

US EPA ARCHIVE DOCUMENT



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

December 9, 2011

Ms. Sue Porter
Planning and Environmental Coordinator
Bakersfield Field Office, BLM
3801 Pegasus Drive
Bakersfield, CA 93308

Subject: Bakersfield Draft Resource Management Plan and Environmental Impact Statement, California
(CEQ# 20110295)

Dear Ms. Porter:

The U.S. Environmental Protection Agency has reviewed the Draft Environmental Impact Statement for the Bakersfield Draft Resource Management Plan pursuant to the National Environmental Policy Act, Council on Environmental Quality regulations (40 CFR Parts 1500-1508), and Section 309 of the Clean Air Act.

The Bakersfield RMP/EIS will establish goals, objectives, and management actions for public lands under the administrative jurisdiction of the BLM's Bakersfield Field Office in an eight county region of central California. EPA supports the development of a comprehensive RMP to guide future management actions. The EPA commends the BLM for developing a broad range of alternatives for sustainably managing the Planning Area, and is pleased that a number of protective measures have been incorporated into the preferred alternative (Alternative B). These measures include a reduction in available motorized routes, which would prevent further habitat loss and disturbance to wildlife; additional protection for lands with wilderness characteristics; the designation of new Areas of Critical Environmental Concern; and strategies to maintain and enhance water quality.

Based on our review of the Draft RMP/EIS, we have rated the preferred alternative and the document as EC-2, Environmental Concerns – Insufficient Information (see enclosed EPA Rating Definitions). The EPA is particularly concerned with proposed fluid mineral development and how associated emissions would affect the State Implementation Plans for the nonattainment areas located within the Planning Area, as well as the potential impact of such emissions on Class I areas. The EPA is also concerned that waterway segments warranting protection may lose their Wild and Scenic characteristics, surface water and groundwater resources may not be adequately protected, and newly listed animal and plant species may be adversely impacted.

Consistent with these concerns, we have recommended changes to the preferred alternative to provide greater protection to air and aquatic resources as well as associated soils and vegetation. We recommend that the preferred alternative be modified to: adopt all proposed ACECs, include pursuit of congressional designation for all eight of the Wild and Scenic waterway segments, fully protect lands identified with wilderness characteristics, and include further protections for high value wetland and riparian areas.

We recommend that the Final RMP/EIS provide additional information describing the potential for the development of renewable energy and transmission lines, and the management measures that would be implemented to protect and restore rangeland health from grazing. Additionally, we recommend the BLM include a climate change mitigation and adaptation plan within the RMP/EIS to account for, minimize, and mitigate the effects of climate change. Our detailed comments are enclosed.

We appreciate the opportunity to review this Draft RMP/EIS, and are available to discuss our comments. When the Final RMP/EIS is released for public review, please send one hard copy and one CD-ROM to the address above (Mail Code: CED-2). If you have any questions, please contact me at 415-972-3521, or contact Tom Plenys, the lead reviewer for this project. Tom can be reached at 415-972-3238 or plenys.thomas@epa.gov.

Sincerely,

/s/

Kathleen Martyn Goforth, Manager
Environmental Review Office

Enclosure: Summary of the EPA Rating System

Air Quality

The EPA believes that the Draft RMP/EIS contains insufficient information to evaluate and disclose potential impacts to air quality (including cumulative and indirect impacts) and air quality related values for all the National Ambient Air Quality Standards for each fully evaluated alternative. Because the San Joaquin Valley Air Basin has some of the worst 8-hour ozone and PM_{2.5} problems in the nation, it is important to reduce emissions of ozone and particulate matter precursors, in addition to direct PM, in the Planning Area to the maximum extent.

A thorough analysis of air quality is also essential because of the proximity of the proposed development and its associated projected emissions to eight federal Class I areas (Yosemite, Kings Canyon and Sequoia National Parks; Kaiser, John Muir, Dome Land, San Rafael and Minarets Wilderness Areas). In addition to these sensitive areas within the RMP Planning Area, six additional Class I areas are located within 75 km of the planning boundary (p. 207).

The RMP/EIS process presents an ideal opportunity to disclose and analyze the potential impacts from past and future resource development in non-attainment areas and in close proximity to Class I areas. While we note a cursory description of secondary particulate matter formation in the Draft RMP/EIS (p. 205), the detailed air quality analysis for each alternative is limited to direct PM_{2.5} emissions. In light of the San Joaquin Valley Air Basin's PM_{2.5} non-attainment status, characterization of precursor emissions and impacts of secondary PM_{2.5} is particularly important.

Recommendations:

- Quantify, for each alternative in the Final RMP/EIS, secondary PM_{2.5} formation resulting from nitrogen oxides, volatile organic compounds and sulfur oxides associated with all foreseeable activities discussed in the Draft RMP/EIS.
- Discuss, for each alternative, impacts to air quality related values for each Class I area identified.

Oil and Gas Air Analysis

The EPA compliments the BLM on the development and inclusion of reasonably foreseeable development scenarios for oil and gas activity (Appendix M) as well as the emissions inventory in Appendix A. The no action alternative anticipates, as a baseline, an additional 3,600 new wells over the next ten years, based on the approval rate of 360 wells in 2010 (p. A-18). The emissions inventory, which relies on the 2009 California Air Resources Board Emissions Almanac, indicates emissions are anticipated to only increase 10% under the preferred alternative, as compared to the no action alternative, due to the drilling of an additional 400 new wells over the next ten years (p. A-18). Without an air quality impact analysis to confirm otherwise, EPA must assume that the predicted cumulative emissions from the estimated 4,000 new wells are potentially substantial. Further, it is unclear whether the 2009 emissions inventory truly reflects 360 wells drilled on an annual basis given that the number of wells authorized has varied considerably over the past 10 years. Therefore, it is also unclear whether BLM has quantified the cumulative air quality impact due to emissions from existing oil and gas production in the Planning Area in conjunction with the 4,000 planned wells for the duration of the planning horizon.

To address potential impacts associated with the emission increases, the EPA recommends the BLM utilize BLM Wyoming's recently developed Lander Air Resources Management Plan as a template to apply to the Bakersfield RMP and incorporate into the Final RMP/EIS. The Air Resources Management Plan outlines specific requirements, including modeling and mitigation, for proponents of projects that have the potential to generate air emissions and adversely impact air resources within the Planning Area.

Since the development of the Bakersfield Draft RMP/EIS, the EPA, U.S. Department of Interior and the U.S. Department of Agriculture signed a *Memorandum of Understanding Regarding Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions Through the NEPA Process*. The EPA notes that the Bakersfield Draft RMP/EIS was issued within 90 days of the effective date of the MOU; therefore, the MOU's provisions are not directly applicable to this RMP/EIS. Nonetheless, the EPA recommends that BLM more directly integrate the standardized approach developed in the MOU into an Air Resources Management Plan for the Bakersfield Final RMP/EIS.

Recommendations:

- Calculate emissions from existing active wells within the Planning Area as well as the approximate 4,000 new wells expected to be drilled over the next 10 years. Confirm that the 2009 ARB emissions inventory, relied upon in Appendix A, reflects a rate of 360 new wells per year as assumed under the No Action Alternative. Amend analyses as appropriate.
- Incorporate into the Bakersfield Final RMP/EIS an Air Resources Management Plan, using BLM Wyoming's recently developed Lander Air Resources Management Plan, adapted as necessary, as a template. A draft of the plan can be found at: <http://www.blm.gov/pgdata/etc/medialib/blm/wy/programs/planning/rmps/lander/drmp-eis/vol3.Par.70973.File.dat/Vol3-017apdF.pdf>
- Discuss the applicability (or lack of applicability) of, and integrate standardized approaches developed in, the *Air Quality Analyses and Mitigation for Federal Oil and Gas Decisions* MOU in the Air Resources Management Plan to be included in the Bakersfield Final RMP/EIS.

EPA prefers that the Final RMP/EIS include a quantitative analysis that utilizes air quality modeling of the potential impacts of activities authorized under the Bakersfield RMP. EPA believes that including air quality modeling necessary to accurately estimate potential impacts in the Final RMP/EIS will maximize the ability of BLM to identify, evaluate and implement important land management decisions and protect air quality. Absent this analysis, it is not possible to determine what, if any, mitigation measures may need to be broadly implemented in the Planning Area. Nonetheless, we agree that air quality impacts can be adequately evaluated and disclosed, provided that BLM pursues one of the following approaches:

- 1) Conduct basin-wide dispersion modeling based on the emissions inventory and include this information in the Final RMP/EIS; or
- 2) Utilize representative photochemical grid modeling planned for another project with the appropriate modeling domain for the SJV to determine the contribution of the RMP activities and include this information in the Final RMP/EIS; or
- 3) Include an air resources management plan (using Landers as a template). The air resources management plan should be included in the Final RMP/EIS and contain additional detail clarifying how and when modeling will be performed and what mitigation could be implemented.

General Conformity

We were pleased to note BLM's ten step process to comply with federal conformity requirements will be completed for the preferred alternative for ozone prior to the issuance of the Record of Decision (p. 382 and A-11); however, Section 4.1.7 does not make it clear to what extent conformity analyses will be conducted on a project specific basis for actions proposed under this RMP/EIS. Additionally, in light of the San Joaquin Valley Air Basin's current "maintenance" attainment status for carbon monoxide, EPA recommends CO be incorporated into any future conformity analyses.

Recommendations:

- Clarify in the Final RMP/EIS the General Conformity regulatory framework and how it applies to the proposed RMP and future project-specific implementation. The Final RMP/EIS should demonstrate conformity for all pollutants for which the San Joaquin and the South Central Coast Air Basin are in nonattainment or maintenance status, and whose construction or operational emissions would exceed the applicable de minimis levels. Conformity may be demonstrated by showing that the total direct and indirect emissions from the action are specifically identified and accounted for in the SIP.
- If analysis of general conformity to the SIP is more appropriate at the project-specific analysis level, we recommend the Final RMP/EIS include a specific commitment to future project-specific general conformity analysis.

Mitigation

In light of the exceptionally poor air quality in the majority of the Planning Area, EPA recommends the Final RMP/EIS include commitments to aggressive air quality mitigation measures during future project-specific construction. Future construction-related emissions of nitrogen oxides, a precursor for ozone and secondary PM formation, and direct PM could exacerbate nonattainment air quality standards and contribute to adverse cumulative air quality impacts. Mitigation measures will be necessary to reduce these construction emissions.

EPA supports incorporating mitigation strategies to minimize fugitive dust emissions, as well as emission controls for PM and ozone precursors for construction-related activity. In addition to all applicable local, state, or federal requirements, EPA recommends that the following mitigation measures be included in project-specific Construction Emissions Mitigation Plans in order to reduce impacts associated with emissions of PM, NO_x, ROG and other toxics from construction-related activities:

Recommendations:

Fugitive Dust Source Controls:

- Stabilize open storage piles and disturbed areas by covering and/or applying water or chemical/organic dust palliative where appropriate at active and inactive sites during workdays, weekends, holidays, and windy conditions;
- Install wind fencing and phase grading operations where appropriate, and operate water trucks for stabilization of surfaces under windy conditions; and
- Prevent spillage when hauling material and operating non-earthmoving equipment and limit speeds to 15 miles per hour. Limit speed of earth-moving equipment to 10 mph.

Mobile and Stationary Source Controls:

- Plan construction scheduling to minimize vehicle trips;

- Limit idling of heavy equipment to less than 5 minutes and verify through unscheduled inspections (Note: The California Air Resources Board has a number of mobile source anti-idling requirements, see their website at: <http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm>);
- Maintain and tune engines per manufacturer's specifications to perform at CARB and/or EPA certification levels, prevent tampering, and conduct unscheduled inspections to ensure these measures are followed;
- If practicable, lease new, clean equipment meeting the most stringent of applicable Federal¹ or State Standards². In general, commit to the best available emissions control technology. Tier 4 engines should be used for project construction equipment to the maximum extent feasible³;
- Lacking availability of non-road construction equipment that meets Tier 4 engine standards, the responsible agency should commit to using CARB and EPA-verified particulate traps, oxidation catalysts and other appropriate controls where suitable to reduce emissions of diesel particulate matter and other pollutants at the construction site; and
- Consider alternative fuels such as natural gas and electricity (plug-in or battery).

Administrative controls:

- Prepare an inventory of all equipment prior to construction and identify the suitability of add-on emission controls for each piece of equipment before groundbreaking;
- Develop a construction traffic and parking management plan that maintains traffic flow and plan construction to minimize vehicle trips; and
- Identify sensitive receptors in the project area, such as children, elderly, and infirmed, and specify the means by which you will minimize impacts to these populations (e.g. locate construction equipment and staging zones away from sensitive receptors and building air intakes).

Protection of Groundwater Resources

While the Draft RMP/EIS recognizes that groundwater quality in the Planning Area has been deteriorating, the characterization of groundwater in the Draft RMP/EIS does not include up-to-date information necessary to protect groundwater water resources. The Draft RMP/EIS does not contain a current and complete evaluation of these resources, including drinking water resources, recharge areas, aquifer sensitivity, wellhead protection areas and source water protection zones.

Recommendations:

- Incorporate the most current and up-to-date evaluation of drinking water resources, recharge areas, aquifer sensitivity, wellhead protection areas and source water protection zones into the Final RMP/EIS.
- Describe, for each alternative, potential impacts to the resources mentioned above.
- Include a commitment in the Final RMP/EIS to annually confirm that the most current groundwater information is being applied in the Planning Area. Analysis of this updated information in the Final RMP/EIS will maximize the ability of the BLM to determine where

¹ EPA's website for nonroad mobile sources is <http://www.epa.gov/nonroad/>.

² For ARB emissions standards, see: <http://www.arb.ca.gov/msprog/offroad/offroad.htm>.

³ Diesel engines < 25 hp rated power started phasing in Tier 4 Model Years in 2008. Larger Tier 4 diesel engines will be phased in depending on the rated power (e.g., 25 hp - <75 hp: 2013; 75 hp - < 175 hp: 2012-2013; 175 hp - < 750 hp: 2011 - 2013; and \geq 750 hp 2011- 2015).

leasing stipulations and/or mitigation and monitoring measures are needed to protect current and future drinking water resources.

Mitigation Measures

The Draft RMP/EIS provides insufficient information regarding mitigation measures that could be employed to protect groundwater resources. Important groundwater aquifers in the Bakersfield Field Office Planning Area must be protected as oil and gas development proceeds. Oil and gas activities, including construction, drilling, well stimulation, pipelines, produced fluid storage, transport, and management provide opportunities for the introduction of contamination, including petroleum compounds (e.g., benzene, toluene, xylene, etc) and well stimulation and maintenance fluids, into the groundwater. According to the Draft RMP/EIS, BLM follows existing implementation guidelines and includes Conditions of Approval (COA) for groundwater resource protection in its authorizations for permit to drill (APDs) (p. 256); however, the Draft RMP/EIS does not provide the specificity needed to assess the adequacy of these guidelines.

Recommendations:

- Provide additional information in the Final RMP/EIS on the types of measures BLM plans to implement, including the circumstances under which any Best Management Practices may be applied for oil and gas activity.
- Include, in the Final RMP/EIS, a list of BMPs that may be required to protect groundwater resources as oil and gas development proceeds. The EPA recommends the BLM consider the groundwater BMPs that were developed for Wyoming's Pinedale Anticline oil and gas field in response to monitored groundwater contamination.
- Identify circumstances under which the BMPs would be applied (e.g., wetlands, shallow water aquifers, proximity of water wells.)
- Identify how BMPs would be monitored and enforced.

Monitoring

The Draft RMP/EIS provides insufficient information to evaluate the adequacy of any groundwater monitoring program. The Draft RMP/EIS does not indicate how and where the monitoring would be triggered or implemented. The EPA believes this information is necessary to evaluate the adequacy of the proposed monitoring program and, therefore, requests that it be included in the Final RMP/EIS.

An essential component of future project-level monitoring is baseline and long-term monitoring for private wells and clearly defining how the water supply will be replaced in the event that it is impacted. Monitoring is important to ensure that mitigation measures are adequate and groundwater resources are being fully protected.

Groundwater baseline monitoring may also be necessary to identify the depths of aquifers that are used or could be used in the future for drinking water, referred to as Underground Sources of Drinking Water (USDWs). Aquifers are presumed to be USDWs unless they have been specifically exempted or if they have been shown to fall outside the definition of USDW.

Recommendations:

- In the absence of modeling to determine the distance from a project at which impacts may occur, we recommend the BLM adopt a requirement for monitoring to occur in private wells within one mile of an oil and gas project area (the BLM Pinedale Anticline project and the

U.S. Forest Service Eagle Prospect project are examples of projects for which similar monitoring programs have been established).

- Include a commitment that future project-level NEPA analyses for oil and gas development will contain a specific comprehensive monitoring plan and program to track groundwater impacts as drilling and production operations occur.

Hydraulic Fracturing

The Draft RMP/EIS describes many of the oil fields in California as well past their peak production rates, with many nearing the end of the reserves that can be extracted economically. However, due to higher oil prices and new technologies, the Draft RMP/EIS indicates that enhanced oil recovery techniques and horizontal drilling could significantly increase the percentage of oil recovered profitably (p. 288). The Draft RMP/EIS does not specify whether hydraulic fracturing will be utilized, nor does it assess the number of wells that presently, or in the future, would utilize hydraulic fracturing.

The Final RMP/EIS should fully discuss the extent to which hydraulic fracturing may be utilized and the areas where such activity could take place. The potential long-term impacts of dewatering and hydraulic fracturing to groundwater and potential sources of drinking water could be severe if not managed appropriately. Contamination associated with hydraulic fracturing in the Planning Area could threaten the suitability of the aquifers for future use.

Recommendations:

- Discuss, in the Final RMP/EIS, the potential use of hydraulic fracturing in future well drilling under each alternative, including the no action alternative.
- Analyze the potential impacts to groundwater resources in areas where hydraulic fracturing may occur.
- Incorporate, into the Final RMP/EIS, all measures to ensure groundwater resource protection from hydraulic fracturing, and describe any steps necessary to ensure BLM incorporates such measures into its permits.
- Identify, in the Final RMP/EIS, the potential future requirements applicable to operators for gathering information on water quality and depth of useable groundwater, and subsequently complying with protective requirements, as appropriate.

Surface Waters and Wetlands

BLM should clarify the extent of waters of the U.S. in the Planning Area. Volume 2, section 4.9 states that surface water resources are "not notably extensive" in the Planning Area, and directs the reader to Volume 1, Figure 3.13 for reference. This map, which shows major drainages in the Planning Area, is not an accurate portrayal of surface waters that should be considered when assessing potential impacts. Given the size and topography of the Planning Area, EPA would consider there to be, in fact, extensive perennial, intermittent, and ephemeral drainages that qualify as waters of the U.S. and waters of the state and that warrant consideration and protection under the RMP/EIS. Further, the Draft RMP/EIS lists vernal pools and other ephemeral waters as upland habitats in the Biological Resources sections, and excludes them from the Water Resources sections.

Recommendations:

- The Final RMP/EIS should correct statements and graphic representations that inaccurately portray the study area as having limited surface water features and consider all waters of the U.S. when determining potential impacts.

- Discuss, in the Final RMP/EIS, all surface waters, including vernal pools and other ephemeral waters, in the Water Resources sections. Discuss and incorporate protections for ephemeral/intermittent waters under each alternative fully evaluated.

Section 4.9.3 states that management actions would not further impair the 303(d) listed Salinas River.

Recommendation:

- Discuss, in the Final RMP/EIS, what measures BLM can or cannot take (if outside its jurisdiction) to address chloride and sodium discharges from the Santa Margarita Reservoir.

It does not appear that the Draft RMP/EIS addresses the jurisdictional status of wetlands in the Planning Area. We recommend that a preliminary assessment of wetland jurisdiction be included in the Final RMP/EIS. Having this information readily available will be of use to BLM in future project planning by enabling focus of management practices on areas where sensitive resources are most at risk of being impacted. We further recommend that the RMP/EIS explain that jurisdiction will be determined in future project-specific EISs. Further, in the absence of a current National Wetlands Inventory for the full Planning Area, we suggest that the BLM prepare an inventory of aquatic resources, characteristics, functions and overall ecological health. Having such an inventory will provide greater wetland and riparian area protection in the Planning Area by providing information that can be used by BLM when authorizing surface disturbance or planning mitigation for unavoidable impacts to wetlands. Because preparation of an inventory may take time, we recommend that the Final RMP/EIS explain how BLM plans to undertake an aquatic resource inventory.

Recommendations:

- Include a preliminary assessment of wetland jurisdiction in the Final RMP/EIS.
- Clarify, in the Final RMP/EIS, how jurisdiction will be determined in future project-specific EISs.
- Prepare an inventory of aquatic resources, characteristics, functions and overall ecological health.
- Consider whether any high value wetland or riparian area would warrant protection through a No Surface Occupancy stipulation and integrate such protections into Appendix L – BMPs/SOPs.
- If there is any question as to the jurisdictional status of waters in the Planning Area, we recommend that BLM consult with the local U.S. Army Corps of Engineers office.

Wild and Scenic Rivers

Alternatives C and D will pursue congressional designation of all 8 proposed waterway segments as Wild and Scenic; however, the preferred alternative, Alternative B, only proposes designation for 2 of the 8 waterway segments. The EPA is concerned that waterway segments warranting protection may lose their wild and scenic characteristics under the preferred alternative. The EPA strongly recommends that any segments found suitable upon BLM's re-analysis after receipt of public comment continue to be managed to protect and enhance the outstandingly remarkable values, and that this commitment be included in the Final RMP/EIS and, ultimately, the Record of Decision.

Recommendation:

- Pursue designation of all 8 waterway segments in Alternative B and discuss existing and future opportunities for BLM to acquire shorelines from landowners by donation, exchange, transfer, or easements, to protect other river segments from adjacent/incompatible land use

and make them suitable for future Wild and Scenic designation.

Biological Resources

The Draft RMP/EIS indicates that BLM is currently operating under Biological Opinions the USFWS has issued for management activities: the 1997 Caliente RMP Biological Opinion, which serves as a comprehensive BO for activities conducted under the RMP, and the 2001 Oil and Gas Programmatic BO, which outlines certain criteria oil and gas related projects within a specific geographic area must meet to be authorized without a separate consultation (p. 19). Since 1997, the USFWS has listed as threatened or endangered at least an additional 11 plants and animals potentially found in the Planning Area (p. 12). Further, the Draft RMP/EIS notes that the trend within the Planning Area is a continued fragmentation, degradation and loss of natural habitats, followed by a reduction in biodiversity (p. 220). The Draft RMP/EIS also proposes to open lands for fluid mineral leasing within the range of federally proposed and listed species (p. 54 & 71).

While we understand that new Biological Opinions would be sought in the future to account for new information regarding listed species (p. 19), we recommend BLM discuss with USFWS, at this stage of the RMP development process, the best approach to ensure current Biological Opinions are informing the decision process for this RMP/EIS. Biological Opinions can play an important role in informing the decision on which alternative to approve and what commitments, terms, and conditions must accompany that approval.

Recommendations:

- We urge BLM to coordinate with USFWS on the timing of the Final RMP/EIS and future Biological Opinions. The Final RMP/EIS should provide an update on the consultation process. We strongly recommend including all updated, or new, Biological Opinions as an appendix.
- Mitigation and monitoring measures that result from consultation with USFWS to protect sensitive biological resources, including threatened and endangered species, should be included in the Final RMP/EIS and, ultimately, the ROD.

Areas of Critical Environmental Concern (ACEC) and Wilderness Study Areas (WSAs)

The preferred alternative designates 99,490 acres as ACECs, as compared to 108,248 acres under Alternatives C and D. The five ACECs not proposed for designation would be subject to risks from surface disturbing activities and locatable mineral development (p. 531). The preferred alternative proposes 1,880 acres as WSAs, as compared to 21,140 acres under Alternatives C and D. Areas not designated as WSAs have the potential to lose wilderness characteristics over time. Areas designated as ACECs and WSAs could also better protect water resources and result in major short-and long-term benefits to watershed health. Additionally, benefits to recreation may also be greater where special management designations occur since closures and restrictions preserve natural and cultural resources and unaltered natural settings in these areas.

Recommendations:

- EPA recommends the greater use of ACECs and WSAs in the preferred alternative for the protection of resources. We recommend acreage protected for the preferred alternative be closer to that of Alternative C, to maximize protection of unique values including, but not limited to, habitat for state and federally listed wildlife species and important cultural resources.

- We recommend including the additional ACECs proposed under Alternative C into the preferred alternative, specifically: Chico Martinez ACEC (4,607 acres), Granite Cave ACEC (42 acres), Irish Hills ACEC (1,654 acres), Rusty Peak ACEC (787 acres) and Salinas River ACEC (1,604 acres).
- We also recommend inclusion of all 11 WSAs to ensure protection of wilderness characteristics through closure and withdrawal from mineral development and OHV use.
- The Final EIS/RMP should discuss the short- and long- term benefits to watershed health, recreation and preservation of natural and cultural resources, resulting from the additional protection of WSAs and ACECs.

Biological Monitoring and Adaptive Management Plan

Surface disturbance and disruptive activities, such as OHV use and grazing, can cause loss of habitat, habitat fragmentation, and wildlife displacement. In order to evaluate the impacts on threatened and endangered species, baseline conditions must be determined before such activities are authorized or initiated.

Recommendation:

- EPA recommends that BLM establish a monitoring and adaptive management plan for threatened and endangered species. Baseline conditions should be determined before activities that would disturb the area are authorized or initiated, and a monitoring and adaptive management plan should be established to evaluate and respond to the impacts on resources in the Planning Area. A description of the monitoring and adaptive management plan, and funding necessary to implement this plan, should be included in the Final RMP/EIS.

Development of Renewable Energy and Transmission Lines

The Draft RMP/EIS indicates the Planning Area is not particularly well suited for development of solar or wind energy, or biomass development at the utility scale (p. 277). However, it is our understanding that a number of solar projects (e.g. Topaz and California Valley Solar Farms), as well as wind projects (e.g. Rising Tree), have been proposed in, or very near, the Planning Area. It is also our understanding that developers have expressed interest in tapping solar resources in the San Joaquin Valley. We note that the Draft RMP/EIS recognizes BLM's Programmatic EIS on Wind Energy Development as well as the in-progress BLM/DOE Solar Energy Development Programmatic EIS; however, it is unclear in the Draft RMP/EIS what the renewable energy development scenario is for the Bakersfield Decision Area.

Recommendation:

- The EPA recommends that the BLM provide additional information in the Final RMP/EIS detailing the suitability of the Bakersfield Planning Area for renewable energy development; anticipated renewable energy and transmission projects (both pending, and reasonably foreseeable); and how changes resulting from the Solar Programmatic EIS and the Desert Renewable Energy Conservation Plan will be incorporated into the Bakersfield RMP/EIS.

Climate Change

Addressing the issues of climate change is highlighted in Chapter 1 as one of the top six planning issues that were addressed during development of alternatives (p. 1-13). The Draft RMP/EIS provides only limited information about the greenhouse gas emissions that would be generated in the Planning Areas

once the Resource Management Plan is implemented. The Draft RMP/EIS indicates that “analytical tools necessary to quantify climatic impacts at the project levels are presently unavailable” and “there are no tools available to estimate potential impacts to climate change within the planning area” (p. 384). This is a concern, because both Executive Order 13514 and Secretarial Order No. 3289, among other directives, have charged the BLM with accounting for, and reducing, emissions resulting from Federal land management practices, and considering and analyzing potential climate change impacts when developing multi-year management plans. Considering that the RMP/EIS, once implemented, will guide resource management decisions in the Planning Areas for many years to come, the BLM should choose an alternative that minimizes and mitigates GHG emissions to the greatest reasonable extent.

The EPA believes that the long duration of this management plan (most likely two or three decades), and the extreme warming anticipated for the southwestern United States, warrants a climate change mitigation and adaptation plan to account for, minimize, and mitigate the effects of climate change.

Recommendations:

- The BLM should consider whether a quantitative comparison of projected GHG emissions for the preferred alternative, as well as the other alternatives, would be useful to decision-makers and the public, and, if so, include this information in the Final RMP/EIS. The Final RMP/EIS should also identify options for and mitigating greenhouse gas emissions.
- The Final RMP/EIS should discuss the applicability of, and utilize as appropriate, the climate change and carbon tools highlighted by the Forest Service’s Climate Change Resource Center. Additional information at: <http://www.fs.fed.us/ccrc/tools/>
- The BLM should include a climate change mitigation and adaptation plan in the Final RMP/EIS.

Grazing and Rangeland Health

Grazing use can significantly affect the functional condition of wetland and riparian areas over the long term by increasing erosion, compaction, sedimentation, and runoff rates. These impacts lead to changes in channel geomorphology and water quality, including increases in temperature, nutrients, fecal coliform, total suspended solids, turbidity, and other contaminants.

Recommendation:

- BLM should vigorously manage grazing in riparian and wetland areas that are functioning at risk in a static or downward trend in order to facilitate their recovery. Discuss and incorporate protection measures and management actions in the Final RMP/EIS.