publication of a Notice of Intent (NOI) in the Federal Register, and ended on February 28, 2014. Four scoping public meetings were held in January and February 2014 in Hollister, Sacramento, Salinas, and Coalinga, California. The BLM reviewed and categorized the public scoping letters and used the planning issues raised in the scoping comments to help guide the development of the range of alternative management strategies for the RMPA. For a detailed description of the scoping process and the public outreach efforts, please refer to the Scoping Summary Report (see Appendix E). BLM also held a Social and Economic Workshop on February 4, 2015, to solicit input on the effects the proposed RMPA may have on local economic and social goals in the CCFO Planning Area, which was documented in a Social and Economic Workshop Summary Report (see Appendix F).

### 1.3.1 Issues Addressed

In its Scoping Summary Report, the BLM grouped the issues identified during scoping into comments pertaining to specific resource areas, comments pertaining to alternatives, and general comments that were not resource-specific. Additional issues were raised in the Social and Economic Workshop Summary Report as well. The issues identified as being within the scope of the RMPA/EIS are summarized below and included in the Scoping Report and Social and Economic Workshop Summary Report.

#### Resource Area Comments

- **Water Resources.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on water resources? What measures will be implemented to protect these resources?
- **Health and Safety.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on public and worker health and safety? What measures will be implemented to protect the public, workers, and sensitive receptors?
- **Vegetation and Wildlife.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on plants and wildlife? What measures will be implemented to protect these resources?
- **Air Quality.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on air quality? What measures will be implemented to protect air quality?
- **Climate Change.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on climate change and Federal efforts to minimize climate change? What measures will be implemented to minimize contributions to and the impacts of climate change?
- **Geology and Seismicity.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on geology and induced seismicity? What measures will be implemented to protect geology and mitigate for induced seismicity?
- **Soil Resources.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on soil resources? What measures will be implemented to protect soil resources?
- **Socioeconomics.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on the social values and economic revenues of the community? What measures will be implemented to protect these values and revenue sources?
- **Traffic.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on traffic and local roads? What measures will be implemented to protect local roads and manage increased traffic?

- **Tribal and Cultural Resources.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on tribal and cultural resources? What measures will be implemented to protect these resources?
- **Environmental Justice.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on poor, minority, and underrepresented communities? What measures will be implemented to protect these communities from experiencing disproportionate negative effects from oil and gas development?
- **Land Use.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on existing land uses? What measures will be implemented to protect existing land uses?
- **Livestock Grazing.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on existing livestock grazing operations? What measures will be implemented to protect these operations?
- **Recreation.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on visitor experience and the safety of existing lands and water bodies used for recreation? What measures will be implemented to protect recreational resources?
- **Visual Resources.** What would be the impact of different approaches to oil and gas management, including well stimulation activities, on visual resources? What measures will be implemented to protect these resources?

### Comments on Alternatives

The following scoping issues were identified by BLM as pertaining to the development of alternatives:

- Cancellation of the 2011 and 2012 Central Coast Field Office lease sales that have been litigated.
- Prohibition on all oil and gas activities in areas managed by the Central Coast Field Office.
- Prohibition on all oil and gas well stimulation activities (e.g., hydraulic fracturing) in areas managed by the Central Coast Field Office.
- Conditions of approval for new drilling permits to prohibit well stimulation technologies.

### General Comments

The following scoping issues were identified by BLM as pertaining to the RMPA/EIS, but were not specific to a particular resource area:

- Address conflicts between the proposed action and the objectives of Federal, regional, State, and local (and in the case of a reservation, Indian tribe) plans and policies.
- Include a list of best management practices (BMPs). Explain the circumstances under which the BMPs would be applied, and how the BLM would ensure that the BMPs would be monitored and enforced.
- Disclose the parties that would be responsible for avoiding, minimizing, and mitigating adverse impacts.
- The impacts analysis should assume that leaks, spills, and human and wildlife contact with fracturing fluid will occur.
- The Reasonably Foreseeable Development Scenario must thoroughly define “reasonably” and “foreseeable.”

## Issues Discussed at Social and Economic Workshop

- BLM actions under the RMPA.
- Economic and social conditions within the CCFO Planning Area and the regional focus of the social and economic analysis for the EIS and RMPA given the location of Federal mineral estate within the CCFO Planning Area.
- Community characteristics and social and economic concerns from oil and gas development that should be considered in the social analysis for the EIS and RMPA.
- Areas containing low-income and minority populations in the CCFO Planning Area that would most likely be affected by the RMPA.
- Mitigation measures to minimize the impacts associated with the RMPA.

### 1.3.2 Issues Considered but Not Further Analyzed

#### Comments Addressed Through Policy, Regulatory, or Administrative Actions

Policy or administrative actions include those actions that are implemented by the BLM because they are standard operating procedure, because Federal law requires them, or because they are BLM policy. They are issues that are eliminated from detailed analysis in this planning effort. Administrative actions do not require a planning decision to implement because they are a requirement of Federal law or BLM policy. The following issues raised during scoping are already addressed by administrative actions:

- BLM agreed to halt oil and gas leases on Federal land in the CCFO Decision Area, but left unclear whether it would end the moratorium in the future; the moratorium should remain in place.
- BLM should complete the NEPA analysis in as timely and efficient a manner as possible.
- BLM should follow the authority the Congress delegated to Environmental Protection Agency (EPA) and the State of California under the Clean Air Act.
- New wells should be allowed in California's public lands until a Final EIS is completed.
- Identify how areas might be selected as suitable for oil and gas leasing, why and based upon what principles such determinations will be made, and if the information used to make these decisions is consistent with the fundamental issues defined by NEPA.

#### Comments Not Addressed in the RMPA/EIS

Consistent with the purpose of this action, issues addressed in this RMPA/EIS are those that deal specifically with the effects of alternative oil and gas management approaches on lands with Federal mineral estate within the CCFO Planning Area. Other topics that could be relevant to other planning issues within the CCFO Planning Area are not addressed in this RMPA/EIS. Examples of issues or topics not addressed in this RMPA/EIS include, but are not limited to:

- The EIS and the statewide study should assess the impact of refining and burning the newly accessible supply of oil and gas.
- BLM should conduct an EIS for all BLM-administered lands and sub-surface resources in California, analyzing both its oil and gas leasing practices and the full extent of its associated impacts, rather than limiting the scope to the area under the management of the Central Coast Field Office.
- The alternatives to the project analysis should include a review of the potential for wind and solar power development, including where, how, and with what limitations.

## 1.4 Planning Criteria

An RMP inventories the natural resources and analyzes the socioeconomic environment associated with a planning area (43 CFR 1610.4-4), while a plan amendment is a modification of one or more parts of an existing RMP (e.g., management of oil and gas resources). In preparing an RMPA, the BLM must: (1) analyze the inventory data and other information available to determine the ability of the planning area to respond to identified issues and opportunities; and (2) prove, consistent with multiple use principles, the basis for formulating reasonable alternatives, including the types of resources to be developed or protected.

The analysis should:

- Describe the current conditions and trends of the resources and the uses/activities in the planning area sufficient to create a framework from which to resolve the planning issues through the development of alternatives;
- Establish indicators or criteria that will be used in evaluating the effects of the alternatives;
- Describe the status (the physical and biological processes that affect ecosystem function; the condition of individual components such as soil, water, vegetation, and wildlife habitat; and the relative value and scarcity of the resources) or present characteristics and condition of the public land; and
- Address social and economic conditions to understand how people, communities, and economies interact with the ecosystem.

Planning criteria help to: (1) streamline the RMPA's preparation and focus; (2) establish standards, analytical techniques, and measures to be used in the process; (3) guide development of the RMPA; (4) guide and direct issue resolution; and (5) identify factors and data to consider in making decisions.

Principles of ecosystem management and a continuing commitment to multiple use and sustained yield will also guide land use decisions in the planning area. The commitment to multiple uses does not mean that all land would be open for all uses. Some uses may be excluded on certain lands to protect specific resource values or uses. Any exclusions, however, would be based on laws or regulations, or be determined through the planning process and subject to public involvement. Planning criteria developed during public scoping will help guide the planning effort (BLM, 2007a).

The planning criteria for this planning effort are that the RMPA will:

- Recognize valid existing rights;
- Retain the existing resource condition goals and objectives in the 2007 Hollister RMP except for Energy and Minerals which have been updated;
- Analyze impacts to areas that are currently open to leasing and will not consider opening areas to leasing that are currently closed;
- Comply with FLPMA, NEPA, and all other Federal laws, executive orders, and management policies for the BLM;
- Seek public input;
- Consider adjoining non-public lands when making management decisions to minimize land use conflicts;
- Consider the planning jurisdictions of other Federal agencies and State, local and tribal governments;
- Develop a reasonable range of alternatives;
- Use current scientific data to evaluate appropriate management strategies; and
- Analyze the socioeconomic effects of alternatives along with the environmental effects.

## 1.5 Planning Process

When developing or amending an RMP, the BLM uses a nine-step planning process identified in 43 CFR 1600 and the BLM Land Use Planning Handbook (BLM, 2005). The steps in the nine-step planning process are the same for developing a plan amendment as they are for developing an RMP, and are outlined below:

- **Step 1 – Planning Issues Identified.** Issues and concerns are identified through a scoping process that includes the public, Indian tribes, other Federal agencies, and State and local governments.
- **Step 2 – Planning Criteria Development.** Planning criteria are created to ensure decisions are made to address the issues pertinent to the planning effort. Planning criteria are derived from a variety of sources, including applicable laws and regulations, existing management plans, coordination with other agencies' programs, and the results of public and agency scoping. The planning criteria may be updated or changed as planning proceeds.
- **Step 3 – Data and Information Collection.** Data and information for the resources in the planning area are collected based on the planning criteria.
- **Step 4 – Analysis of the Management Situation.** The planning criteria and resource data are used to describe current management (i.e., No Action Alternative) and to identify management opportunities for addressing the planning issues.
- **Step 5 – Alternatives Formulation.** A range of reasonable management alternatives that address issues identified during scoping is developed.
- **Step 6 – Alternatives Assessment.** The estimated environmental effects of each alternative are estimated and analyzed.
- **Step 7 – Preferred Alternative Selection.** The alternative that best resolves planning issues is identified as the preferred alternative.
- **Step 8 – Resource Management Plan Selection.** First, a Draft RMPA/EIS is issued and made available to the public for a review period of 90 calendar days. During this time, the BLM holds another round of public meetings to gather comments and accepts comments in writing. After comments on the draft document are received, the draft is modified as necessary, and the Proposed RMPA/Final EIS is published and made available for public review for 30 calendar days. A ROD is signed to approve the Proposed RMPA/Final EIS.
- **Step 9 – Implementation and Monitoring.** Management measures outlined in the approved plan amendment are implemented, and future monitoring is conducted to test their effectiveness. Changes are made as necessary to achieve the desired results.

### 1.5.1 Relationship to BLM Policies, Plans, and Programs

This RMPA focuses on the management of oil and gas resources on BLM-administered mineral estate within the CCFO Decision Area. While this RMPA will update the energy and minerals decisions in the CCFO, the existing 2007 Hollister RMP will continue to guide the non-energy related management decisions of public lands within the CCFO Decision Area.

Table 1-1 highlights some of the major plans and policies that have led to the present management of the CCFO Planning Area.

**Table 1-1. Existing Management Plans for the Central Coast Field Office**

Document Title	Year
BLM Wilderness Recommendations, Central California Study Areas, Final EIS	1987
BLM Wilderness Recommendations, Central California Section 202 WSA, Final EIS	1987
Juan Bautista de Anza National Historic Trail Comprehensive Management Plan/Final EIS	1996
Installation-Wide Multispecies Habitat Management Plan for Former Fort Ord, California	1997
HFO Fire Management Plan	2004
Southern Diablo Mountain Range and Central Coast California RMP and Final EIS/Record of Decision	2007
Vegetation Management and Herbicide Use Programmatic EIS	2007
Record of Decision for the Clear Creek Management Area RMP	2014

The preceding plans are incorporated in this RMPA/EIS by reference but are not included herein. Additional major plans, policies and programs that apply to BLM land use planning related to oil and gas development and leasing are described below. Other plans, policies and programs that apply to BLM land use planning in general are included in the 2007 RMP.

### **BLM RMP Amendment for Panoche-Coalinga Area of Critical Environmental Concern**

The Panoche-Coalinga ACEC stretches from the Panoche Hills southwards to Coalinga connecting a vast landscape of ancient desert habitats and open space with outstanding scenic and recreational values in the western San Joaquin Valley. The BLM public lands in the region are commonly referred to as the “San Joaquin Desert Hills.”

The Record of Decision (ROD) and Approved RMP for the Southern Diablo Mountain Range and Central Coast of California (BLM, 2007a) direct the agency to update the Panoche-Coalinga ACEC Management Plan (BLM, 1987). Therefore, BLM published a Notice of Intent in the Federal Register on September 18, 2012 (77 FR 57579) to address complex natural and cultural resource management issues in southern San Benito and western Fresno Counties.

Preliminary issues for the proposed plan amendment area identified by the BLM and other stakeholders include designation and management of special areas such as ACECs and Research Natural Areas (RNAs), special status species recovery, and lands available for disposal or potential acquisition.

As a result, BLM is considering expanding existing ACEC and RNA designations to existing and acquired public lands. Under the range of alternatives in this Draft EIS, portions of the potential Panoche-Coalinga ACEC expansion would be open to leasing with CSU stipulations, open to leasing with NSO stipulations, or closed to leasing.

### **BLM Wilderness Recommendations**

Wilderness studies were completed for all BLM lands as a requirement under Section 603 of the FLPMA. Wilderness areas are subject to specific management criteria, and their designation cannot be changed except by Congressional action. Within the CCFO Decision Area, the Ventana Wilderness is the only formally classified wilderness area. Additional lands that were classified as Wilderness Study Areas (WSAs) include: Bear Canyon and Bear Mountain WSAs, Panoche Hills North and South WSAs, and San Benito Mountain Research Natural Area (BLM, 2013). Wilderness areas and WSAs were closed to oil and gas leasing under the 2007 HFO RMP and would continue to be closed under all alternatives in the RMPA.

## BLM Enjoined Final Rule on Hydraulic Fracturing on Federal and Indian Lands

In March 2015, the BLM issued a final rule regarding hydraulic fracturing on Federal and Indian lands.<sup>7</sup> The BLM's hydraulic fracturing rule is intended to reduce risks to resources and the environment.<sup>8</sup> The standards included in the rule update the requirements for well-bore integrity, wastewater disposal, and public disclosure of chemicals, with prior approval of hydraulic fracturing operations. The rule also includes a process to allow states and tribes to request a variance from provisions for which there is a more protective regulation in place, and allows operators to apply for a site specific variance that would meet or exceed the requirements of the rule.

The rule includes the following key components:

- Provisions for ensuring the protection of usable groundwater supplies by requiring a validation of well integrity and strong cement barriers between the wellbore and water zones through which the wellbore passes;
- Increased transparency by requiring companies to publicly disclose chemicals used in hydraulic fracturing to the BLM through the website FracFocus, within 30 days of completing fracturing operations;
- Higher standards for interim storage of recovered waste fluids from hydraulic fracturing to mitigate risks to air, water, and wildlife; and
- Measures to lower the risk of cross-well contamination with chemicals and fluids used in the fracturing operation, by requiring companies to submit more detailed information on the geology, depth, and location of preexisting wells to afford the BLM an opportunity to better evaluate and manage unique site characteristics.

However, on June 21, 2016, the United States District Court for the District of Wyoming (Case No. 2:15-CV-043-SWS) set aside the March 2015 final rule.<sup>9</sup> The BLM subsequently appealed the District Court's decision to the 10th Circuit Court of Appeals (No. 16-8068). This rule is referenced throughout this Draft RMPA/Draft EIS and the assumption was that the rule would be in effect. However, the BLM, including the Central Coast Field Office, is not implementing this hydraulic fracturing rule while it continues to be subject to legal challenge. See Section 2.4 for further information regarding BLM's hydraulic fracturing rule.

In accordance with the 2012 Memorandum of Understanding (MOU) between the California State Office, U.S. Bureau of Land Management and the California Department of Conservation, these agencies will coordinate development and implementation of future hydraulic fracturing and cyclic steaming regulations.

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<sup>7</sup> That hydraulic fracturing rule has been set aside by the U.S. District Court in Wyoming, and thus the BLM is not implementing it. As explained below, the BLM has appealed that ruling. This footnote applies to all references to BLM's final rule regarding hydraulic fracturing throughout the entire Draft EIS.

<sup>8</sup> A recent draft report by the US EPA compared the number of verified adverse incidents involving hydraulic fracturing operations with the total number of the operations. "Assessment of the Potential Impacts of Hydraulic Fracturing for Oil and Gas on Drinking Water Resources," (EPA External Review Draft June 5, 2015, available at <http://cfpub.epa.gov/ncea/hfstudy/recordisplay.cfm?deid=244651>). It concluded that hydraulic fracturing does not present a widespread systematic risk to drinking water resources. But the threat to resources and the environment is greater than zero; the EPA documented several adverse incidents in several different states outside of California.

<sup>9</sup> A separate challenge to the BLM's hydraulic fracturing rule in the U.S. District Court for Colorado has been administratively closed while the parties negotiate.

## 1.5.2 Collaboration with other Agencies and Groups

### Intergovernmental and Interagency

The RMPA will allow the BLM the opportunity to review any agreements that may currently exist with other Federal, State, and local agencies to improve management of public land resources in the Planning Area. These agencies include:

- Alameda Planning Department
- Bay Area Air Quality Management District
- California Department of Conservation
- California Department of Fish and Wildlife
- California Division of Oil, Gas and Geothermal Resources
- California Geological Survey
- California Natural Resources Agency
- California Office of Historic Preservation
- California State Air Resource Control Board
- Central Coast Regional Water Quality Control Board
- Central Valley Regional Water Quality Control Board – Fresno Office
- Los Padres National Forest
- Monterey Bay Unified Air Pollution Control District
- San Francisco Bay Regional Water Quality Control Board
- San Joaquin Valley Air Pollution Control District (Central Office)
- State Water Resources Control Board
- Central Valley Regional Water Quality Control Board – Sacramento Office
- County of Contra Costa
- County of Fresno
- County of Merced
- County of Monterey
- County of San Benito
- County of San Joaquin
- County of San Mateo
- County of Santa Cruz
- County of Santa Clara
- County of Stanislaus
- Department of Toxic Substances Control
- Lawrence Berkeley National Laboratory
- U.S. Army Corps of Engineers
- U.S. Bureau of Reclamation
- U.S. Environmental Protection Agency (EPA), Region 9
- U.S. Fish and Wildlife Service
- U.S. Forest Service
- U.S. Geological Survey
- U.S. National Parks Service

### Tribal Relationships

The BLM has initiated Section 106 consultation with the 28 tribal individuals, organizations, and federally recognized tribes identified as having interests in the Planning Area. During scoping, the first EIS update was mailed to 28 tribal individuals and organizations (see Appendix E). Of the tribes contacted, the Ohlone/Costanoan-Esselen Nation was the only tribe that indicated a desire for consultation on any planned projects that may adversely impact known or predicted cultural resources and sacred sites within the tribe's aboriginal territory. Government-to-government consultation will continue throughout the RMPA process to ensure that the concerns of tribal groups are considered in development of the RMPA.

## 1.6 Related Federal, State, and Local Laws and Plans

A broad range of Federal, State and local laws guide development of the RMPA. Key laws with bearing on the planning decisions are discussed below.

**National Environmental Policy Act.** This legislation established a national policy to maintain conditions under which people and nature can exist in productive harmony and fulfill the social, economic, and other requirements of present and future generations of Americans. NEPA established the CEQ to coordinate environmental matters at the Federal level and advise the President on such matters. The law requires all Federal actions that could result in a significant impact on the environment to be subject to

review by Federal, tribal, State, and local environmental authorities, as well as affected parties and interested citizens.

**Federal Land Policy and Management Act.** The FLPMA of 1976 establishes the authority and provides guidance for how public lands are to be managed by the BLM. It defines BLM's mission to manage public lands on the basis of multiple use and sustained yield. The FLPMA requires that the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archaeological values be protected. It directs the BLM to develop and revise land use plans as needed for the management of public lands.

In order to implement the FLPMA, the BLM developed a Land Use Planning Handbook (H-1601-1) and NEPA Handbook (H-1790-1) that provide guidance on the requirements of the FLPMA, BLM's Planning Regulations (43 CFR 1600), and NEPA. The handbooks direct the BLM in preparing new RMPs, plan revisions, plan amendments, other equivalent plans (e.g., plans adopted from other agencies), and subsequent implementation-level plans. Procedures and requirements are set forth to ensure that the BLM's plans meet regulatory and statutory requirements. To the extent possible, this guidance integrates land use planning requirements with requirements under NEPA.

**Mineral Leasing Act.** The Mineral Leasing Act of 1920, as amended, gives the BLM the responsibility for oil and gas leasing on about 564 million acres of BLM, national forest, and other Federal lands, as well as State and private surface lands where mineral rights have been retained by the Federal government. As such, the BLM reviews and approves permits and licenses from companies to explore, develop, and produce oil and gas resources on both Federal and Native American lands. The BLM is also responsible for inspection and enforcement of oil, gas, and other development operations to ensure that lessees and operators comply with the lease requirements and BLM's regulations.

**Senate Bill 4.** Senate Bill (SB) 4 was passed into law on September 20, 2013, and amended multiple sections of the Public Resources Code and the Water Code of California. SB 4 defines multiple terms used in well stimulation treatment that include hydraulic fracturing and acid well stimulation. SB 4 creates a permitting system and requires operators to comply with public disclosure requirements and neighbor notification. It also builds in water testing and monitoring components for surface and groundwater near the fracturing treatment site.

**Clean Air Act.** The Federal Clean Air Act (CAA) of 1970, 42 United States Code (USC) 7401 et seq., as amended in 1977 and 1990, including the New Source Review (NSR) facility permitting programs applicable to construction or modification of specified stationary sources, New Source Performance Standards, and National Emission Standards for Hazardous Air Pollutants promulgated under the authority of the Federal CAA. The U.S. EPA, California Air Resources Board (ARB), and local air districts work together to classify each area as attainment, unclassified, or nonattainment depending on the historical levels of contaminants measured in the ambient air and the history of pollutants occurring at levels that do not attain the standards. Local air districts are responsible for developing an air quality management plan (AQMP) or clean air plan (CAP) where necessary to attain the California air quality standards, while the ARB develops and implements statewide air pollution control plans to achieve and maintain the national air quality standards, known as the State Implementation Plan (SIP).

**National Historic Preservation Act.** The National Historic Preservation Act (NHPA) is the primary Federal law providing for the protection and preservation of cultural resources. The NHPA established the National Register of Historic Places, the Advisory Council on Historic Preservation, and the State Office of Historic Preservation.

**Native American Consultation per Executive Orders 12866, 13084, et seq.** Executive Order 13084 establishes requirements for meaningful consultation and collaboration with Indian tribal governments in the development of regulatory practices on Federal matters that significantly or uniquely affect their com-

munities. Executive Order 12866 is intended to enhance planning and coordination with respect to both new and existing regulations and to make the process more accessible and open to the public.

**Endangered Species Act.** Management activities on private and public lands are subject to the Federal Endangered Species Act of 1973 (ESA), as amended. The ESA directs project proponents or government agencies, as appropriate, to consult with the U.S. Fish and Wildlife Service (USFWS) and/or National Oceanic and Atmospheric Administration Fisheries Service (NOAA Fisheries) to address the effects of management activities on threatened and endangered species and designated critical habitats. Consultation leads to the issuance of a Biological Opinion and may result in issuance of a Section 10(a) permit (for non-Federal actions) or a Section 7 permit (for Federal actions) by the USFWS and/or NOAA Fisheries.

**Migratory Bird Treaty Act.** The Migratory Bird Treaty Act (MBTA) is the domestic law that implements the United States' commitment to four international conventions (with Canada, Japan, Mexico, and Russia) for the protection of a shared migratory bird resource. The MBTA decrees that all migratory birds and their parts (including eggs, nests, and feathers) be fully protected. Each of the conventions protects selected species of birds that are common to multiple countries (i.e., they occur in both countries at some point during their annual life cycle). The MBTA is implemented by the USFWS. BLM will be required to manage the bird populations on BLM-administered public lands consistent with the requirements of the MBTA.

**Bird Conservation Plans.** The Point Reyes Bird Observatory (PRBO) has developed an approach to address bird conservation and habitat issues on a continental scale in cooperation with a voluntary, international coalition known as Partners In Flight. The California Partners In Flight (CalPIF) program has completed six habitat- and bioregion-based Bird Conservation Plans (BCPs) for riparian, oak woodlands, coastal scrub and chaparral, grasslands, coniferous forests, and the Sierra Nevada bioregion. One of the main goals of the CalPIF BCP is to document the health and status of bird populations across the entire state. To this end, the PRBO has developed a database of CalPIF bird monitoring sites and has served as a repository for species breeding-status information for the entire state. Combined with the associated CalPIF study areas database and focal species breeding-status database, these plans provide the foundation for adaptive conservation management in California's habitats (BLM, 2007a).

**Anadromous Fish Management.** The Interim Management Strategies for Managing Anadromous Fish-Producing Watersheds on Federal Lands in Eastern Oregon and Washington, Idaho, and Portions of California (PACFISH, 1995) amended land use plans to include these standards and guidelines for all management activities. The 2007 Hollister Field Office RMP incorporates the PACFISH standards and guidelines, and the RMPA would be consistent with and/or complementary to these strategies.

## 1.7 Overall Vision

The overall vision of the RMPA planning effort is to provide a collaborative community based planning approach to update the existing management decisions and resource allocations for oil and gas leases by addressing new data, changing resource conditions, and changes in the use of public land that have occurred since the 2007 Hollister Field Office RMP was completed. The BLM expects that numerous partners and cooperating agencies will become involved in this process and will assist in providing a variety of data in support of this effort.