

## Public Comments and BLM Responses on the Revised Draft SEIS Federal Agencies

**Comment Number**            **FA-1-1-AQ-1**

### **Comment**

Specifically, EPA recommends that the Revised SEIS include the air quality mitigation commitments set forth in the December 2006 Draft SEIS that if modeling cannot demonstrate achievement of this goal within five years of the ROD being signed, the Operators, BLM, EPA, and WDEQ would jointly agree to a mitigation plan that complies with the goal of zero days, using any and all available means.

### **Response**

Thank you for your comment. Please see responses to Comment FA-5-1-AQ-1, Comment FA-5-2-AQ-2, Comment FA-5-2-AQ-4, and Comment FA-5-2-AQ-6.

**Comment Number**            **FA-1-2-AQ-2**

### **Comment**

In view of the ozone levels monitored, modeled and predicted, EPA recommends that an air quality mitigation strategy be developed to address not only NO<sub>x</sub> sources, but include measures to control other O<sub>3</sub> forming precursors such as volatile organic compounds (VOCs) and formaldehyde. The SEIS should also include modeled demonstrations that the proposed action will not incrementally contribute to violations of a NAAQS.

### **Response**

Modeling did not show exceedances of the NAAQS and WAAQS for ozone at the time the Revised Draft SEIS was released for public comment. Incremental modeling for ozone was not performed because the Proposed Action and the mitigated 80 percent Nox reduction case demonstrated compliance with the NAAQS at the time the Revised Draft SEIS was released for public comment. Performing the incremental analysis would require four additional ozone modeling runs above the two model runs that have already been performed. Mitigation has been identified in the Final SEIS.

**Comment Number**            **FA-1-3-AQ-3**

### **Comment**

The design value predictions for the reported modeling for Alternative C (Alternative C is similar to BLM's Preferred Alternative) were based on an 80 percent NO<sub>x</sub> reduction in the PAPA after four years with intervening years of 20 percent stepped decreases in NO<sub>x</sub> emissions. For the intervening years, predicted O<sub>3</sub> design value concentrations have not been reported. These values may be considerably higher and EPA recommends they be reported in the SEIS.

**Response**

See response to Comment FA-1-2-AQ-2 for discussion on intermediate modeling. The BLM believes that these values would not be considerably higher.

**Comment Number**            **FA-3-AQ-4****Comment**

Figure 4-4 of Appendix H of the Air Quality Impact Analysis Technical Support Document for the Revised Draft SEIS upper right map depiction for Alternative C (Alternative C is similar to Alternative D, BLM's Preferred Alternative) presents the predicted difference in O<sub>3</sub> design value impacts from Alternative C with Phase II mitigation to the base case scenarios. Please clarify the location of the maximum impact location from this figure. Furthermore, the difference of 5.5 ppb presented in Figure 4-4 is not represented in Table 4-1 of Appendix H. EPA recommends the maximum predicted O<sub>3</sub> concentration near the PAPA and approximate location of these impacts be presented in the SEIS.

**Response**

Figure 4-4 of Appendix H in the Revised Draft SEIS will be revised to clarify the location of the maximum impact. Table 4-1 shows model predictions following EPA MATS guidance and Figure 4-4 displays absolute ozone modeling results. These are two different modeling techniques and cannot be related to each other.

**Comment Number**            **FA-1-3-AQ-5****Comment**

Ozone concentrations were predicted for cumulative sources in the PAPA and surrounding areas. EPA recommends the SEIS disclose ozone concentrations for PAPA specific sources in order to determine the direct project impacts. In addition, EPA recommends the analysis disclose the absolute modeled results in addition to the results calculated under EPA's guidance approach.

**Response**

Project specific ozone impacts cannot be determined from these modeling techniques. Ozone formation is estimated based on regional emissions. It is possible to estimate the effect that the project has on the ambient ozone concentrations by modeling regional emissions with and without the project emissions and calculating the difference.

**Comment Number**            **FA-1-3-AQ-6****Comment**

EPA Guidance Ozone - Projection Approach EPA guidance for projecting future ozone concentrations using relative reduction factors to scale current observed ozone design values is

required for State Implementation Plan (SIP) modeling in urban non-attainment areas. The approach is useful in the context of the current study; however, the ozone monitoring network is very sparse compared to urban monitoring networks. For this reason EPA recommends the absolute model prediction of maximum ozone concentrations be presented in addition to the "scaled" modeled attainment test (MATS) results used in SIP modeling.

**Response**

The maximum ozone concentrations are shown in Table 4.9-2 on page 4-77 of the Revised Draft SEIS.

**Comment Number            FA-1-4-GW-1****Comment**

EPA recommends that where impacts have occurred or may reasonably be expected to occur to groundwater sources as a result of oil and gas production, including but not limited to hydraulic fracturing practices, an effective and enforceable mitigation plan should be developed. The mitigation plan could specifically include plans for replacement of quality water to water users if necessary.

**Response**

The RDSEIS discusses the BLM's Practices and Best Management Practices, Operator committed practices, and practices recommended to the BLM through the public review process to protect groundwater and aquifer integrity. Currently, the WDEQ Groundwater Division, under the authority of the CWA and State Statutes, is working with industry to investigate the nature/extent of groundwater contamination and remediate those wells exceeding MCL. The State of Wyoming is also the regulatory authority to determine that replacement of water of appropriate quality is an appropriate mitigation.

**Comment Number            FA-1-5-GW-2****Comment**

Based on the information included in the Revised Draft SEIS, EPA recommends BLM develop a monitoring plan sufficient to characterize each of the aquifers throughout the PAPA.

**Response**

As discussed in the Revised Draft SEIS, a cooperative monitoring program is in place and the WDEQ-WQD is exercising its authority under the Clean Water Act for analysis and interpretation of the results and determination of any threats to or impairment of water quality. Continuing water resource investigations are providing a better understanding of aquifer characteristics. Further, as stated in Section 4.13.5 of the Revised Draft SEIS, the Regional Framework for Water-Resources Monitoring Related to Energy Exploration and Development (Framework) outlines a cooperative approach to refine the existing monitoring plan. Associated with this effort, studies needed to characterize geology and aquifers will be identified, planned, and cooperatively implemented.

**Comment Number**            **FA-1-5-GW-3****Comment**

We (EPA) suggest that monitoring methods approved by the Wyoming DEQ be used to ensure Quality Control over the monitoring process, including proper drilling methods and casing.

**Response**

See response to Comment FA-1-5-GW-2.

**Comment Number**            **FA-1-5-GW-4****Comment**

Furthermore, each new well within the PAPA should be logged and sampled during drilling preventing any cross-contamination with industrial uses.

**Response**

The BLM will continue working with the WDEQ, SEO, Operators, and local agencies to address this suggestion as described in response to Comment FA-1-4-GW-1.

**Comment Number**            **FA-1-5-GW-5****Comment**

EPA also suggests the Revised SEIS include a map identifying the approximately 230 wells that have been tested; the wells with detectable levels of benzene and other hydrocarbons; and the wells with benzene concentrations above the MCL.

**Response**

See response to Comment FA-1-5-GW-2.

**Comment Number**            **FA-1-6-GW-6****Comment**

Rather than using potable grade water for drilling, EPA recommends BLM consider and evaluate non-potable alternative drilling water sources in the Revised SEIS.

**Response**

Thank you for your comment. This option is being considered as an appropriate Best Management Practice for development and implementation in a cooperative effort with the Wyoming State Engineers Office.

**Comment Number**            **FA-1-7-GW-7****Comment**

Finally, EPA recommends the Revised SEIS include a more detailed analysis of cumulative groundwater impacts. EPA is aware of additional groundwater contamination that has occurred in the Jonah field directly south and adjacent of the Pinedale Anticline. The drilling water well in the Jonah field has monitored levels of benzene of 615 µg/l at a depth of over 900 feet with lower concentrations near surface. This information should be disclosed to the public in addition to any other existing monitoring analyses for the area.

**Response**

See response to Comment FA-1-5-GW-2.

**Comment Number**            **FA-1-8-AL-1****Comment**

EPA recommends the No Action Alternative and baseline analysis be revised to accurately reflect the 700 producing well scenario analyzed in the initial Pinedale Anticline EIS and implemented in the 2000 ROD.

**Response**

The BLM respectfully disagrees. The ROD authorizes 700 producing locations.

**Comment Number**            **FA-1-9-SW-1****Comment**

This important finding and the table illustrating the diverse and varied effects in different subwatersheds should be re-inserted in the Revised Draft SEIS. This information provides insight and geographic pattern to a potentially significant environmental effect, and EPA recommends that this table and a discussion of its findings should be a part of this analysis.

**Response**

In interest of maintaining a reasonably streamlined document, and since the predictive model and outcomes are unchanged since the original PAPA EIS, it was determined adequate to summarize the modeling outcome in the Revised Draft SEIS, reference page 4-107. Further, EPA expresses concerns regarding sediment yields citing average annual sediment increases in sub-watersheds in 2023 (under the worst case modeling scenario with no reclamation). The modeling effort did not produce absolute values that can be considered actual, especially since there was insufficient data to calibrate and validate the model. The model output values are relative in nature and allow comparison of one alternative to another and identification of the most vulnerable sub-watersheds over time. As stated in the document, these sub-watersheds will be monitored most closely and the most protective erosion control BMPs will be required to prevent any sediment reaching perennial streams. See response to Comment FA-1-9-SW-2.

**Comment Number**                    **FA-1-9-SW-2****Comment**

EPA strongly recommends that the Revised SEIS clarify how the projected increased sediment yields are translated into projected compliance with Wyoming's narrative water quality standard for settleable solids.

**Response**

See response to Comment FA-1-5-GW-2. As the WDEQ-WQD is the regulatory authority in matters of protecting waters of the state, and administers the Stormwater Prevention Program, including appropriate BMPs, in addition to the Standard Practices described in the Revised Draft SEIS, the BLM will work cooperatively with the WDEQ-WQD in identifying appropriate mitigation, monitoring water quality and effectiveness of BMPs, and ensuring successful reclamation.

**Comment Number**                    **FA-1-9-SW-3****Comment**

To ensure adverse effects to surface water quality are avoided, EPA recommends the Revised SEIS identify: 1) the target and the threshold of change (e.g., percent change of fines, or in suspended sediment) from the target being used to determine compliance with the designated uses assigned to these waters; and 2) the level of effectiveness for the applicable BMPs; 3) the process that will be used to ensure effective implementation and maintenance of those BMPs (i.e., ongoing and future monitoring of effectiveness and implementation enforcement); 4) and how sufficient reclamation will be accomplished and monitored given the ambient ecological conditions.

**Response**

See response to Comment FA-1-5-GW-2 and Comment FA-1-9-SW-2. The ongoing water quality monitoring program that has been designed through cooperation between the BLM and the State of Wyoming; application of the Regional Framework for Monitoring; and, existing state and federal BMPs, laws, and regulations provide a framework for monitoring and response. One aspect of the ongoing monitoring program is the collection and analysis of macro-invertebrates. This analysis of the biological community helps to assure that the environmental functions in the area's water systems remain intact.

**Comment Number**                    **FA-1-10-SW-4****Comment**

EPA recommends the Revised SEIS provide more detail about this analysis as well as the general approach to and results of the monitoring conducted by the Sublette County Conservation District (SCCD).

**Response**

See response to Comment FA-1-4-GW-1 and Comment FA-1-5-GW-2. In order to maintain a more streamlined and readable document, monitoring data are referenced rather than included in this document.

**Comment Number            FA-1-10-SW-5****Comment**

At a minimum, EPA recommends the discussion include information about the biological metrics or index used, the basis for their derivation and application, and level of precision by which these analyses are able to define thresholds that would avoid "significant degradation of habitat for aquatic life" under Wyoming's narrative standard.

**Response**

See response to Comment FA-1-4-GW-1, Comment FA-1-5-GW-2, and Comment FA-1-10-SW-4.

**Comment Number            FA-1-11-SW-6****Comment**

Once a target and threshold of change from the target have been identified, EPA recommends BLM implement a comprehensive water monitoring plan to ensure the BMPs are successfully mitigating the impacts from increased sedimentation and that the identified target is being met. At a minimum, we recommend that BLM establish a monitoring program in the most sensitive watersheds and the watersheds most likely to be impacted.

**Response**

See response to Comment FA-1-4-GW-1, Comment FA-1-5-GW-2, Comment FA-1-9-SW-2 and Comment FA-1-9-SW-3.

**Comment Number            FA-1-12-SW-7****Comment**

EPA recommends BLM include a discussion of the surface monitoring program, any obstacles in implementing the program, and any monitored results in the Revised SEIS.

**Response**

See response to Comment FA-1-5-GW-2. At present the surface and groundwater monitoring programs are being implemented by the Sublette County Conservation District (SCCD) with oversight of the BLM and the WDEQ-WQD. The results of this effort are included in reports generated by the SCCD, available at: <http://www.sublettecountycd.com/programs.html>.

Given the projected life of this document and the changing nature of monitoring data, it is more practical to include this data through reference than directly in the document.

**Comment Number**            **FA-1-12-SW-8**

**Comment**

Further, the Revised SEIS should analyze the potential for underground aquifer interaction with surface water and the potential resulting impacts should the benzene and hydrocarbon contamination reach these high value prime fisheries.

**Response**

See response to Comment FA-1-4-GW-1 and Comment FA-1-5-GW-2. Studies are underway to gain a greater understanding of the geology and groundwater aquifers. Further, existing precautions such as the cementing off of the shallow groundwater layers and monitoring of both surface and groundwater sources should help to minimize the potential for contamination until a sufficient understanding is obtained to draw conclusions.

**Comment Number**            **FA-1-13-WT-1**

**Comment**

If disturbance is unavoidable, BLM should commit to replace in kind such impacted wetlands and to a level that fully restores wetland function and value. Due to the time it can take to adequately reclaim disturbed wetlands and the potential life of this project, BLM may consider requiring mitigation to begin concurrent with the disturbance.

**Response**

The BLM's Practices and Restrictions for the Pinedale Anticline Project Area as they apply to wetlands, riparian areas, and flood plains would apply to all Alternatives (see Appendix 4 in the Revised Draft SEIS).

**Comment Number**            **FA-1-14-WT-2**

**Comment**

EPA recommends that the Revised SEIS discuss BLM's approach to implementing federal wetland policies and legal requirements in the continued development of the PAPA.

**Response**

The BLM requires locatable and salable minerals activities comply with EO 11988, Floodplain Management, and EO 11990, Protection of Wetlands, as well as with the WDEQ's water quality standards. Minerals operations would be designed to avoid siltation and pollution of surface water and groundwater. Hazardous Spill Response Plans would be required.

**Comment Number**            **FA-1-14-WT-3****Comment**

In particular, EPA recommends the Revised SEIS clearly explain how BLM will be mitigating the loss and disturbance of wetlands and streams within and adjacent to the PAPA under Executive Order 11990.

**Response**

The BLM conducts annual monitoring of wetland/riparian conditions throughout the PFO area, utilizing Proper Functioning Condition (PFC). Actions are taken if ratings are below PFC, defined by the ability of a wetland site to maintain itself and for riparian areas to withstand a 2-year storm event. Surface disturbance due to wellfield development in wetlands is minimal and is mostly a result of construction of linear facilities (roads, pipelines). Operators have obtained wetland surveys, where appropriate, and have avoided construction of well pads in wetlands. For linear facilities where disturbance in wetlands cannot be avoided, appropriate COE Section 404 permits have been obtained.

**Comment Number**            **FA-1-15-AQ-7****Comment**

EPA recommends that to the extent possible the Revised SEIS estimate and disclose the amount of methane and carbon dioxide emissions associated with each alternative in carbon dioxide-equivalent terms.

**Response**

Currently the project emission inventories do not include methane and carbon dioxide. These pollutants are not regulated. The air quality stakeholder group did not recommend quantifying these emissions. However, for a qualitative discussion of GHG emissions in oil and gas development please go to the following url's and/or references:

1. A. Zahniser. 2007. Characterization of Greenhouse Gas Emissions Involved in Oil and Gas Exploration and Production Operations. Review for the California Air Resources Board.  
[http://www.wrapair.org/WRAP/ClimateChange/GHGProtocol/meetings/071025/Characterization\\_of\\_O&G\\_Operations\\_Sector\\_Emissions.pdf](http://www.wrapair.org/WRAP/ClimateChange/GHGProtocol/meetings/071025/Characterization_of_O&G_Operations_Sector_Emissions.pdf)
2. American Petroleum Institute: Toward a Consistent Methodology for Estimating Greenhouse Gas Emissions from Oil and Natural Gas Industry Operations  
[http://www.climatevision.gov/sectors/oil\\_gas/pdfs/ghg\\_synopsis.pdf](http://www.climatevision.gov/sectors/oil_gas/pdfs/ghg_synopsis.pdf)
3. 2007 Draft U.S. Greenhouse Gas Inventory Report Draft Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2005, February 2007.  
<http://epa.gov/climatechange/emissions/usinventoryreport07.html>
4. Canadian Association of Petroleum Producers, Technical Report on a National Inventory of Greenhouse Gas, Criteria Air Contaminant, and Hydrogen Sulphide Emissions by the Upstream Oil and Gas Industry, Volume 4.

<http://www.capp.ca/raw.asp?x=1&dt=NTV&e=PDF&dn=86224> Also, in future documents, the BLM and cooperators will include serious discussion of GHG emissions in oil and gas development. Possible topics for inclusion may be 1. CH<sub>4</sub> N<sub>2</sub>O carbon equivalents 2. GHG comparison to other energy development sector's 3. GHG RFD comparison to other ongoing and possible projects 4. GHG emissions and climate change.

**Comment Number**                      **FA-1-15-AQ-8**

**Comment**

As a point of comparison, EPA recommends the Revised SEIS consider utilizing a greenhouse gas equivalencies calculator to translate greenhouse gas emissions into terms that are easier to conceptualize.

**Response**

See response to Comment FA-1-15-AQ-7.

**Comment Number**                      **FA-1-16-AQ-9**

**Comment**

As part of a cumulative impact analysis, in the event the GHG emissions associated with the project are significant, EPA recommends the Revised SEIS compare annual projected greenhouse gas emissions from the proposed project to annual emissions from other existing and reasonably foreseeable future projects.

**Response**

As part of a cumulative impact analysis, in the event the GHG emissions associated with the project are significant, EPA recommends the Revised SEIS compare annual projected greenhouse gas emissions from the proposed project to annual emissions from other existing and reasonably foreseeable future projects.

**Comment Number**                      **FA-1-16-AQ-10**

**Comment**

In addition, we recommend that the Revised SEIS compare the annual greenhouse gas emissions from the proposed project to estimated annual greenhouse gas emissions at a regional, national, and global scale.

**Response**

See response to Comment FA-1-15-AQ-7.

**Comment Number**            **FA-1-16-AQ-11****Comment**

EPA recommends that the cumulative impacts analysis also include a general, qualitative discussion of the anticipated effects of climate change, including potential effects at a regional level.

**Response**

See response to Comment FA-1-15-AQ-7.

**Comment Number**            **FA-1-17-AQ-12****Comment**

The revised SEIS should also identify possible mitigation measures that may be implemented to reduce and capture methane gas and reduce potential impacts.

**Response**

Thank you for your comment. As part of the discussion(s) describing 'environmental consequences' (Chapter 4, Section 4.9) for Alternatives C and D (Section 4.9.3), green completions are given as one option in the overall visibility mitigation plan (see pages 4-82 and 4-85). In addition to helping reduce visibility impairment, green completions can significantly reduce methane emissions (up to 7,410 Mcf per year which is 70 percent of the gas, in one reported case, formerly vented to the atmosphere) and produce an immediate revenue stream with the produced natural gas and gas liquids, less solid waste and water pollution, and a safer operating practice. Centralization of gas gathering facilities may also reduce greenhouse gas emissions by reducing truck traffic and so CO<sub>2</sub> emissions, but this may depend on the type of engines used at these central gathering points. For more information on green completions see: U.S. Environmental Protection Agency. 2004. "Green Completions." EPA Partner Reported Opportunities for Reducing Methane Emissions, PRO Fact Sheet No. 703. [http://www.epa.gov/gasstar/pdf/pro\\_pdfs\\_eng/greencompletions.pdf](http://www.epa.gov/gasstar/pdf/pro_pdfs_eng/greencompletions.pdf)

**Comment Number**            **FA-1-18-G-1****Comment**

Given the unforeseen and significant impacts that have occurred from the development of the 642 producing oil and gas wells approved under the 2000 Pinedale Anticline ROD, EPA believes that it is of utmost importance that the Revised Draft SEIS identify effective and enforceable mitigation strategies to ensure environmental and public health protection as the proposed 4,399 additional wells on the Pinedale Anticline are developed. The Revised Draft SEIS should also develop a plan to mitigate the significant environmental impacts resulting from the oil and gas development that has already occurred on the PAPA. While the Revised Draft SEIS includes many of the necessary components that provide a starting point for mitigation, EPA recommends each of the mitigation plans include a mechanism for public accountability, such as stakeholder forums and/or annual status reports.

**Response**

Thank you for your comment. Please see responses to Comment FA-5-1-AQ-1, Comment FA-5-2-AQ-2, Comment FA-5-2-AQ-4, and Comment FA-5-2-AQ-5.

**Comment Number**            **FA-2-1-TE-1**

**Comment**

For clarification, formal consultation under the Act is required for projects that may lead to a depletion of water to the Colorado River system.

**Response**

The BLM recognizes that depletion of the Colorado River System warrants formal consultation. This is stated in the Revised Draft SEIS.

**Comment Number**            **FA-2-2-W-1**

**Comment**

We recommend that the Bureau implement a one-mile protective buffer around the New Fork River riparian corridor where disturbance is prohibited.

**Response**

This recommendation cannot be implemented due to existing development. Specifically, this area is primarily under private surface/private mineral ownership. The BLM does not have the authority to implement a prohibition on private land.

**Comment Number**            **FA-2-3-W-2**

**Comment**

Page 1-12, Table 1.11-1: The table indicates that the Service's authority includes the Endangered Species Act. For clarification, the Service also has authority under the MBTA and BGEPA.

**Response**

Table 1.11-1 will be amended to include the possibility for permits issued by the USFWS to "take" individuals of species included in the MBTA and BGEPA.

**Comment Number**            **FA-2-4-W-3**

**Comment**

If they have not previously been conducted, the Service recommends that the Bureau conduct surveys targeted for this species. Additionally, we recommend that the Bureau prohibit disturbance within riparian areas to protect yellow-billed cuckoos and their nesting habitat.

**Response**

Surveys have been conducted for yellow-billed cuckoos on an as needed basis. Currently, the BLM does have a 500 ft buffer to protect riparian habitats, this buffer would be used in addition, to any site specific information that may be collected if yellow-billed cuckoos are observed. Current presence in the vicinity of the Proposed Action is unknown and none have been observed in Southwestern Wyoming since 1981.

**Comment Number**                      **FA-2-5-W-4**

**Comment**

Until the new MOU is in place, we recommend that the objectives of the 2000 MOU be considered in project implementation in sage-grouse habitat. Additionally, unless site-specific information is available, greater sage-grouse habitat should be managed following the guidelines by Connelly et al. 2000 (also known as the WAFWA guidelines). We strongly encourage the Bureau to ensure that actions authorized do not exacerbate greater sage-grouse declines on either a local or range-wide level.

**Response**

The Objectives of the 2000 MOU were: 1) to maintain, and increase, where possible, the present distribution of sage grouse, 2) to maintain, and increase, where possible, the present abundance of sage grouse, 3) to identify the impacts of major lands uses and hunting on sage grouse, and determine the primary causes for declines in sage grouse populations, 4) to develop a rangewide conservation framework to provide for cooperation and integration in the development of Conservation Plans to address conservation needs across geographic scales as appropriate, and 5) to develop partnerships with agencies, organizations, tribes, communities, individuals and private landowners to cooperatively accomplish the preceding objectives. The BLM has prepared the SEIS to formally deviate from guidance in the MOU and WAFWA. The alternatives describe how the BLM would operate in the future; the designation of the preferred alternative provides the reader with the BLM's preference and the ROD will formalize the operating procedures that will be allowed in the PAPA. Specifically, the BLM does not believe that habitats on the PAPA can be managed under intensive natural gas development to meet Objectives 1 and 2 of the MOU.

**Comment Number**                      **FA-2-6-WT-1**

**Comment**

Page 4-127, sections 4.18 and 4.18.5, Wetlands, Riparian Resources and Flood Plains: The RDSEIS indicates that under the preferred alternative nearly 670 acres of disturbance would

occur within the 100 year floodplain of the New Fork River yet no additional mitigation for these resources has been identified. Please see comment #2 above.

**Response**

The BLM's Practices and Restrictions for the Pinedale Anticline Project Area, as they apply to wetlands, riparian areas, and flood plains would apply to all Alternatives (see Appendix 4 in the Revised Draft SEIS).

**Comment Number**            **FA-2-7-TE-2****Comment**

We recommend you refer to our letter of August 10, 2007 (WY07SL0419), to ensure your analysis includes those species identified on the most current list of species protected under the Act in and near the project area as well as migratory birds and other trust resources.

**Response**

All species considered in the BLM's analysis of effects were included in the USFWS letter of August 2007. Since then, however, the USFWS delisted northern Rocky Mountain DPS of the gray wolf, published on February 27, 2008 and which became effective on March 28, 2008. Gray wolves are not included in analysis of effects to listed species.

**Comment Number**            **FA-2-8-TE-3****Comment**

We recommend that the RDSEIS clearly state whether or not white-tailed prairie dog towns will be disturbed.

**Response**

Since no spatially explicit plan for wellfield development has been prepared by the Proponents, it is possible for any alternative, and given dynamics of white-tailed prairie dog colonies over time, it is impossible to state whether colonies would be disturbed, particularly through 2023 when development would end under Alternatives B, C, and D.

**Comment Number**            **FA-2-8-TE-4****Comment**

We recommend that you analyze potentially disturbed prairie dog towns for their value to future black-footed ferret reintroduction. If a field check indicates that prairie dog towns may be affected, you should contact our office for guidance on ferret surveys.

**Response**

The BLM is complying with current USFWS black-footed ferret survey guidelines. Specific practices and restrictions applicable to black-footed ferrets prior to wellfield development in the PAPA are included in Appendix 4 of the Revised Draft SEIS.

**Comment Number**                      **FA-2-9-TE-5**

**Comment**

Because there are known occurrences in northeast Utah as well as eastern Wyoming the Service recommends that the Bureau evaluate suitable habitat (i.e., seasonally moist soils and wet meadows of drainages below 7,000 feet elevation) for possible occurrence of the orchid.

**Response**

These habitat types are being analyzed for presence of Ute ladies'-tresses on all federal actions. To date, no populations of Ute ladies' tresses orchids are known to occur on public lands within the PFO.

**Comment Number**                      **FA-2-10-W-5**

**Comment**

The RDSEIS states that Ultra, Shell, Questar and JGGC have worked with the Service to develop and implement Best Management Practices (BMP) to minimize impacts to bald eagles and other raptors along the New Fork River. The BMPs were developed and agreed to by industry in 2006. However, the Service is concerned that these voluntary BMPs are not being implemented to the level for which the agreement was intended. Only once, by Shell in October 2006, has the Service been contacted by industry concerning the activities being conducted and what BMPs would be implemented. The Service would like to work with the Operators and the Bureau to ensure that these BMPs are being implemented. We recommend that the Final SEIS include a list of activities conducted along the New Fork River where BMPs were implemented pursuant to the agreement.

**Response**

The majority of the land along the New Fork River is not within the jurisdiction of the BLM. The BLM will comply with all applicable federal laws and regulations, such as the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act. Agreements that were made outside of the BLM will be taken into consideration when the BLM issues approvals, but will not be considered binding upon the BLM. Therefore, any issue that the USFWS has with the implementation of these measures on non-BLM administered lands should be addressed directly to the Operators.

**Comment Number**                      **FA-2-11-W-6**

**Comment**

We recommend that the Bureau carefully consider its obligations under the MBTA and Executive Order 13186 to protect the many species of migratory birds, including eagles and other raptors and to promote the conservation of migratory bird populations and their habitats.

**Response**

The BLM understands their mandate to comply with all applicable federal laws and regulations, such as the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and Executive Order 13186. The BLM will not grant relief where such action could result in violation of a federal law or regulation. Specifically, the BLM would participate with the USFWS in developing a MOU, and subsequent requirements, to conserve migratory bird populations if any action undertaken by the BLM would have a measurable negative effect on migratory birds as required by EO 13186.

**Comment Number**                      **FA-2-11-W-7**

**Comment**

Additionally, the Service is currently conducting a status review for the pygmy rabbit (73 FR 1312). Therefore, we encourage Federal agencies to analyze project areas for potential effects to pygmy rabbits and their habitats.

**Response**

The BLM is currently conducting surveys and is developing a research project to identify the impacts of development on pygmy rabbits and is planning on developing conservation measures to mitigate these impacts.

**Comment Number**                      **FA-2-12-W-8**

**Comment**

The Service recommends that the Bureau strive to protect the contiguous nature of these towns for the conservation of white-tailed prairie dogs.

**Response**

The BLM has set forth Practices and Restrictions for the Pinedale Anticline Project Area in Appendix 4 of the Revised Draft SEIS. The Operators have prepared a Wildlife and Habitat Mitigation Plan for Alternative B in Appendix 9A and prepared a Wildlife and Habitat Mitigation Plan for Alternative D in Appendix 9C.

**Comment Number**                      **FA-2-13-TE-6**

**Comment**

In the event a ferret is observed within any portion of a prairie dog town, where an activity is proposed, regardless of the distance from the activity, the Service recommends that the Bureau first contact the Service as soon as possible. Second, we recommend that the proposed activity be modified to completely avoid the town and possibly even the entire complex to ensure that the habitat remains large and contiguous to meets with the needs of the ferrets that occur there.

**Response**

This is included in Summary of Impacts Common to All Alternatives in the Final SEIS.

**Comment Number**                    **FA-2-14-TE-7**

**Comment**

Page 4-140, Section 4.19.4, Cumulative Impacts: The Revised Draft SEIS states that no listed species are likely to be affected by any of the alternatives. The Service recommends that this section clarify whether or not the Bureau anticipates effects to listed species such as black-footed ferrets and/or Colorado River fishes from this proposal.

**Response**

The referenced section relates the statement to listed species known to occur or potentially occurring in Western Wyoming which does not include Colorado River fishes. They are addressed in the third paragraph within the section. The BLM will move that paragraph to the front of the section.

**Comment Number**                    **FA-2-15-W-9**

**Comment**

The RDSEIS describes several mitigation opportunities that the Bureau “could” require the Operators to implement. The Service recommends that the Bureau commit to (1) requiring the Operators to restore and maintain functional riparian habitat; (2) prohibiting motorized vehicle use in white-tailed prairie dogs towns; and (3) requiring the Operators to inventory all habitats, where disturbance may occur, for potential occurrence and/or use by listed species and sensitive species prior to the disturbance in order to determine what areas should be avoided due to their irreplaceable value and what areas should be mitigated for and to what level.

**Response**

Since the analysis is a proposal, use of the word "could" is appropriate.

**Comment Number**                    **FA-2-16-W-10**

**Comment**

We believe that year-round drilling may be a feasible approach at some specific locations within the Core or PDA; however, we encourage the Bureau to carefully consider appropriate measures and stipulations to protect wildlife resources.

**Response**

Each Alternative considered in the Revised Draft SEIS has potentially different applications of measures and stipulations that would protect wildlife resources. Also, in Section 2.4.2.1, the BLM has defined Adaptive Management that would be implemented by the BLM Authorized Officer.

**Comment Number**                      **FA-2-17-MF-1**

**Comment**

The Service encourages the Bureau to consider mitigation needs and actions in the context of the Wyoming Landscape Conservation Initiative and the landscape scale long-term science plan WLCI is in the process of finalizing.

**Response**

When the long-term science plan WLCI is finalized, the BLM will consider possible mitigation actions within the WLCI.

**Comment Number**                      **FA-2-18- LS-1**

**Comment**

Since it is well known that vegetation communities, comprised of sage brush species, may take decades to return to pre-disturbance levels, we recommend that leases in the flanks be considered for drilling only after the habitats within the Core/PDA are reclaimed to a level so as to meet all of the life cycle functions of the species that normally inhabit it.

**Response**

That restriction is not a component of Alternative D, the BLM's Preferred Alternative, or any other Alternative. Drilling could occur outside of Alternatives' core areas (or PDA) any time but would be subject to all timing and spatial stipulations in appropriate situations.

**Comment Number**                      **FA-2-18-LS-2**

**Comment**

In order to be effective to mitigate for disturbance in the Core/PDA, we recommend that all of the leases in the flanks be suspended until after the habitats within the Core/PDA are reclaimed to a level that meets all of the life cycle functions of the species that normally inhabit it.

**Response**

Lease suspensions on the Flanks are only a component of Alternative D. The Proponents have committed to do no additional development in these term NSO leases for 5 years. After the primary term of 5 years, the need for federal suspended and term NSO leases would be reviewed during the Annual Planning Meeting. A determination on the status of the lease (whether to continue suspension or to resume the lease conditions) would be made by the BLM AO. See Section 2.4.3.4 in the Revised Draft SEIS.

**Comment Number**                      **FA-2-19-M-1**

**Comment**

The RDSEIS lists several measures that may reduce impacts within the Core and for which the Bureau “could” implement. The Service recommends that (1) the liquids gathering system be installed to reduce truck traffic; (2) traffic be reduced especially in areas of wildlife use; (3) computer-assisted monitoring be required at all producing sites to reduce human presence; (4) the best available science be used regarding mitigation decisions; (5) Operators enhance or rehabilitate wildlife habitat degraded in the process of development; and (6) the Bureau require that Operators inventory habitat for sage-grouse, migratory birds, and pygmy rabbits to determine the appropriate mitigation. The Service recommends that the final SEIS clarify whether these measures will or will not be implemented.

**Response**

Measures 1 through 3 have been included in Alternative D, the BLM's Preferred Alternative. Measure 4 is implicit in the BLM's Adaptive Management Plan described in Section 2.4.2.1. Item 5 would be included in the Reclamation Plan for each Alternative in Appendix 8 and the Wildlife and Habitat Mitigation Plan for each Alternative in Appendix 9. Item 6 would be included in the Proponents' Wildlife Monitoring and Mitigation Matrix in Appendix 10.

**Comment Number**                      **FA-2-20-WT-2**

**Comment**

The RDSEIS states that surface disturbance would remain a minimum of 500 feet from surface waters, riparian areas, wetlands and 100-year floodplains unless the Bureau approves otherwise. With ever-improving directional drilling technologies it may be possible to implement avoidance of these important resources in every case.

**Response**

Total avoidance may be possible but will most likely depend on site-specific conditions.

**Comment Number**                      **FA-2-21-W-11**

**Comment**

We recommend that the Bureau analyze the impacts of above-ground development, within Service recommended protective buffers, on the viability of raptor nests and territories. If the analysis shows a negative impact, we recommend that the Bureau consider modifying their current raptor protection stipulations. The National Bald Eagle Guidelines recommends that bald eagle nests be protected if they have been active within the last five years. We also recommend that the Bureau consider the protection of alternate nests of bald eagles as well as the alternate nests of other raptor species.

**Response**

Please see the discussion of potential effects by wellfield development to raptors in Section 4.20.3.1. Analysis on the viability of raptor nest and territories would require knowledge of where development would occur under each Alternative. Such information has not been provided by project proponents and would otherwise be highly speculative. Any wellfield development would follow the BLM's Practices and Restrictions for the Pinedale Anticline Project Area in Appendix 4 of the Revised Draft SEIS.

**Comment Number**                    **FA-2-22-W-12**

**Comment**

The RDSEIS states activity will be restricted within 0.5-mile of all active raptor nests except ferruginous hawk for which the buffer shall be 1.0 mile. The Service recommends that this measure clarify that for bald eagles, the Service also recommends a 1.0 mile protective buffer year round and that bald eagle nests should be considered active if occupied within the last 5 years.

**Response**

The BLM acknowledges that an active eagle nest is one that has been occupied in the last 5 years. This has been changed in Appendix 4.

**Comment Number**                    **FA-2-23-W-13**

**Comment**

The RDSEIS states that if breeding birds are observed, surveys will be conducted to search for active nests. We recommend that the final SEIS clarify what actions will be taken if an active nest is observed. Additionally, since the nests of some species are difficult to observe; we recommend that, if adult birds are observed in active courtship or nesting, the Bureau contact the Service to discuss protective measures. Additionally, we would appreciate working with the Bureau to develop a conservation agreement for the protection of migratory birds.

**Response**

Those species protected by the MBTA have been removed from the Wildlife Monitoring and Mitigation Matrix. The BLM will work with the USFWS and the Operators to develop a conservation agreement.

**Comment Number**                    **FA-2-24-W-14**

**Comment**

We recommend that the Bureau require that if oil or sheens are present in reserve pits, the oil sheen will be immediately removed pursuant to applicable regulations or covered with netting to exclude birds and other wildlife from entry.

**Response**

Appendix 4 has been revised to state that any pits with harmful fluids in them would be maintained in a manner that would prevent migratory bird mortality.

**Comment Number**                    **FA-2-25-W-15**

**Comment**

The SEIS should specify if the liquids gathering systems will use open topped tanks and or evaporation ponds and measures to prevent migratory bird mortality. Additionally, it is not clear if the liquids gathering systems will serve as the final disposal facilities for produced water. If the produced water will be disposed of elsewhere, the SEIS should specify where the disposal facilities will be located and assess the potential environmental impacts of these disposal facilities.

**Response**

Appendix 4 has been revised to state that any pits with harmful fluids in them would be maintained in a manner that would prevent migratory bird mortality.

**Comment Number**                    **FA-2-26-W-16**

**Comment**

To avoid wildlife mortality at oil pits and evaporation ponds, the Service recommends the following measures: (1) Use closed containment systems to store oil. Closed containment systems require little or no maintenance, they can be moved to a new site when the facility is closed, and they eliminate soil contamination and remediation expenses; (2) Eliminate pits or keep pits and ponds free of oil. If evaporation ponds for water disposal will be part of the proposed facility, the facility should be designed to prevent oil from entering the pond. A contingency plan should be developed to ensure immediate clean up if oil is accidentally discharged into the evaporation pond; (3) Use effective and proven wildlife deterrents or exclusionary devices on open-topped tanks or pits to prevent wildlife mortality. Netting appears

to be the most effective method of preventing birds from entering wastewater evaporation ponds and oil production skim pits. Flagging is not effective; (4) If evaporation ponds for water disposal will be part of the proposed facility, implement engineering controls to prevent the discharge of wastewater containing oil and surfactants into the evaporation pond; and (5) Deep well injection of oil field wastewater is recommended to eliminate the need for evaporation ponds and the risk to migratory birds and other wildlife from exposed oil, surfactants and hypersaline conditions.

**Response**

Appendix 4 has been revised to state that any pits with harmful fluids in them would be maintained in a manner that would prevent migratory bird mortality.

**Comment Number**                    **FA-2-27-W-17**

**Comment**

Since the individual size of the contiguous undisturbed blocks is not specified, we recommend that the mitigation plan also include a map showing the undisturbed lands in relation to the existing development.

**Response**

The commenter is correct in that the entire 92 percent of the PAPA described as "large, contiguous blocks" has been subject to past and present land uses that have altered native habitats and created non-wellfield related fragmentation. Existing well field disturbance is shown throughout the document, including Maps 3.2-1, 3.7-1, 3.7-2, 3.7-3, 3.8-1, 3.9-1, 3.10-1, 3.18-1, 3.22-1, 3.22-2, 3.22-3, 3.22-4, 3.22-5 of the Revised Draft SEIS.

**Comment Number**                    **FA-2-28-MO-1**

**Comment**

The Service recommends that the Bureau retain authority in determining the effectiveness of the mitigation in coordination with the WGFD and other experts.

**Response**

Thank you for your comment. The BLM will consider your input in issuing a decision.

**Comment Number**                    **FA-2-29-W-18**

**Comment**

The matrix indicates that in order for mitigation to occur there will need to be specific percentage of change in total number of active leks or leks in a single complex or numbers of males in attendance over 2 years, or change in nesting success and so on. It is uncertain if these changes take into account baseline information collected prior to the 1999 PAPA Record of

Decision or from this point on. The Service is concerned that sage-grouse population levels, lek attendance and nesting success may already exceed these thresholds and if so, the Bureau should consider this in their decision to consider this alternative.

**Response**

If selected in the Decision, the Wildlife Monitoring and Mitigation Matrix would become effective upon issuance of the ROD and the data available at that time would be the baseline against which impact of implementation of the ROD would be measured.

**Comment Number**                      **FA-2-30-W-19****Comment**

The Service recommends the Bureau implement those strategies outlined within the Memorandum of Understanding directed by the President of the U.S. under the Executive Order 13186 in order to promote the conservation of migratory bird populations and their habitats. Also, the Bureau has recently issued Migratory Bird Treaty Act-Interim Management Guidance which specifies several BMPs. We recommend you reference this document in your final SEIS.

**Response**

The BLM will comply with all laws. The BLM will work with the Service in implementation of Executive Order 13186 and the Interim Management Guidance.

**Comment Number**                      **FA-2-31-MF-2****Comment**

The Service is concerned that the subjective nature of the mitigation responses may result in negative effects to wildlife becoming severe or irreversible. The fourth mitigation response will only be implemented when responses 1-3 have been exhausted. Implementation, monitoring and the subjective determination of effectiveness of each response may take several years to demonstrate the desired result.

**Response**

The BLM agrees and is committed to implementing the Adaptive Management Plan described in Section 2.4.2.1. Through this process, the BLM would require review of annual monitoring program results during the Annual Planning Meeting and apply the recommended measures. Flexibility rather than a rigid, prescriptive planned approach for dealing with new information is essential to successful Adaptive Management.

**Comment Number**                      **FA-2-32-W-20**

**Comment**

Therefore, we recommend that the Bureau and Operators work with the Service to develop and implement a migratory bird protection and conservation plan to avoid and reduce impacts to migratory birds within and near development.

**Response**

Development of a conservation plan has been added to the Revised Draft SEIS.

**Comment Number**            **FA-2-33-W-21**

**Comment**

Pitless or closed loop systems should be used when drilling with oil-based muds.

**Response**

This is included in Appendix 4 of the Revised Draft SEIS.

**Comment Number**            **FA-3-1-G-1**

**Comment**

The acronym used in the SEIS for the Bureau of Reclamation is 'USBR.' The preferred acronym for our bureau is 'Reclamation.' Please make this revision in the SEIS in sections 3.8.2, 3.16.1.1, and 3.16.1.2 and any other sections in the document where it may appear.

**Response**

The text has been revised.

**Comment Number**            **FA-4-1-W-1**

**Comment**

To ensure that the GTNP/Gros Ventre summer segment of the Sublette herd persists and better understand the potential impacts to this segment, we suggest that research and monitoring efforts have a component that focuses specifically on a sample of these animals.

**Response**

Mitigation measures developed by the Proponents applicable to Alternative D include a mitigation and monitoring fund, but specific applications have not be advanced.

**Comment Number**            **FA-4-1-W-2**

**Comment**

We also recommend that quantifiable impact thresholds and appropriate mitigation responses for pronghorn in the GTNP/Gros Ventre summer segment be developed and added to the wildlife monitoring and mitigation matrix.

**Response**

The Wildlife Monitoring and Mitigation Matrix (Appendix 10, Revised Draft SEIS) was developed by the Proponents in concert with the WGFD. Quantifiable impact thresholds are included in the Matrix to the extent provided by the Proponents and the WGFD. At the present, it is assumed that the same thresholds provided for antelope on the Anticline would apply to the pronghorn in the GTNP/Gros Ventre summer population segment.

**Comment Number**            **FA-4-2-W-3**

**Comment**

We suggest giving strong consideration to leaving in seasonal timing stipulations in crucial winter ranges within the core development area and PDA and eliminating the PDA.

**Response**

Your suggestion is included in the range of alternatives provided, specifically Alternative E, which contemplates keeping seasonal restrictions.

**Comment Number**            **FA-5-1-AQ-1**

**Comment**

An alternative that addresses mitigation for the existing cumulative visibility impairment should be analyzed that provides for progress in reaching the goal of natural background visibility levels.

**Response**

Thank you for your comment. A visibility mitigation plan has been agreed upon and included in modeling of alternatives: Alt. B, the proposed action with no mitigation, and Alt. C which included mitigation. The plan involves stepped down (20% per year) NO<sub>x</sub> emission reduction over the course of 4 years. However, modeling results still indicate up to 10 days above 1 deciview (dv) impairment (Reference: Section 4.9.3.5 page 4-84 to 4-87) in the Bridger Wilderness at the end of this period. This does not mean that NO<sub>x</sub> reduction would cease; NO<sub>x</sub> emissions would continue to be mitigated and/or a new (or amended) plan agreed to between the Proponents, BLM, WDEQ and EPA. The plan does in fact call for mitigation beyond the first 4 years; see Point 4, page 4-86: "During the Annual Planning Meeting, as specified in paragraph #1 in this section, Operators, WDEQ-AQD, and the BLM in consultation with EPA would collaboratively identify methods to reduce air emissions beyond the 80 percent drilling rig engine NO<sub>x</sub> emissions goal". Point 4 goes on: "No later than the fifth annual planning session following signing of the ROD, Operators would submit to the collaborative group an evaluation

of alternatives, and recommend a plan that addresses all sources from project activities, and whose aim is to meet a predicted visibility impact objective of no more than zero days greater than 1.0 dv of visibility impairment".

**Comment Number**                      **FA-5-2-AQ-2**

**Comment**

The FS recommends the ROD specify and require mitigation measures at the onset of the project to prevent visibility impacts in the wilderness areas from all PAPA project emissions, such as phased development for this and future energy development projects.

**Response**

Thank you for your comment. The visibility mitigation plan (Phase I: reduction to 2005 levels; Phase II 20% per year reduction in NO<sub>x</sub> emissions) does call for measures that "...could include, but would not be limited to":

- replacing diesel-fired drilling rig engines with natural gas-fired drilling rig engines,
- fuel additives,
- gas turbines rather than internal combustion engines for compressors,
- reduction in the number of drilling rigs,
- Tier 2 equivalent emissions on drilling rig engines,
- selective catalytic reduction on drilling rig engines,
- electric drilling rigs,
- electric compression,
- centralization of gathering facilities to reduce truck traffic,
- cleaner technologies on completion activities, and other ancillary sources; and
- advancements in drilling technology. Point 2 (page 4-85) indicates that Phase I mitigation would begin no later than 1 year after signing of the ROD - and "...would reduce project induced visibility impairment to 2005 levels, 40 days above 1 dv..."

**Comment Number**                      **FA-5-2-AQ-3**

**Comment**

The FS recommends that mitigation measures be specific and that they be required mitigation and not limited to those practicable or economical.

**Response**

Thank you for your comment.

**Comment Number**                      **FA-5-2-AQ-4**

**Comment**

The FS recommends the ROD specify that the performance goals and objectives include timeframes and mitigation milestones that demonstrate improved air quality and reduced

cumulative impacts in wilderness areas in order to maintain clean visibility days and enhance quality of degraded days to: (1) comply with the Regional Haze Rule and (2) meet the PAPA SEIS mitigation goal of zero days of visibility impairment.

**Response**

"Phase I would reduce project induced visibility impairment to 2005 levels, 40 days above 1 dv. Phase II would reduce project induced visibility impairment from 2005 levels, 40 days above 1 dv, to 0 days above 1 dv. Phase I mitigation would begin implementation upon issuance of the ROD. One year after the ROD, the Operators would be required to fund a model run to determine if the reduced visibility impairment goal for Phase I has been achieved. Phase II mitigation would reduce projected visibility impairment from 2005 levels to 0 days of visibility impairment." (Ref.: Sec. 4.9.3.5, page 4-84). As noted in the Revised Draft, modeled results indicate a maximum of 10 day's of > 1 dv visibility impairment, in the Bridger Wilderness, at the end of a 4 year mitigation program. This does not mean the end or cessation of mitigation - Point 4, page 4-86: "During the Annual Planning Meeting, as specified in paragraph #1 in this section (Sec. 4.9.3.5, page 4-85), Operators, WDEQ-AQD, and the BLM in consultation with EPA would collaboratively identify methods to reduce air emissions beyond the 80 percent drilling rig engine NO<sub>x</sub> emissions goal".

**Comment Number**            **FA-5-2-AQ-5****Comment**

The FS recommends a list of consequences or actions to be taken if the goal of zero days of visibility impairment is not met.

**Response**

Thank you for your comment. As of February 2008 no specific mitigation actions (or strategies) have been identified for a continued mitigation process. However, in Point 4, page 4-86: "During the Annual Planning Meeting, as specified in paragraph #1 in this section (Sec. 4.9.3.5, page 4-85), Operators, WDEQ-AQD, and the BLM in consultation with EPA would collaboratively identify methods to reduce air emissions beyond the 80 percent drilling rig engine NO<sub>x</sub> emissions goal".

**Comment Number**            **FA-5-3-AQ-6****Comment**

The FS recommends the ROD provide for the development of a long-term monitoring system and an action plan to meet or exceed the stated mitigation goals including incentives for exceeding the goals and consequences if the goals are not met. The ROD should be monitored by periodically using the same air quality dispersion model, meteorological data, and input parameters used for the original analysis to ensure direct comparison of emission reductions.

**Response**

Thank you for your comment. Alternative D Mitigation (Appendix 11, page 11-1) does call for additional mitigation commitments by the Proponents:

- Mitigation and monitoring fund
- Mitigation, monitoring, continued research, and Performance-Based Objectives with threshold
- Voluntary suspension of certain leases on the flanks of the Pinedale Anticline
- 80% rig engine NO<sub>x</sub> reduction from 2005 levels by year end 2010 with a Q3 2007 ROD or 42 months following signing of the ROD. Appendix 11 addresses each of these points (pages 11-4 and 11-5) as does the document itself - Section 4.9.3.5, pages 4-85 to 4-87 - with more details concerning funding for an ongoing monitoring program.

**Comment Number**            **FA-5-2-AQ-7**

**Comment**

The FS recommends the ROD include provisions to annually track and report existing, approved, and projected source emissions in the planning area.

**Response**

Thank you for your comment. Project source specific criteria pollutant and ozone impacts cannot be determined from these modeling techniques. Criteria pollutant and ozone formation is estimated based on regional emissions. It is possible to estimate the effect that the project has on the ambient pollutant and ozone concentrations by modeling regional emissions with and without the project emissions and calculating the difference.

**Comment Number**            **FA-5-2-AQ-8**

**Comment**

To assess performance objectives, validate the model, and to help establish emission goals for protecting visibility the FS recommends the ROD provide for installation and long-term operation of an IMPROVE aerosol monitor near the Bridger Wilderness Area, where impacts from this project are most likely to occur.

**Response**

Thank you for your comment. The WDEQ-AQD is funding and operating three monitoring sites at the present time - Boulder, Jonah and Daniel (see Map 1.2, page 3, Air Quality Impact Analysis Technical Support Document). These stations are within the Pinedale Anticline Project Area. Also, it has been the understanding of the AQ/AR Stakeholders Group that the USFS would be installing an IMPROVE-like aerosol monitor near the Bridger Wilderness Area in the vicinity of the Scab Creek WSA. Funding for such a station has always been (and will always be) a problem, especially for longer term operation (3 - 5 years).

**Comment Number**            **FA-5-3-AQ-9**

**Comment**

In closing, we urge continued work with partners to evaluate and consider implementation of other potential emission mitigation solutions such as electrification of the well field, slower paced development, voluntary emission offsets from existing sources (in-field or otherwise), and energy conservation and efficiency measures.

**Response**

Thank you for your comment. The BLM continues to work collaboratively with other federal and state agencies (WDEQ, EPA, USFS and NPS) and other partners in a variety of ways, including approaches to evaluating implementation of potential emission mitigation solutions (see Section 4.9.3, pages 4-82 and 4-85).