

Director's Protest Resolution Report

**Fortification Creek
Plan Amendment**

Buffalo RMP

July 21, 2011



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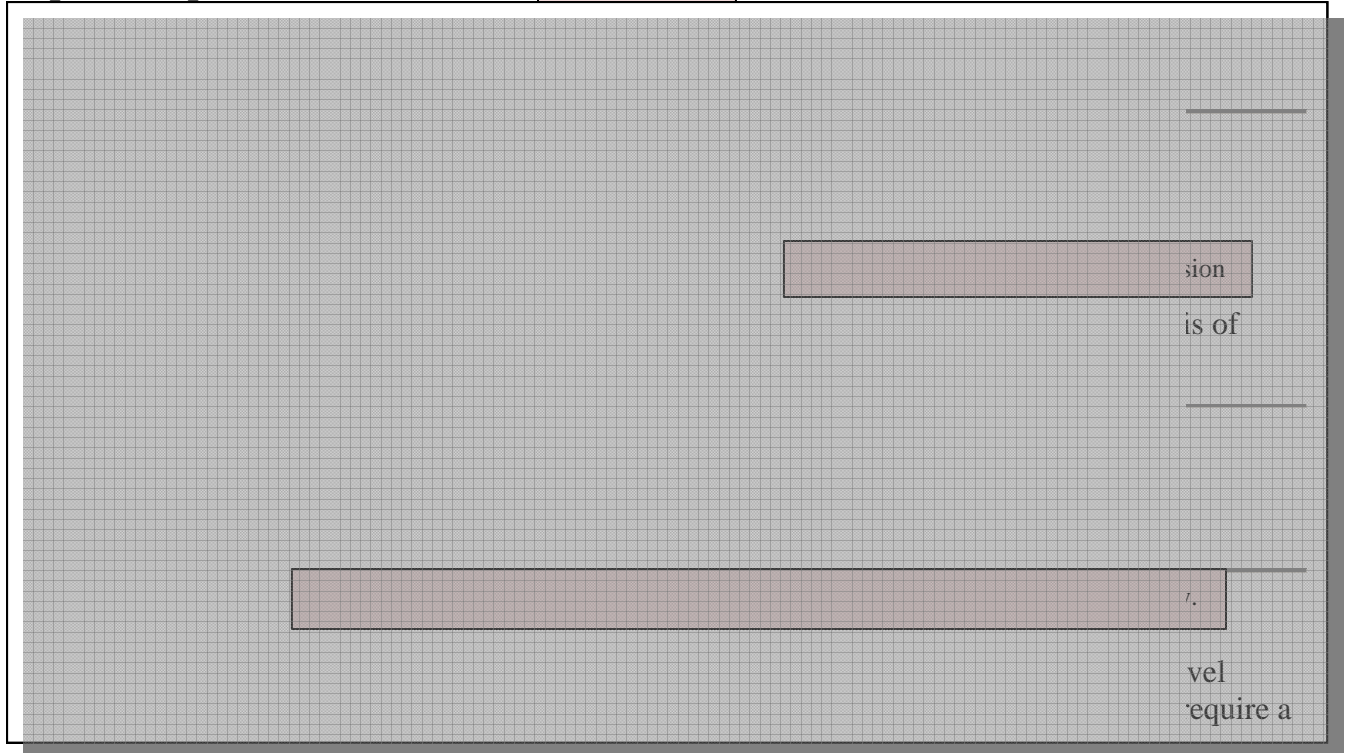
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Reader's Guide

How do I read the Report?

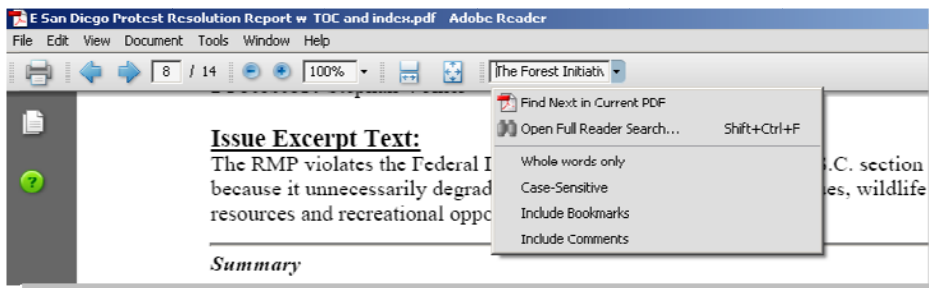
The Director's Protest Resolution Report is divided up into sections, each with a topic heading, excerpts from individual protest letters, a summary statement (as necessary), and the BLM's response to the summary statement.

Report Snapshot



How do I find my Protest Issues and Responses?

1. Find your submission number on the protesting party index which is organized alphabetically by protester's last name.
2. In Adobe Reader search the report for your name, organization or submission number (do not include the protest issue number). Key word or topic searches may also be useful.



List of Commonly Used Acronyms

ACEC	Area of Critical Environmental Concern		Act of 1969
APD	Application for Permit to Drill	NHPA	National Historic Preservation Act of 1966, as amended
BA	Biological Assessment	NOA	Notice of Availability
BLM	Bureau of Land Management	NOI	Notice of Intent
BMP	Best Management Practice	NRHP	National Register of Historic Places
BO	Biological Opinion	NSO	No Surface Occupancy
CAA	Clean Air Act	OHV	Off-Highway Vehicle (has also been referred to as ORV, Off Road Vehicles)
CBNG	Coal Bed Natural Gas		
CEQ	Council on Environmental Quality	POD	Plan of Development
CFR	Code of Federal Regulations	PRB	Powder River Basin
COA	Condition of Approval	RFDS	Reasonably Foreseeable Development Scenario
CSU	Controlled Surface Use	RMP	Resource Management Plan
CWA	Clean Water Act	RMPA	Resource Management Plan Amendment
DM	Departmental Manual (Department of the Interior)	ROD	Record of Decision
DOI	Department of the Interior	ROW	Right-of-Way
EA	Environmental Assessment	SHPO	State Historic Preservation Officer
EIS	Environmental Impact Statement	SO	State Office
EO	Executive Order	T&E	Threatened and Endangered
EPA	Environmental Protection Agency	TL	Timing Limitation
ESA	Endangered Species Act	USC	United States Code
FCPA	Fortification Creek Planning Area	USGS	U.S. Geological Survey
FEIS	Final Environmental Impact Statement	VRM	Visual Resource Management
FLPMA	Federal Land Policy and Management Act of 1976	WA	Wilderness Area
FO	Field Office (BLM)	WDEQ	Wyoming Department of Environmental Quality
FONSI	Finding of No Significant Impact	WGFD	Wyoming Game and Fish Department
FWS	U.S. Fish and Wildlife Service	WSA	Wilderness Study Area
GIS	Geographic Information Systems	WSR	Wild and Scenic River(s)
IB	Information Bulletin	WYPDES	Wyoming Pollutant Discharge Elimination System
IM	Instruction Memorandum		
MOU	Memorandum of Understanding		
NEPA	National Environmental Policy		

Protesting Party Index

Protester	Organization	Submission Number	Determination
Shannon Anderson	Powder River Basin Resource Council	PP-WY- FORTCREEK-0001- 1	Denied – Issues, Comments

Issue Topics and Responses

NEPA

EA/FONSI

Context/Intensity

Issue Number: PP-WY-FORTCREEK-0001-1-10
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

For example, the Fortification Creek Area has long been recognized by the BLM as having very special values. The first BLM document to identify the Fortification Creek Area as special was a 1975 Northeast Wyoming Management Framework Plan that created a special management area to protect the fragile watershed, aesthetic values, and wildlife habitat. Subsequent planning decisions in 1977, 1979, 1980, 1982 and 1985 recognized the "special resource values" in this area, so as to protect the isolated elk herd, high visual quality, steep slopes with erosive soils, and cultural, historic and paleontological values. EA at 355; BLM management documents. The area has long been delineated as a visual resource management (VRM) Class III area. Id.at 12. The landscape also contains a BLM Wilderness Study Area (WSA) which by definition makes this local area significant, and BLM also recognizes that part of this area qualifies as an Area of Critical Environmental Concern (ACEC). The Fortification Creek WSA is the only one within the Powder River Basin. BLM recognizes that the Fortification Creek Area has "unique characteristics." EA FONSI at 1.

Issue Number: PP-WY-FORTCREEK-0001-1-13
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

The Fortification Creek elk herd has special significance and context even if the species as a whole is not threatened [FOOTNOTE 6 - Even if the elk herd is only "locally" important – which it is not – significant impacts to a local population are still significant and warrant an EIS. As we stated in our comments: The fact that elk are not endangered and thrive in large numbers elsewhere in North America does not abdicate BLM's responsibilities to avoid and mitigate local impacts or prepare an EIS to disclose the significance of its local actions.

Issue Number: PP-WY-FORTCREEK-0001-1-134
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

This is not a typical project level EA. It is instead a programmatic document including a RMP amendment. RMP revisions and major amendments are "considered a major Federal action significantly affecting the quality of the human environment." 43 C.F.R. 1601.06. While this plan is not a complete revision of the BFO's RMP, it is a substantial management action that will determine how resources are protected for many years to come. To be consistent with BLM's regulations on RMP revisions and regulations, the agency should conduct an EIS.

Issue Number: PP-WY-FORTCREEK-0001-1-23
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

The Gerard, Roberts, and All dredge declarations and comments our groups have submitted previously to the Buffalo Field Office and the Wyoming State Office show that there are "substantial questions" as to whether BLM's permitting actions in the Fortification Creek Area "may" degrade ecological integrity, wilderness values and quiet recreation in the area.

Issue Number: PP-WY-FORTCREEK-0001-1-25
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

Importantly, the effects of the project are in many ways highly uncertain or involve unique or unknown risks.

Issue Number: PP-WY-FORTCREEK-0001-1-27
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

In the 2007 Elk Report, BLM documented that "[t]he effects of the proposed project [CBM development in the yearlong range] on elk populations are difficult to predict because of the many unknown factors associated with each of the potential effects and the potential for a synergistic or countervailing relationship among the individual effects." 2007 Elk Report at 15. The report further documented that "[h]uman activities associated with mineral activities are having the greatest influence on elk habitat selection. The elk have adjusted to the current level of development, by favoring the WSA and crucial ranges, but how much more development they can tolerate is unknown." Id. at 25.

Issue Number: PP-WY-FORTCREEK-0001-1-28

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

While BLM may claim that "[t]he scientific community is consistent with their conclusions related to the effects of open roads and surface disturbing activities, such as mineral development, upon elk and other ungulate species," FONSI at 12, many of BLM's assumptions about impacts are based on studies from other geographic areas – mainly forested areas – or anecdotal evidence because fullfield CBM at this scale has only recently started to occur in the area. As noted in the Michelena EA:

The actual response of the herd to the proposed development is highly uncertain. These assumptions are based on existing studies and GIS analysis. To the best of our knowledge, no actual cause and effect studies of the impacts of CBNG development have been conducted on elk in the Powder River Basin.

Michelena EA at 46 (emphasis added) [FOOTNOTE 7 - The Michelena CBM project was approved by BLM's Buffalo Field Office in 2009. Several of our organizations appealed this approval because the project is located within the FCPA, and this RMP/EA was still pending. In December 2009, the BLM Wyoming State Office vacated the Field Office's decision. Nevertheless, the EA is helpful for understanding some of the complexity and uncertainty regarding impacts to the elk herd.]. The Michelena EA further says that "habituation, [the ability of a species or population to adapt to disturbance] is very difficult to predict with a species such as elk." Michelena EA at 40. This statement was

included in this EA. EA at 451; See also EA at 453 ("It is difficult to predict exactly what the elk herd will do in response to the various development scenarios.").

In other EAs, BLM has fully acknowledged that: The effects of the proposed project on elk populations are difficult to predict because of the many unknown factors associated with each of the potential effects and the potential for a synergistic or countervailing relationship among the individual effects. Gamma Delta EA at 108. While other studies or anecdotal evidence are helpful in assessing potential impacts, they are not conclusive, especially because of the isolated prairie habitat in the Fortification Creek Area.

Issue Number: PP-WY-FORTCREEK-0001-1-31

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

This RMP Amendment is precedent setting in two main ways. First, it will pave the way for approving individual CBM projects within the FCPA that have heretofore been deferred. Projective EAs will "tier" to this NEPA document. In BLM's purpose and need section, the agency states that "[t]he purpose of this Resource Management Plan Amendment (RMPA)/Environmental Assessment (EA) is to provide the necessary level of analysis upon which to base a decision on future CBNG development within the FCPA." EA at 11. Second, it will change BLM's current management strategies and illegally waive lease stipulations by allowing development on slopes greater than 25%, in areas with sensitive soils and in elk crucial range, and by allowing overhead power in the FCPA. These are reasons why the action is precedent setting and why an EIS is warranted.

Issue Number: PP-WY-FORTCREEK-0001-1-8

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

The information presented in the RMP Amendment/EA demonstrates that the context of this project and the severity (intensity) of its impacts do not allow for a FONSI because there are significant impacts that will result from this project.

Summary

The context and intensity of the Fortification Creek RMPA/EA rise to a level of significance; therefore, the BLM should have prepared an EIS.

Response

The BLM did not violate NEPA by failing to prepare an EIS.

As stated in Powder River Basin Resource Council, IBLA 95-683 Decided June 18, 1998;.....
“1] It is well established that a BLM decision to proceed with a proposed action, absent preparation of an EIS, will be affirmed and held to be in accordance with section 102(2) (C) of NEPA where the record demonstrates that the BLM has, considering all relevant matters of environmental concern, taken a "hard look" at potential environmental impacts, and made a convincing case that no significant impact will result therefrom, or that any such impact will be reduced to insignificance by the adoption of appropriate mitigation measures. Cabinet Mountains Wilderness v. Peterson. 685 F.2d 678, 681-82 (D.C. Cir. 1982).

According to CEQ's regulations implementing NEPA (40 CFR 1500 et. seq.), "Significantly" as used in NEPA requires considerations of both context and intensity:

1. Context. This means that the significance of an action must be analyzed in several contexts such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, in the case of a site-specific action, significance would usually depend upon the effects in the locale rather than in the world as a whole. Both short-and long-term effects are relevant. 40 U.S.C. § 1508.27(a).

2. Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action. 40 U.S.C. § 1508.27(b).

Protestor raises a number of issues alleging that the context and intensity of such actions rise to the level of significance; however, this is incorrect. In this case, impacts to resources were either insignificant on their own or were reduced to insignificance through the performance-based measures outlined in Appendix B of the EA. The BLM's reasoning relating to specific issues or resources is described below.

Elk Herd

See response to Section 6.1.2, Wildlife Impacts

Cultural, Historical and Paleontological Values

The BLM states in Chapter 3.1.9.2 of the EA that a study of the FCPA found that there were no fossil localities within the FCPA and that there was only anecdotal evidence pointing to the potential for vertebrate fossils. Id., 3-42. Chapter 4.3.9 of the EA that any adverse effects to paleontological resources will be mitigated, if necessary. Id., 4-96. Chapter 4.3.7 of the EA states that there are no known or anticipated unique sites in the FCPA that would require special management. Id., 4-94.

Thus, the context and intensity of these values as currently understood do not rise to a level of significance.

VRM

The objective of the Visual Resource Management Class III is to "partially retain the existing character of the landscape." The BLM states in Section 4.3.10.2 that under Alternative III, the Proposed Action, that there would be moderate impacts to visual resources. Id., 4-101. This level of activity is consistent with VRM Class III objectives and does not rise to a level of significance necessary to prepare an EIS.

WSA

Mineral development is not allowed in the WSA (Id., 3-57); therefore the intensity of CBNG development therein is necessarily limited. Protestor is incorrect that all lands that contain WSAs by definition rise to a level of significance and require preparation of an EIS.

ACEC

Portions of the FCPA meet the relevance and significance criteria for designation as an ACEC. However, under Alternative III, the Proposed Action, the BLM would not designate this area as an ACEC, because performance-based standards for elk and reclamation would be sufficient to protect resource values. The presence of the proposed ACEC does not meet the significance threshold.

Wildlife Impacts

Issue Number: PP-WY-FORTCREEK-0001-1-11

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

The isolated elk herd that occupies this area gives it further special significance. BLM recognizes that this is an isolated elk herd and is somewhat unique because the elk live in a prairie environment. Such herds are "unusual" even if not totally unique. EA FONSI at 1. While BLM may contend that, "[t]he viability of a small Wyoming elk herd is insignificant within the national and regional contexts," EA FONSI at 1, this myopic view ignores the fact confirmed in the EA that this herd of elk is "isolated," that prairie dwelling elk are "unusual," and this herd is "of interest because of their history, isolation, and hunting importance." EA FONSI at 1, EA at 330.

Issue Number: PP-WY-FORTCREEK-0001-1-32

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

BLM needs to prepare an EIS first and foremost because its proposed action will create significant impacts to the Fortification Creek elk herd and its

habitat. BLM is proposing the approval of 483 wells and related infrastructure under Alternative III, which will result in a minimum loss of 3,565 acres of security habitat within crucial elk ranges and 3,648 acres of security habitat outside crucial ranges. EA at 478. These numbers are by themselves significant impacts to habitat – representing a 17% loss of security habitat within the FCPA [FOOTNOTE 8 - As explained in the EA, elk security habitat is particularly important to maintain. EA at 475. According to the Wyoming Game and Fish Department: "A security area is defined as 'any area that will hold elk during periods of stress because of geography, topography, vegetation, or a combination of those features' (Lyon and Christensen 1992). Hillis et al. (1991) quantified security areas as nonlinear blocks of hiding cover = 250 acres in size and one half mile from any open road." WY Game and Fish Department, A Rocky Mountain Elk Conservation Plan for the WGFD Sheridan Region, available at http://gf.state.wy.us/downloads/pdf/Elk_Consevation_PlanV2.pdf]. BLM's security habitat threshold is set at 20%, a number which the Wyoming Game and

Fish Department (WGFD) has determined "would be a very significant reduction for the Fortification area" and therefore "excessive." WGFD comments on the first draft RMP EA, Oct. 3, 2008 at 2. The WGFD therefore recommended a 10% reduction, Id., and called for an EIS. WGFD 2006 comments (BLM should "prepare an EIS for the overall oil and gas development in the FCSMA.")

Issue Number: PP-WY-FORTCREEK-0001-1-34

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Moreover, habitat throughout the FCPA will be impacted by wellfield operations. While BLM has proposed to phase drilling of wells and construction of infrastructure, BLM is not requiring the phasing of operations. BLM has established performance based goals for elk return, but has not established measures to reduce disruption and noise caused by operations so that elk will actually return. As noted in the EA and the 2007 Elk Report, scientific studies coupled with GPS collar data of elk within the Fortification Creek Area show that elk will avoid wells within at least 1.7 miles and roads within 0.5 miles. Therefore, any habitat within 1.7 miles of wells will be rendered ineffective. If wells are located through the FCPA, this means habitat throughout the FCPA, including security habitat and habitat within crucial elk ranges, will be compromised. If 438 wells are permitted, presumably two wells per pad at 80 acre spacing, over 17,520 acres of elk habitat will be impacted by the approval of Alternative III. This will result in reduction of security habitat connectivity and compromise the effectiveness of crucial ranges.

Issue Number: PP-WY-FORTCREEK-0001-1-36

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

More evidence of the cumulative significance of BLM's proposed action comes from thresholds previously established by the agency in adaptive management documents. According to the BLM's Elk Monitoring Plan for the Fortification Creek Area that developed monitoring thresholds for adaptive management purposes after the 2007 Elk Report: [A] 20% loss of habitat quality (effectiveness, as affected by habitat fragmentation, simplification, or degradation) within the boundary of delineated elk crucial habitat or yearlong habitat will be considered biologically significant. 2007 Elk Monitoring Plan at 4. These thresholds were designed for the entire yearlong range, not just the FCPA, and BLM

permitting actions in the southern portion of the yearlong range have already exceeded these "biologically significant" thresholds.

Issue Number: PP-WY-FORTCREEK-0001-1-37

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Additionally, according to the WGFD, the mere well density alone authorized under this plan will create "extreme" impacts. CBM development typically occurs at 80 acre spacing, or eight wells per section. WGFD identifies that 1-4 well pad locations or up to 60 acres of disturbance per square mile (per section) creates "high" impacts and greater than four well pad locations creates "extreme" impacts. WGFD, Recommendations for Development of Oil and Gas Resources Within Important Wildlife Habitats, April 2010, at 22. According to WGFD, "extreme" impacts "cannot be fully mitigated" and "offsite mitigation will be necessary." Id. at 18. Therefore, WGFD recommends that "this level of development should be avoided to the extent possible." Even "high" impacts are "difficult or at times impossible to effectively mitigate." Id. This is especially true for an isolated herd that does not have effective habitat outside of the planning area and thus offsite mitigation is not available.

Issue Number: PP-WY-FORTCREEK-0001-1-62

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

BLM sets its population elk population threshold at a 20% reduction from the population objective set by the WGFD. However, the WGFD has acknowledged that the "population objective" is not based on a carrying capacity analysis or any other scientific basis. In fact, the agency stated in its comments on the 2008 draft plan that BLM should use a threshold of 20% reduction from the current population: By using a threshold based on a 20% reduction of the population objective (population objective =150) the actual herd numbers could be significantly reduced from the current actual number, to the point of potentially compromising viability and stability of the herd. We believe re evaluation and mitigation measures should be implemented if a 20% reduction, or a trend toward that number, from the current population number, is detected. WGFD Oct. 3, 2008 comments. Because of the already small size of the herd, the limited habitat available, and the herd's sensitivity to development, a 20% reduction in population will be significant. See Dr. Alldredge's

Summary

The BLM needs to prepare an EIS because its proposed action of a threshold based on 20% reduction of the elk herd population will create significant impacts to the Fortification Creek Elk Herd and its habitat that may not be able to be fully mitigated.

Response

The proposed action defines a suite of performance standards to ensure viability of the elk herd and maintenance of sufficient suitable habitat. Appendix B identifies seven performance standards; four related to population including survival and production, and three standards related to maintaining a sufficient amount of effective habitat (Appendix B pg. 1). These performance standards will limit the impacts to the Fortification Creek Elk Herd below a level of significance; therefore, preparation of an EIS is not necessary.

Performance standards will be reviewed prior to each Plan of Development authorization. If the performance standards are not met to BLM's satisfaction, the APDs will not be authorized. (Comment 0504-14 pg. 271).

As stated in protestor's letter, the BLM identified in their 2007 elk report that it is human activities associated with mineral activities that have the greatest influence on elk habitat selection. In other words, it is not the physical habitat from roads and wells that effects the elk the most; but rather it is their avoidance of the human activities associated with the wells and roads. The RMPA/EA identifies in section 4.3.5. (pg. 4-50) that the impact of direct habitat loss is dwarfed by effective habitat loss. The RMPA/EA lists several scientific papers for support including: Reed et al. 19967, BLM 2007a, WGFD 2007a, Powell 2003, and Sawyer et al. 2007.

A cause and effect study with the University of Wyoming and the Wyoming Game and Fish Department (WGFD) was initiated in 2008. Preliminary results have been consistent with the other research cited within the RMPA/EA. The study has not been completed and therefore a final report is not available. The goal of the study is to identify the thresholds where CBNG disturbance mechanisms (noise, traffic level, etc.) negatively affect elk in order to design elk compatible CBNG projects.

As stated on Page 4-78 of the RMPA/EA, Alternative III (the proposed action) would retain 80% of security habitat within the yearlong and crucial ranges, with the goal "to reduce disruptive activities to the point that elk return to CBNG areas. ...It is anticipated that enough quality habitat would remain to support the herd at the WGFD population objective." The WGFD assisted in developing the performance standards. Their February 11, 2011 letter reviewing the proposed final RMP amendment demonstrates their support for the performance-based approach of the proposed action. The performance-based measures in the proposed alternative that will retain sufficient security habitat to support the elk herd are thus sufficient to mitigate impacts to the elk herd below a level of significance.

Impacts to Soil/Water/Vegetation

Issue Number: PP-WY-FORTCREEK-0001-1-115

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Furthermore, discharge permits in the Fortification Creek Area that allow for the discharge of produced water into the Powder River determine sodium loads under the DEQ's Powder River Assimilative Capacity Policy. This policy is also suspect and has not been approved by EPA. Furthermore, BLM has not analyzed or reviewed the sodium loads to the Powder River that WYPDES permits in the Fortification Creek Area authorize, including cumulative discharges of 1925 million pounds of sodium during the anticipated "high rain and snowmelt" months of May and June. At least three of the WYPDES permits listed in Appendix E have assimilative capacity sodium discharge credits. See WYPDES permits WY0052809, WY0054780 and WY0056081. The mixing of high sodium water with natural runoff and rainwater impacts the ability of our organizations' members who ranch and farm to use that natural runoff for irrigation purposes. The amount of sodium – and the quantity of water itself – may otherwise impact the Powder River ecosystem. USGS Scientific Investigations Report 20105124, Assessment of Ecological Conditions and Potential Effects of Water Produced from Coal bed Natural Gas Development on Biological Communities in Streams of the Powder River Structural Basin, Wyoming and Montana, 200508; See also Jan Hendrick and Bruce Buchanan, Expert Opinion on the Tier 2 Methodology. None of these impacts are properly analyzed under NEPA at the site specific or cumulative levels.

Issue Number: PP-WY-FORTCREEK-0001-1-40

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

4. BLM's action will produce significant impacts from the production of water associated with CBM development Although the 2003 Powder River Basin EIS (a programmatic EIS for impacts related to CBM development throughout the Basin) discussed the impacts that will result from the production of water associated with CBM development, impacts related to the Fortification Creek Area are above and beyond the scope of previously disclosed impacts. Therefore, they should be fully analyzed in this NEPA document

and warrant the preparation of an EIS if they may be significant.

Issue Number: PP-WY-FORTCREEK-0001-1-42

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

As disclosed in the EA, impacts to water resources will be significant. According to the EA, water resources will receive major negative impacts if Alternative III is implemented due to discharges of CBM produced water into ephemeral channels, the production of 2.1 million gallons per day of produced water, and the drawdown of aquifers in the planning area. EA at 438 to 39.

Issue Number: PP-WY-FORTCREEK-0001-1-44

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

The EA itself acknowledges significant impacts that result from discharged produced water. For instance, "discharge of CBNG produced water is likely altering the physical and chemical properties of soils in the FCPA." EA at 310. BLM further states that "Water discharged directly to ephemeral streams could result in changes to stream morphology and fish and vegetation habitats." EA at 315. Moreover, "CBNG produced water discharges would increase salinity and cumulatively impact water quality downstream." EA at 473. The EA also acknowledges that produced water impacts are more severe in the FCPA than other areas of the PRB because of the amount of produced water. Water production in the FCPA is "high" (greater than 79,000,000 barrels per year)." EA at 314. BLM previously estimated that 70% of CBM produced water "would be directly discharged into existing ephemeral drainages." Id. While 25% of produced water is expected to "be retained through development of water impoundments," the impoundments create their own problems because leaks "affect[] the hydrologic, soil, and vegetative conditions down gradient of these impoundments." EA at 316. BLM also states that "Overall, there are few suitable locations for impoundments within the FCPA because of the highly incised drainages and rough topography that dominate the landscape." EA at 460. Furthermore, BLM also discloses that there will be "major" impacts from groundwater drawdown. BLM says that full recovery of aquifers

will likely take hundreds of years. EA at 4-39. These are significant impacts that warrant an EIS. The statements in the EA are supported by EPA's comments on the draft plan. EPA expressed substantial concerns about impacts to water resources, especially further degradation of the Powder River: EPA is concerned about the impacts of the proposed CBNG development on the Powder River. The main stem of the Powder River is currently listed under Section 303(d) of the Clean Water Act as impaired due to selenium and chloride. Many of the streams in the project area, including Fortification Creek, drain into the Powder River. Without effective mitigation and monitoring, EPA is concerned that expanded development in the FCPA may impact and subsequently lead to extended

impairment of the downstream section of Powder River. In particular, EPA is concerned about selenium. While selenium occurs naturally and is nutritionally essential, it is toxic to both aquatic life and wildlife where concentrations are excessive. EPA comments on Draft RMP EA, November 2010. As a result of these impacts, EPA concludes that BLM cannot support a FONSI unless BLM develops "best management practices and a water monitoring program...with a focus on selenium and the goal of preventing the downstream section of the Powder River from becoming impaired." Id. EPA states, "Without effective and demonstrable mitigation measures to prevent unacceptable impacts to water chemistry and water resources, a Finding of No Significant Impact may be difficult to support." Id.

Summary

The BLM's action will produce significant impacts to soil, water and vegetation associated with Coal Bed Natural Gas (CBNG) development.

Response

The proposed action includes reclamation performance standards for the protection of soil, water and vegetation resources (FCPA Proposed RMPA/EA, Appendix B, pages 2-10.). Appendix B identifies the specific reclamation performance standards while Appendix A provides detailed instructions for monitoring the performance standards. Id., Appendix A, pages 1-28.

There are a number of management actions (EA pg 2-14 to 2-15) that limit the impact of produced water on the environment. A few of the management actions are as follows:

- A WDEQ Wyoming Pollutant Discharge Elimination System permit is necessary for all water discharge.
- Discharge points will be located in areas that will minimize erosion and impacts to the receiving channel, existing improvements, and downstream users.
- Discharge points, regardless of WYPDES status or previous use, may not be authorized by the BLM. Sites may be moved or otherwise mitigated by the BLM Authorized Officer during onsite inspections where sensitive resource habitat issues exist.
- Cumulative produced water discharges from CBNG developments must not exceed the naturally occurring two-year peak flow in any reach of the receiving channel.
- Discharge points will not be located in playas or enclosed basins unless it can be demonstrated that they will not result in adverse habitat impacts. Discharges into valley bottoms that have no defined bed and bank (low-flow channel) will generally not be allowed. However, the BLM Authorized Officer may allow such discharges after inspection on a site-by-site basis.

- The operator will be required to provide a reclamation bond for impoundments over Federal minerals.

Human Impacts

Issue Number: PP-WY-FORTCREEK-0001-1-55

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

2. BLM continues to fail to explain its plan for mitigating impacts from human activity and disruption. Deferring to the APD level is not sufficient to justify a FONSI; mitigation must be clearly explained and demonstrated to be effective. In this plan, BLM says that under Alternative III, "[m]etering and visitation will meet performance based objectives." EA at 218. However, BLM does not specify what these objectives are or how they will be met (aside from Appendix B, which has fatal flaws). BLM does not give examples of operating plans that will be required at the APD level or explain if they are effective in preventing impacts.

Summary

The BLM fails to explain its plan for mitigating impacts from human activity and disruption.

Response

The BLM's performance-based management plan, which can be found in Appendix B of the Fortification Creek PRMPA/EA, contains numerous mitigation measures that mitigate impacts from human activity and disruption. Seven performance standards are identified; four related to population including survival and production, and three standards related to maintaining a sufficient amount of effective habitat (FCPA Proposed RMPA/EA, Appendix B at 2).

Protestor alleges that Appendix B of the EA has fatal flaws. However, the protest response to Section 6.2, Adaptive Management Plan, details why Appendix B is a proper example of an adaptive management plan. Appendix B is not flawed, as the performance standards ensure that a sufficient amount of elk habitat is provided, that the elk are using the habitat, and that the elk herd is sustained.

The performance-based management plan contains a requirement for a reclamation plan that must be developed for surface disturbing activities (RMPA/EA pg. 4-17). This reclamation plan is in conformance with existing Wyoming policy, found in the BLM Instruction Memorandum No. WY-2009-022.

Additionally, operators must develop plans to demonstrate how performance standards will be met. The project proposal must demonstrate how it will meet the performance standards, and which requires the issuance of an activity plan demonstrating how human activity will be managed to prevent elk disruption. Appendix B provides the operators with recommendations to meet the performance standards (pg. 2). The RMPA/EA is the programmatic management plan establishing the requirements for the individual site-specific project proposals. The specifics of the activity plans, in terms of identifying exactly how the proponent intends to meet the

performance standards, are implementation decisions that are beyond the scope of the planning decisions in the RMPA/EA and are thus not protestable.

Adaptive Management Plan

Issue Number: PP-WY-FORTCREEK-0001-1-30

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Moreover, BLM's contention in its FONSI that impacts are certain is undercut by its proposed adaptive management plan. Adaptive management is appropriate only when impacts are uncertain and an agency must reassess its management actions after additional monitoring and scientific study. See CEQ, *Considering Cumulative Effects under the National Environmental Policy Act, 1997*, at 45 ("Where projected adverse effects remain highly uncertain, agencies can implement adaptive management.") If impacts are certain, then BLM can plan upfront and will know its proposed mitigation plan will be effective. That is not the case here. In fact, as discussed below, BLM's adaptive management plan itself creates uncertainty because management actions that will be taken in response to elk habitat and population thresholds are undefined in the plan. Throughout the EA, BLM has disclosed a high level of uncertainty about what impacts will result from its preferred alternative and what BLM will do in response to those impacts. This uncertainty necessitates an EIS.

Issue Number: PP-WY-FORTCREEK-0001-1-48

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

1. BLM's adaptive management plan is scientifically indefensible and not sufficient to constitute effective mitigation.

Issue Number: PP-WY-FORTCREEK-0001-1-50

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

First, BLM's plan does not include hard thresholds or disclose what management actions will be taken if thresholds are reached. This is especially problematic because without knowing what actions will be taken, it is impossible to know if they will be effective at preventing or reducing impacts. Second, BLM's plan also allows the agency to approve exceptions to the

phased development plan and approve more wells than modeled in crucial and security elk habitat. Therefore, while BLM's FONSI is based upon a

phased development plan, it is unlikely that phasing will actually be required. Additionally, because the thresholds are "merely guides," there is no guarantee that the habitat will be maintained at modeled levels. This renders BLM's impacts analysis inadequate because it does not consider the likely more severe impacts that will result from implementing its alternative. Third, BLM's chosen thresholds will not prevent impacts to the elk herd. Dr. Alldredge opines that "[t]he performance based standards proposed in Appendix B lacks scientific credibility and as proposed will not provide necessary information to implement recommendations to protect the elk population from major and potentially devastating impacts." Alldredge comments at 1. Additionally, Appendix B is "not scientifically defensible" and "will not provide adequate data to mitigate impacts to the elk population." Id. Dr. Alldredge's comments discuss scientific flaws in the thresholds BLM proposes to use and the mechanisms BLM chooses to use to assess whether those thresholds have been reached. As an indication of the thresholds' problems, BLM establishes a population threshold yet states that "Coal Bed Natural Gas (CBNG) will not be the causative factor to a population below this level." EA, Appendix B, at 1.

Issue Number: PP-WY-FORTCREEK-0001-1-53

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Finally, Appendix B is particularly problematic because its effectiveness is not evaluated in the impacts analysis contained in the EA. BLM merely includes conclusory statements about the "performancebased approach," but does not actually integrate the performance measures into its impact analysis and analyze whether the performancebased approach will in fact be effective at mitigating impacts. Dr. Alldredge states that this makes Appendix B "difficult to evaluate." Alldredge comments at 1. BLM's failure to actually analyze the effectiveness of its chosen mitigation measures

renders its FONSI legally and scientifically indefensible.

Issue Number: PP-WY-FORTCREEK-0001-1-57

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Thus, BLM cannot rely upon its unstated "performance based objectives" related to well visitation and human disturbance to support a FONSI. BLM has a clear duty to prevent impacts from disruptive activities because of lease stipulations that govern the area. Unfortunately, under any of BLM's alternatives, the agency does not present a plan to comply with these restrictions. As identified in the EA, BLM's failure to mitigate impacts related to human activity results in major negative impacts from transportation due to a 207 percent increase in vehicle trips in the area. EA at ES5. Of particular importance is BLM's allowance of diesel generators, even in crucial ranges or elk security habitat. According to BLM, "[g]enerators would be used in all three alternatives due to a backlog in the overhead power line construction schedule." EA at 464. While BLM admits that "[g]enerators, with their associated fuel truck visits, on the order of one to two trips per week, and the around the clock noise, cause additional disruption to wildlife, including elk, caused by truck visits and exhaust fumes, increased noise, and the potential for fuel spills," BLM does nothing to mitigate these impacts – in violation of current lease stipulations. BLM cannot sustain a FONSI while allowing significant impacts from diesel generators. In this EA, BLM states that its objective is 80% return of elk to areas impacted by CBM development. Science, including many of the studies cited in the EA, along with the history of oil and gas development in other areas, including the southern portion of the yearlong range, tell us this will not happen. The ongoing study of the elk herd by the University of Wyoming has demonstrated that elk are not returning to areas where wells were drilled in the southern portion of the yearlong range during the fall of 2009. Elk are continuing to avoid these areas and are favoring undeveloped areas in the FCPA, particularly the WSA. Clay Buchanan, Fortification Creek Elk Study Quarterly Progress Report, March 2011, attached. In fact, BLM's own statements in the EA support a conclusion that elk will leave the area. BLM states that data suggests that elk will "avoid roads and CBNG well sites" and they will be "slow to return" to areas following development. EA at 474. BLM further states that habituation to human activity will likely be less than other elk populations that have

previously been studied. EA at 477. The 2007 Elk Report clearly explained that if CBM development occurs throughout the Fortification Creek Area, elk will be forced to crowd into the WSA, the only habitat left, and the WSA will only support an unviable herd of 46 elk.

Issue Number: PP-WY-FORTCREEK-0001-1-59

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

3. BLM continues to fail to explain what, how, or when management actions will be taken if thresholds are reached

Issue Number: PP-WY-FORTCREEK-0001-1-61

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

However, Appendix B clearly says that the "thresholds" are merely "guides for adaptive management" that will not necessarily result in management changes. BLM specifically states that "they are not hard thresholds." While BLM may maintain that it will stop permitting should thresholds be reached, BLM's response to comments is contradicted by the language in the plan. Stopping permitting would only be an outcome if BLM had "hard thresholds" that would automatically trigger management actions. BLM's thresholds "guides" do not trigger any management actions, let alone stopping permitting. As our organizations told BLM in our comments on the Draft EA, BLM's Adaptive Management Manual states that "[i]f explicit and measurable management objectives cannot be identified or alternatives cannot be determined, then adaptive management is not feasible." Adaptive management will not work if BLM does not clearly describe how the approach would be implemented. This not only includes what types of actions are proposed initially, but also the results that are expected from monitoring and assessment, and future actions that maybe implemented based on those results. Decision makers and the public must be able to see how the adaptive management process would be implemented, including potential future actions and anticipated impacts on the environment. BLM, Adaptive Management Manual, 2010, at 40 (emphasis added). If BLM does in fact intend to stop permitting if thresholds are reached, then that management action needs to be incorporated into Appendix B and the subsequent Record of Decision for this project so it can be implemented and enforceable. BLM's FONSI is conditioned upon a

security habitat loss of less than 20% within the FCPA; therefore, BLM should ensure that this

threshold is not exceeded.

Summary

The BLM's adaptive management plan will not mitigate impacts; and creates uncertainty because management actions that will be taken in response to elk habitat and population thresholds are undefined in the plan. This uncertainty necessitates an EIS. In addition, the BLM's FONSI is not defensible because the performance standards were not incorporated into the impacts analysis to determine whether the standards would be effective in mitigating impacts.

Response

The Office of Environmental Policy and Compliance (OEPC) formally defines adaptive management as "a system of management practices based on clearly identified outcomes, monitoring to determine if management actions are meeting outcomes, and, if not, facilitating management changes that will best ensure that outcomes are met or to re-evaluate the outcomes." Appendix B of the RMPA/EA, titled "Performance-Based Standards: Goals, Objectives, Indicators, and Recommendations" properly incorporates adaptive management principles into the plan that will ensure that management actions are meeting outcomes.

As stated by CEQ, "where projected adverse effects remain highly uncertain, agencies can implement adaptive management." The FCPA provides a good opportunity for such implementation. In this case, there is a high level of uncertainty regarding the impact of CBNG development on the Fortification Creek Elk Herd. There is no requirement that the management actions themselves, that will be taken to ensure that outcomes are met, must be specifically described in the EA.

Appendix B of the PRMPA/EA describes the performance-based measures that will achieve BLM goals and objectives for the FCPA (FCPA Proposed RMPA/EA, Appendix B, pages 1-10). A goal therein is that "[a] viable elk herd utilizing their seasonal ranges during the appropriate seasons is maintained across the FCPA." Below this goal are a series of population and habitat thresholds that meet the "clearly identified outcomes" described in the OEPC definition. When these thresholds are crossed, the Monitoring Team (the BLM and the State of Wyoming) will review data and determine whether a management change is warranted. If a change is warranted, then the Monitoring Team will rely on the list of recommendations listed in Appendix B to make such changes.

The BLM has committed to reviewing the performance standards prior to APD issuance as identified in the response to comment (0134-02 pg 5): "All performance standards must be achieved to BLM satisfaction in order to remain within compliance. Security habitat modeling prior to each POD authorization will be used to assess this performance based objective. ... If a performance standard is not met and BLM determines it is necessary, then additional permitting will be stopped until the standard has been achieved to BLM's satisfaction." The BLM is committed to avoiding significant impacts and interprets the clause (Appendix G pg. 8) "the operator and surface managing agency arrive at an acceptable plan for mitigation" stipulated on

many of the leases as a requirement to avoid significant impacts.

Range of Alternatives

Issue Number: PP-WY-FORTCREEK-0001-1-69

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

A. BLM's "NoAction" Alternative is inherently flawed and does not meet the requirements of NEPA/NEPA documents must contain analysis of a "no action" alternative. 40 C.F.R. 1502.14. BLM's EA does not meet this requirement because it contains an inherently flawed "no action" alternative. In the case of a land management plan amendment, "'no action' is 'no change' from current management direction or level of management intensity." CEQ, 40 FAQs regarding NEPA, Question 3. In the case of this RMP Amendment, BLM states that "Under current management direction, CBNG extraction would be allowed in accordance with the existing stipulations and terms and conditions for development." EA 11. BLM acknowledges that these existing lease stipulations and conditions for development provide for the protection of elk habitat and other resources. For instance, BLM states that "leases were purchased with a stipulation that impacts to elk habitat, steep slopes, and highly erosive soils would be mitigated through a plan acceptable to the authorizing officer designed to avoid significant impacts." FONSI at 1. Appendix G of the EA "identifies the stipulations applied to each lease within the FCPA." EA, Appendix G at 1. The table in the Appendix details that many leases in the FCPA have stipulations that would protect resources. These stipulations include no surface occupancy stipulations for slopes 25% or greater, the Fortification Creek watershed (because of steep topography and fragile watersheds) and crucial elk habitat, surface disturbance stipulations (requiring approval of plans that include protection of surface lands and the environment), timing limitations for surface disturbance activity in crucial elk habitat, conditional surface use stipulations (preventing surface occupancy unless there is "an acceptable plan for mitigation of anticipated impacts"), and reclamation timing stipulations (requiring contemporaneous reclamation). While the leases vary in terms of what stipulations each one contains, it is clear from Appendix G that "current management direction" contains significant latitude to prevent and mitigate impacts, especially in crucial elk ranges. However, BLM ignores these stipulations in its environmental analysis and does not apply them in determining

impacts from the "no action" alternative. One of these stipulations is a controlled surface use stipulation that restricts or prohibits surface occupancy or use "unless the operator and surface managing agency arrive at an acceptable plan for mitigation of anticipated impacts." See, e.g. WYW143158. With this lease stipulation in place, development is prohibited unless impacts are mitigated through a plan. Moreover, of particular importance are the 'no surface occupancy' restrictions of various leases, which are much stronger than the controlled surface use restrictions that BLM discusses in its EA. BLM does not discuss the lease stipulations in its description of the no action alternative. EA at 22, 23, and 24. Nowhere in the EA does BLM discuss the full range of these lease stipulations and how they will mitigate impacts from development as part of current management direction. Instead, BLM concludes that the "no action" alternative would result in an 84% loss of elk security habitat through the approval of 726 wells and 179 miles of new roads. This is almost 250 more wells than the chosen Alternative III. However with 'no surface occupancy' restrictions in place, the no action alternative might actually result in less development than either of the "action" alternatives. Even if all of the leases merely contained CSU stipulations (which they do not), development under a "no action" scenario would not result in the impacts BLM discusses. BLM says that the CSU "stipulation provides BLM with the authority to propose phased development as a means to achieving an acceptable plan for the mitigation of anticipated impacts." Response to comments at 30. However, BLM acknowledges that "[a]n unregulated development pace was analyzed under alternative I, the no action alternative." Id. These two statements demonstrate that BLM was ignoring lease stipulations in analyzing the "no action" alternative. Since BLM analyzes the "no action" alternative as if lease stipulations do not apply, the "no action" alternative illegally waives the current lease stipulations and management prescriptions that apply to the area. In doing so, BLM has turned the "no action" alternative into an "action" alternative and therefore is left without the legally required no action alternative. The "no action" alternative is a critical part of a NEPA document because it provides a baseline for comparison of action alternatives. If the "no action" alternative is flawed, like it is here, then BLM's analysis of impacts under any of the alternatives will be flawed as well.

Issue Number: PP-WY-FORTCREEK-0001-1-82

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

One important aspect of the Elk Habitat Alternative was to extend the planning boundary to the entire yearlong range. BLM admits that the 2007 Elk Report's conclusion that more than 90 percent of the elk locations were within the chosen planning area boundary is incorrect and resulted from "sampling bias." EA at 474. However, BLM continues – illogically and arbitrarily – to use that conclusion as its basis for excluding the southern yearlong range from its programmatic planning. See BLM, Fortification Creek Resource Management Plan Amendment Frequently Asked Questions, Oct. 2010, at 2. BLM's exclusion of the southern portion of the yearlong range from this RMP Amendment is arbitrary and without scientific justification. See Declaration of Bill Alldredge, paragraph 8, attached as an exhibit to our comments on the draft RMP ("It is my professional opinion that there is no defensible biological reason for delineating a planning area boundary that follows no watershed boundary and excluded from analysis one third of the defined range for a resident elk population."). BLM rejected this part of the alternative by saying that current plans delineate the FCPA as a Special Management Area, first established in the 1975 Buffalo Field Office RMP. BLM states that "This, therefore, became the planning area boundary used during scoping and only the planning area that has been used in scoping can be used in the RMPA." EA at 28. However, a critical part of a land use plan amendment is to address new and additional information (e.g., elk use data), or to modify or correct existing land use plan decisions and designations (e.g., special use area boundaries).

Issue Number: PP-WY-FORTCREEK-0001-1-84

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

D. BLM did not properly consider alternatives regarding leases in the area, including buying back leases, letting leases expire, or voluntary lease withdrawal. Our organizations requested that BLM consider an alternative regarding leases: The plan fails to provide a full range of development alternatives including one that looks at limited or no mineral development based on a lease exchange, buying back leases, or allowing leases to expire or be suspended within the boundaries of the FCPA. First and foremost, BLM should amend the RMP to prevent additional oil and gas (or coal) leasing in the Fortification Creek Area. Next, BLM should consider whether leases that will expire should be renewed or whether they should be left to expire in order to protect the natural resources of the area. If the leases are renewed, BLM could add stronger lease stipulations to protect elk habitat and other natural resources (including no surface occupancy buffers around crucial winter and parturition ranges). Finally, BLM could consider exchanging leases within the Fortification Creek Area for leases in less sensitive areas of the Powder River Basin. All of these options are reasonable and should be considered in a robust alternatives analysis. Conservation Groups comments at 33. BLM rejected consideration of this alternative because "throughout the public scoping process, BLM affirmed that all existing rights would be preserved" and thus the alternative "did not meet the purpose and need of the plan." EA at 27. However, a main purpose of this plan is to develop mechanisms to protect the elk herd during CBM development. One of the ways to do this is to limit development in areas that are especially critical to the elk herd while allowing CBM development in less crucial habitat. Buying back leases or voluntary withdrawal, expiration, or exchange of leases within dual crucial range or areas next to the WSA would meet that purpose of the plan.

Summary

The BLM does not have a sufficient range of alternatives and thus violates NEPA.

- The No-Action alternative is inherently flawed
- The BLM did not consider a citizen-proposed alternative that would, among other actions, extend the planning boundary to the entire elk habitat yearlong range

- The BLM did not properly consider alternatives regarding canceling or exchanging leases in the planning area

Response

No-Action Alternative

Protestors stated in their public comments that the BLM ignored existing stipulations in analyzing the impacts of the no-action alternative, and therefore, that the no-action alternative was inherently flawed and violated NEPA. The BLM responded to this comment by stating that the BLM fully considered all RMP and lease-specific stipulations in its analysis, and by directing the reader to Section 2.2 and Appendix G of the Proposed RMPA/EA (Comment 0505-12). This statement was made in error. The BLM did not fully consider the impacts of stipulations in its analysis. However, for the reasons below, the BLM's approach to analyzing the no-action is not inherently flawed.

The purpose and need statement for the RMPA/EA identifies that "[u]nder current management direction, CBNG extraction would be allowed in accordance with the existing stipulations and terms and conditions for development" (EA pg. 1-1). Additionally, the description of the no-action alternative in Chapter 2.2.1 of the Proposed RMPA/EA states explicitly that "standard stipulations will apply." Figure 4-7 (pg. 4-135) of the RMPA/EA displays oil and gas leases, elk seasonal ranges, and steep slopes; Appendix G lists the stipulations applied to each lease. There are 63 leases within elk calving range, 19 (30%) of which contain lease stipulations; 12 NSOs, 4 CSUs, and 3 TLs. There are 46 leases within elk crucial winter range, 38 (83%) of which contain lease stipulations; 4 NSOs, 14 CSUs, and 20 TLs. TLs have been applied to all leases within the crucial elk ranges (EA at pg. 2-18). Leases with CSU stipulations require the operator and the BLM to arrive at an acceptable mitigation plan. The mitigation plan would include surface disturbing activity prohibitions within the crucial ranges during the appropriate seasons as mandated by the current leasing stipulation.

While under the No-Action Alternative, the BLM would continue to be committed to applying stipulations, it is not reasonably foreseeable in this planning document to determine and analyze exactly how they would be applied. This analysis is properly deferred until the stage of drafting individual leasing plans of development.

Some background information on the application of lease stipulations throughout the planning area is helpful in understanding why analysis of their impacts at the planning stage is not feasible or required under NEPA. The stipulation history is detailed in the PRB FEIS (Appendix P pg. P-5). Elk lease stipulations have varied over the years, including No Surface Occupancy (NSO), Controlled Surface Use (CSU) and Timing Limitations (TLs). The general evolution has been from NSO to TL. Stipulations carried forward from the 1982 Fortification Creek Oil and Gas EA into the 1985 Buffalo RMP included a NSO for elk calving and TL for elk crucial winter range. RMPs were amended throughout Wyoming in 1990 to provide consistency statewide and

incorporate the standard mitigation guidelines. The calving NSO was replaced with a TL. In addition, a CSU stipulation was applied to the FCPA requiring the operator and surface managing agency arrive at an acceptable mitigation plan.

Additionally, all NSO stipulation waiver/exception/modification requests would be considered due to the difficulty in developing the CBNG resource at the depth and spacing required to drawdown the coal aquifer and release the natural gas. The lease conveys rights, including a right to develop. The NSO stipulation, because of the nature of the CBNG resource, could effectively deny the right to develop the lease. One of the planning criteria of the RMPA/EA was to honor valid existing rights. The planning criteria are identified in section 1.6 (EA pgs. 1-7 to 1-8).

As a result, because the types of stipulations have evolved over time, and because waiver, exception and modification requests would be considered in CBNG resource development, the impacts of these stipulations were properly not analyzed as planning decisions. These impacts are properly deferred as implementation decisions, to be analyzed at the leasing plan of development stage.

Citizen Proposed Alternative

The citizen-proposed alternative was discussed in section 2.3.7 of the RMPA/EA (EA pg. 2-8). The proposal, as a whole, was rejected as "the proposed actions are included in some form within the alternatives being fully analyzed or are beyond the scope of this RMPA." The RMPA/EA then discusses each individual component of the protester's alternative and explains whether the component falls within existing alternatives, does not meet the purpose and need, or is outside the scope of the planning process (EA pg. 2-8, 2-9).

The RMPA/EA explains the rationale for not extending the planning area boundary to the full yearlong elk range in the discussion of the protesters recommended alternative (section 2.3.7., EA pg. 2-8). "The FCPA was established in the 1975 framework plan. Many of the RMP-level decisions being evaluated are tied to the planning area boundary." The overhead power restriction and the CSU lease stipulation requiring operators to prepare an acceptable mitigation plan are based on this boundary. The comment responses further discusses the rationale for the chosen planning area boundary (pg. 18, comment 0165-2). "The Planning Area boundary has been identified in past documents including the 1975 Framework Plan, 1982 Oil and Gas Surface Protection Plan, 1985 Buffalo Resource Management Plan, and 2001 RMP review. The overhead power restriction and the CSU lease stipulation requiring operators to prepare an acceptable mitigation plan are based on this boundary." As a result, the planning area boundary was appropriate and the proposal to expand the boundary to the full yearlong elk range was properly rejected as an alternative.

Canceling or Exchanging Existing Leases Alternative

Additionally, protestors allege that the BLM did not properly consider alternatives that would consider exchanges or withdrawals of existing leases. As the BLM stated in Section 2.3.4 of the RMPA/EA (EA pg. 2-7), this alternative would not meet the purpose and need of the plan. The

purpose and need of the RMPA/EA is to "provide the necessary level of analysis upon which to base a decision on future CBNG development within the FCPA" [emphasis added]. Additionally, the RMPA/EA states that "[a]s stated in the NOI and throughout the public scoping process meetings, the BLM affirmed that all existing rights would be preserved (Planning criteria)." Therefore, analysis of the management decisions on already existing leases would not meet the purpose and need, or comply with the stated planning criteria (limitations or 'sideboards'), as it would involve decisions on past, rather than future, CBNG development within the FCPA.

Pre-Determined Outcome

Issue Number: PP-WY-FORTCREEK-0001-1-89

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

In late 2008, then Buffalo Field Office manager, Chris Hanson, told his staff that the CBM operators will not accept the BLM Draft RMP EA and therefore the plan would be rewritten and a new industry preferred alternative would be proposed: "The Buffalo Field Office (BFO) met with operators of the Fortification Creek area on December 8, 2008. The operators have advised the BLM that they would not accept a voluntary phased development approach for the Fortification Creek area as proposed in December, 2007 and analyzed in the Draft RMP amendment/EA." Electronic correspondence from Chris Hanson to other BLM staff, Dec. 18, 2009. After several meetings with the CBM industry over the next months, BLM decided that "[t]he new plan is to be performance based vs prescription... meaning we will provide the results we want (stable soils, unimpaired water, elk using developed areas, etc.) and provide a list of recommendations (BMPs etc.) to achieve the results." Electronic correspondence from Tom Bills to other BLM staff, July 8, 2009, attached. These emails demonstrate that before the new draft plan was written, the BLM has selected its preferred alternative. Thus, in violation of NEPA, BLM's EA is "an exercise in form over substance...a subterfuge designed to rationalize a decision already made." *Metcalf v. Daley*, 214 F.3d 1145, 1142 (9th Cir. 2000). BLM does hide the fact that they chose Alternative III because that is what the CBM operators wanted. See BLM Response to Comments ("Alternative III provides for a performance based approach, as requested by the lease holders, to minimize prescriptive measures."). In fact, CBM operators were involved in developing Alternative III. See BLM Response to Comments ("standards for elk use (fidelity) and habitat effectiveness...received independent review by...industry, and private wildlife consultants (including Hayden Wing Associates"). BLM's bias towards Alternative III because of the operators' preference prevented the agency from giving full consideration to other, more protective, alternatives and therefore did not allow a fair balance of multiple uses as required by FLPMA or proper consideration of a range of reasonable alternatives as required by NEPA.

Summary

The BLM's proposed action was the result of a pre-determined outcome that was biased in favor of CBNG development. Therefore, the BLM did not allow a fair balance of multiple uses as required by FLPMA or proper consideration of a range of reasonable alternatives as required by NEPA.

Response

The BLM involved many interested parties during the development of the RMPA/EA including cooperating agencies, CBNG operators, and PRBRC and other conservation organizations. Protest Exhibit 6, Dr. Alldredge's second letter, discusses some of the involvement that he had with BLM during the RMPA process. The protest document (pg. 3) itself clearly indicates that

the protesting organizations have met with the BLM throughout the RMPA process. The BLM sufficiently coordinated and consulted with interested parties throughout the development of the RMPA/EA. Furthermore, the BLM engaged in extensive public comment processes after publishing the Draft RMPA/EA in August 2008 and a revised Draft RMPA/EA in September 2010 (see FCPA Proposed RMPA/EA at ES-3 - 4). The BLM's coordination and consultation is summarized in the Executive Summary (pg. ES-3) and discussed in greater detail in sections 1.5 (pg. 1-6) and 5.0 (pgs. 5-1 through 5-6). The scoping report was included as Appendix C.

Many components of the PRBRC proposal (pg. 2-8) were included in the alternatives analyzed including: restricting well visitation, adaptive management to protect the elk, and prohibiting direct produced water discharge. The EA also explains why other components of the PRBRC proposal were not included in any of the alternatives.

One of the identified planning criteria was that the RMPA would recognize valid existing rights (pg 1-8). The BLM has previously leased nearly the entire planning area for potential fluid mineral development. Figure 3-13 (pg. 3-54) displays the Federal oil and gas estate and existing oil and gas development within and surrounding the planning area. Figure 4-7 (pg. 4-135) illustrates the active leases and identifies a couple of the primary resource issues (elk crucial ranges and steep slopes).

Regulation 43 CFR 3101.1-2, surface use rights, states "[a] lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold subject to: Stipulations attached to the lease; restrictions deriving from specific nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed." The BLM oil and gas lease form (3100-11) includes the following text: "This lease is issued granting the exclusive right to drill for, mine, extract, remove and dispose of all the oil and gas (except helium) in the lands described in Item 3 together with the right to build and maintain necessary improvements thereupon for the term indicated below, subject to renewal or extension in accordance with the appropriate leasing authority. Rights granted are subject to applicable laws, the terms, conditions, and attached stipulations of this lease, the Secretary of Interior's regulations and formal orders in effect as of lease issuance, and to regulations and formal orders hereafter promulgated when not inconsistent with lease rights granted or specific provisions of this lease."

An alternative prohibiting fluid mineral development would not have been a reasonable alternative given the valid existing rights. Therefore, the alternatives were carefully developed to protect sensitive resources while providing for fluid mineral development. Comments from two of the affected counties (Big Horn Mountain Coalition) and the Wyoming Governor's office on the Draft RMPA/EA acknowledge the BLM's effort to find an appropriate balance amongst multiple resources and land uses. The Big Horn Mountain Coalition states: "Your reasoned presentation to the Coalition Board at our August 26 meeting in Buffalo for a performance-based development approach appeared to strike an appropriate balance." Governor Freudenthal wrote: "While some concerns remain related to the adaptive management process, I am generally pleased with the progress that the Bureau of Land Management has made in the planning process

spelled out in the newest draft RMP Amendment and EA."

Response to Public Comments

Issue Number: PP-WY-FORTCREEK-0001-1-118

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

BLM failed to respond to several parts of our organizations' comments, including the deficiency of the no action alternative, the deficiencies of the cumulative impacts analysis related to the elk herd, and the flaws of Alternative III's performance based measures as laid out in Appendix B.

Summary

The BLM failed to respond to several parts of the comments presented by the protesting organizations.

Response

The BLM substantively and meaningfully responded to all public comments, including those raised by the protesting organizations. However, as relating to the no-action alternative, a comment response was in error.

No-Action Alternative

The BLM's response to protestor's public comment was made in error. See response to Issue 6.4, Range of Alternatives, for further description of this issue, and reasoning as to why the no-action alternative was not deficient.

Cumulative Impacts Analysis Relating to Elk

The BLM meaningfully responded to all comments relating to the cumulative impacts analysis relating to the Fortification Creek Elk Herd.

Protestor's comments allege that the BLM did not analyze the cumulative impacts to the Fortification Creek Elk Herd, excluding lands in the southern third of the elk's crucial and yearlong ranges. Plaintiffs allege that the BLM limited the analysis only to the Fortification Creek Planning Area. The BLM's responded to these comments by stating that cumulative impacts were evaluated throughout the elk's range, and referred the commenter to Section 4.3.5 of the Proposed RMPA/EIS, which discussed the results of the cumulative impacts analysis.

Flaws of Alternative III's Performance-Based Measures

The BLM did respond to the comment made by the coalition of conservation groups alleging that there were flaws in the proposed performance-based measures. In that response, the BLM discussed the performance-based approach in Appendix B and explained the approach therein to

conserving at least 80% of elk security habitat. Furthermore, as discussed in Protest Resolution Report Issue 6.2, Adaptive Management Plan, the performance-based measures laid out in Appendix B are not flawed and are a proper use of adaptive management techniques.

FLPMA

Failure to Protect LWCs

Issue Number: PP-WY-FORTCREEK-0001-1-121

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

In this NEPA document, BLM failed to inventory for and protect Lands with Wilderness Characteristics (LWC) as required by FLPMA, Secretarial Order 3310 and BLM Manual 6301.

Issue Number: PP-WY-FORTCREEK-0001-1-124

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

In this RMP Amendment and Appendix D (Wilderness Characteristics Inventory), the BLM neither conducted an adequate inventory nor demonstrated with sufficient documentation adequate findings to exclude two areas, Fortification Creek West and Fortification Creek Southeast, from being identified as LWCs or considered for Wild Lands designation.

Issue Number: PP-WY-FORTCREEK-0001-1-129

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

C. The BLM improperly determined that grazing infrastructure and plants undermined the naturalness of lands in the Southeast and West Units of citizen-inventoried wilderness. Even if the reservoirs and stock ponds mentioned above were verified, this kind of development does not disqualify an area from recognition as LWCs; to the contrary, these types of lesser intrusions are suitable for inclusion within LWCs. According to the BLM Manual, in order to be "natural," a land "must appear primarily to be affected by the forces of nature, and any work of human beings must be substantially unnoticeable." BLM Manual 6301 at 9. The "naturalness" criterion set out in BLM's manual gives specific examples of human made features that may be considered

"substantially unnoticeable," including stock ponds and spring developments (reservoirs). Id. These types of features appear to be "substantially unnoticeable" to the average visitor and thus the feature will not detract from the wilderness characteristics of the lands. Id. In fact, the inventories lands meet criterion for naturalness. According to the BLM Manual, "Natural integrity refers to the presence or absence of ecosystems that are relatively unaffected by modern human activities." BLM Manual at 9. The sagebrush steppe ecosystem represented in these two areas is primarily undisturbed and intact and "the average visitor who is not familiar with the biological composition of natural ecosystems verses human affected ecosystems," would not even notice the influx of cheat grass or other nonnative plants in the area. BLM Manual 6301, pp. 910. As long as the area looks natural, then it meets the naturalness criteria. Photo FCSE8 embodies this concept. A trained biologist (depending on their area of expertise) might notice the preponderance of nonnative crested wheatgrass in the photograph, and if that biologist was also quite familiar with reclamation post drilling, he or she might even be able to identify it as the reclaimed pad of a plugged and abandoned well. To the average person, however, this photograph shows a predominantly natural landscape, and indeed, such reclaimed well pads have been deemed to meet naturalness criteria throughout Wyoming for decades and are included in many of the presently designated Wilderness Study Areas, all of which had to meet naturalness criteria as a prerequisite to designation. The information provided by the BLM in Appendix D also included information on grazing usage by permittees, which is irrelevant to wilderness characteristics determinations. In fact, grazing on wilderness lands is explicitly permitted as a compatible use by the Wilderness Act of 1964 and reiterated in the Wyoming Wilderness Act of 1984. The use by permittees to graze their cows in a LWC is allowed and their present use, whether it be motorized routes, water troughs, reservoirs, fencing, etc. is grandfathered in. These uses are therefore not a deterrent or an eliminating factor to identifying LWCs or designating these areas as a Wild Lands. The BLM's Manual states that the BLM must "Avoid

an overly strict approach to assessing naturalness in evaluating LWCs." Manual 6301, p. 10. In the case of the Fortification Creek units, BLM's approach has gone beyond overly strict, to completely unsupported. The Inventory in Appendix D, Table 1, noted that the two areas inventoried, Southeastern

Sub Unit and Western Sub Unit, did not meet the "Natural Condition" criteria, but did meet all other criteria for LWCs. Therefore, if BLM properly applied the "naturalness" criterion as established in BLM's Manual, these lands would qualify as LWCs.

Summary

The BLM failed to adequately inventory for and protect Lands with Wilderness Characteristics.

Response

The BLM updated the wilderness inventory for the Fortification Creek Planning Area in preparation of this RMPA/EA in accordance with 43 U.S.C. § 1711. No Lands with Wilderness Characteristics were found within the planning area.

Protestors disagree with the BLM's conclusion that there are no lands with wilderness characteristics outside of the Fortification Creek Wilderness Study Area. In Section 2.3.3, the BLM documents that, in preparing this RMPA/EA, they updated the 1978 and 1979 wilderness inventories within the FCPA. In doing so, the road inventory indicated that areas determined not to possess wilderness characteristics in 1979 do not possess wilderness characteristics today. The inventory worksheets for this area can be found in Appendix D. The BLM stands behind this inventory. The inventory supports the BLM's conclusion that lands and resources outside the WSA do not exhibit a high degree of naturalness, and there is no opportunity for solitude or primitive unconfined recreation.

As the BLM found, at that time, no LWCs outside of the WSA, there was no opportunity or need to protect LWCs.

Waiving Lease Stips

Issue Number: PP-WY-FORTCREEK-0001-1-132

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

BLM regulations provide that: A stipulation included in an oil and gas lease shall be subject to modification or waiver only if the authorized officer determines that the factors leading to its inclusion in the lease have changed sufficiently to make the protection provided by the stipulation no longer justified or if proposed operations would not cause unacceptable impacts. 43 C.F.R. 3101.14. Therefore, in order to waive any lease stipulations associated with leases in the FCPA, BLM must make a determination in this RMP Amendment that factors have changed in a way that justify removal of the stipulation. BLM makes no such determination. In fact, if anything the RMP Amendment and EA demonstrate that the factors leading to the lease stipulations are even more important than they once were. For instance, crucial range elk habitat in the FCPA is even more important given the development of crucial ranges in the southern portion of the yearlong range. Throughout the plan and in BLM statements about the plan, BLM maintains that "natural gas development will be regulated under the terms and stipulations of the existing leases." See BLM Response to Comments at 32. To the contrary – BLM's selected alternative does the opposite by waiving lease stipulations without any demonstrated justification.

Summary

The BLM improperly waived oil and gas lease stipulations without any demonstrated justification.

Response

The RMPA/EA did not waive, modify, or except any lease stipulations. The Purpose and Need of the RMPA/EA states (EA pg 1-1): "Under current management direction, CBNG extraction would be allowed in accordance with the existing stipulations and terms and conditions for development. BLM will use this RMPA to consider additional management controls, including timing and location stipulations, to mitigate potential impacts."

The BLM's handling of lease stipulations are discussed further in section 2.2. (EA pg. 2-4). Here the RMPA/EA states: "Development proposals must incorporate the stipulated resource protections unless a waiver, modification, or exception is formally requested by the operator and granted by the BLM. FCPA development proposals shall be held to the specific lease stipulations where they provide greater resource protection than the Final Fortification Creek RMPA, unless formally waived, modified, or excepted. Waiver, modification, and exception requests shall be considered during the environmental analysis process for the site-specific PODs."

Appendix G of the RMPA/EA identifies the stipulations for all leases within the FCPA.

ACECs

Issue Number: PP-WY-FORTCREEK-0001-1-70

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

B. BLM's Alternative II is flawed because it ignores the value of establishing an ACEC with management prescriptions to protect the elk herd and other resources

Issue Number: PP-WY-FORTCREEK-0001-1-72

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

In addition to designation of an ACEC, BLM is required to include appropriate management prescriptions to ensure protection of these vulnerable resources. Management prescriptions are to be "fully developed" in the RMP. Manual 1613, Section .22 (Develop Management Prescriptions for Potential ACECs). BLM's guidance on this issue specifically addresses size requirements and mineral withdrawal. Manual 1613, Section .22.B.2 (Size of area to receive special management attention) states that an ACEC is to be as large as is necessary to protect the important

and relevant values. The ACEC Manual also explicitly recognizes mineral withdrawal as an appropriate management prescription for protecting ACEC values. 1613, Section .33.C (Provision for Special Management Attention). Alternative II of the Draft RMP Amendment states that it would "establish the citizen proposed ACEC (33,757 acres)." EA at 240. We appreciate the evaluation of the proposed boundaries, since an ACEC is needed to protect the area's acknowledged values. Unfortunately, instead of next identifying specific management prescriptions (as required by the Manual and proposed repeatedly by citizens), the RMP Amendment states "ACEC management prescriptions would be defined in the Decision Record." Id. While certain management prescriptions are provided in the document, there is not a comprehensive description for the ACEC that was developed with this goal in mind. The RMP Amendment's statement that "management prescriptions are as identified under the individual resource sections for this alternative," EA at 21, is contradicted by the fact that a cohesive set of management prescriptions for an ACEC is not fully or properly analyzed in this RMP Amendment. Not only is the BLM's approach inconsistent with guidance, but also it leads to a fatally flawed analysis

of this alternative. Without specific management prescriptions designed to protect the Fortification elk herd, the BLM cannot determine how the area will be managed as an ACEC and, consequently, cannot evaluate the impacts of this designation. The agency's conclusions regarding impacts and benefits of Alternative II are undermined by the lack of specific management prescriptions, which could have been designed to yield defined and reliable protections in a better manner the agency's preferred "performance based" approach. In discussing Alternative II's potential effects on the resources of the Fortification Creek Area, BLM admits that its general management approach for the ACEC is not meaningful and concludes: Although ACECs and WHMAs are typically managed with a resource in mind, to the benefit of that resource, the management would be the same as those in the FCPA with the only difference being a formal name. This action, if implemented, would have a negligible beneficial impact on wildlife. EA at 467 (emphasis added). This admission that the management would be essentially unchanged conflicts with the statement later in the

RMP Amendment that, under Alternative II, "management prescriptions for these areas [the ACEC and WHMA] would be designed to protect the Fortification Creek elk herd and would include restrictions on surface disturbance" but explains the seemingly inconsistent conclusion in this same sentence that there would be "minor beneficial impacts." EA at 4116. Without specific management prescriptions that are designed to protect the important values of the Fortification Creek Area, the BLM cannot meet its obligations under NEPA to fully evaluate the impacts of Alternative II. We would note that this is especially troubling given that Alternative II is defined as the "prescriptive" approach. In addition, by not fully developing meaningful prescriptions for these special designations, BLM has essentially ensured that Alternative II cannot be adopted. This violates NEPA's requirement that the BLM evaluate a reasonable range of alternatives, which includes alternatives that would minimize environmental effects.

Summary

The BLM ignored the value of establishing an ACEC that contains sufficient management prescriptions to protect the elk herd and other resources.

Response

The BLM determined in the 2003 PRB FEIS that the proposed Fortification Creek ACEC met relevance criteria for scenic value and wildlife; it met the importance criteria for local significant qualities (wilderness characteristics); has circumstances that make it fragile, and unique (plains elk herd); and has been recognized as warranting protection to satisfy national priority concerns (Appendix H, pg. 7). The PRB FEIS also determined that no interim management was necessary to protect the resource values and postponed a decision on ACEC designation (Appendix H, pg. 15).

The RMPA does not address public OHV use and minimally addresses livestock grazing, both of which were determined to be adequately protective of ACEC values in the PRB FEIS (Appendix H, pg. 15). No oil and gas leasing is part of the interim management for the WSA (Appendix H, pg. 15), the only portion of the planning area to possess wilderness characteristics (EA pg. 2-6, Appendix D).

The proposed action defines performance standards to ensure the protection of the fragile and unique resources. Appendix B (pg. 1) identifies the performance standards for the elk and reclamation.

Alternative II would protect the fragile and unique resources through management actions of a prescriptive nature summarized in Table 2-1 (EA pg. 2-2) and fully described in Table 2-2 (beginning on EA pg. 2-11). A few of the prescriptions include: not allowing surface disturbance on areas of highly erosive soils and/or slopes of 25 percent or more, water management facilities would be located outside the crucial winter range and parturition range, surface disturbing activities to support surface water discharge would not be authorized, tri-phased development by geographic area, and the requirement for a work activity management plan addressing operations and maintenance.

Greenhouse Gas Emissions

Issue Number: PP-WY-FORTCREEK-0001-1-107

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Moreover, BLM's aggregate emissions figure does not account for the extensive fossil fuel production, whether coal, oil, or natural gas, that is ongoing in the Powder River Basin. BLM is aware, or should be aware, of serious GHG pollution concerns associated with coal production. And BLM should now be aware of serious GHG pollution concerns associated with oil and natural gas production.

Issue Number: PP-WY-FORTCREEK-0001-1-109

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

BLM's aggregate emissions figure also sweeps under the rug serious uncertainties and controversy regarding the magnitude of GHG emissions from oil and gas development that we have raised with BLM and necessitate preparation of an EIS. 40 C.F.R. 1508.27(b)(4), (5); Powder River Basin Resource Council et al., March 2, 2011 Comment Letter at 36; Powder River Basin Resource Council et al., November 19, 2010 Comment Letter at 4041. In short, GHG emissions from several specific oil and gas production emissions sources have been wildly underestimated, a conclusion reached by EPA. As we noted: When EPA accounted for just these four revisions, it more than doubled the estimated GHG emissions from oil and gas production, from 90.2 million metric tons of carbon[] dioxide equivalent, to 198.0 MMTCO₂e. These are not trivial emissions. Using EPA's GHG equivalencies calculator, 198.0 MMTCO₂e is equivalent to the annual greenhouse gas emissions from 51.4 coal fired power plants, or the emissions from consuming 460,465,116 barrels of oil. Powder River Basin Resource Council et al., March 2, 2011 Comment Letter at 5 [citations

omitted]. The uncertainties and controversy regarding BLM's proposal to develop Fortification Creek – and, at bottom, the significant cumulative impacts – are also a product of the difference between near term and long term warming impacts from methane. A recent study has determined that gas aerosol interactions amplify methane's impact such that methane is 33 times as potent as carbon dioxide over a 100year time period, and 105 times as potent over a twenty year time period [FOOTNOTE 9 - Shindell et al., Improved Attribution of Climate Forcing to Emissions, *Science* 2009 326 (5953), p. 716 (www.sciencemag.org/cgi/content/abstract/326/5953/716).]. BLM has, therefore, not only failed to address uncertainties, serious controversy, and cumulative impacts but, also, failed to take a hard look at the short and long term impact of methane emissions to ensure accurate impacts analysis, a failure that necessitates an EIS and, at the least, renders BLM's FONSI unconvincing. See 40 C.F.R. 1508.27(a) (requiring consideration of short and long term effects). BLM should also be aware of a very recent peer reviewed study by academics at Cornell University that determined that the near term (i.e., 20year) lifecycle GHG footprint of unconventional shale gas development facilitated by hydro fracking produces serious GHGs that may be greater than coal [FOOTNOTE 10 - Robert W. Howarth et al., Methane and the Greenhouse Gas Footprint of Natural Gas from Shale Gas Formations, *Climatic Change* (https://motherjones.com/files/0411shale_gas_footprint_fulltextpdf.pdf). We think this study, beyond its basic findings, provides a sound methodological approach that BLM can and should use, here, to address lifecycle emissions from the proposed oil and gas development in the Fortification Creek area and, more broadly, the Powder River Basin through the NEPA process. Notably, many of these uncertainties are caused by the dispersed nature of oil & gas equipment; rather than a single, easily grasped source, such as a coal fired power plant, oil & gas production consists of large numbers of wells, tanks,

compressor stations, pipelines, and other equipment that, individually, may appear insignificant but, cumulatively, may very well be quite significant. While dispersed, oil & gas development is nonetheless a massive, landscape scale industrial operation – one that just happens to not have a single roof. BLM, as the agency charged with oversight of onshore oil & gas development, has a duty to address GHG emissions from oil & gas production through sites specific analysis, a duty it has, here, failed. Two more points regarding BLM's aggregate emissions figure require emphasis. First, this emissions figure fails to recognize that GHG pollution caused by oil and gas development is not merely a climate change issue but, also, a waste issue. A cubic foot of methane that escapes into the atmosphere is a cubic foot of methane that cannot be sold to consumers. BLM has basic obligations under both FLPMA and the MLA to prevent waste. Pursuant to FLPMA, BLM must "take any action necessary to prevent unnecessary or undue degradation of the [public] lands." 43 U.S.C. 1732(b). The MLA, as amended, obligates BLM to prevent waste in oil & gas operations, functioning as a corollary to FLPMA's unnecessary or undue degradation duties. The MLA requires that "[a]ll leases of lands containing oil or gas ... shall be subject to the condition that the lessee will, in conducting his explorations and mining operations, use all reasonable precautions to prevent waste of oil or gas developed in the land...." 30 U.S.C. 225; see also 30 U.S.C. 187 ("Each lease shall contain...a provision...for the prevention of undue waste...."). The MLA's legislative history specifically provides that "conservation through control was the dominant theme of the debates." *Boesche v. Udall*, 373 U.S. 472, 481 (1963) (citing H.R. Rep. No. 398, 66th Cong., 1st Sess. 1213; H.R. Rep. No. 1138, 65th Cong., 3d Sess. 19 ("The legislation provided for herein...will [help] prevent waste and other lax methods....")). BLM regulations illuminate these requirements. BLM must "require that all operations be conducted in a manner which protects other natural resources and the environmental quality, protects life and property and results in the maximum ultimate recovery of oil and gas with minimum waste and with minimum adverse effect on the ultimate recovery of other mineral resources." 43 C.F.R. 3161.2 (emphasis added). Waste is defined as any act or failure to act, not sanctioned by the authorized officer, resulting in: "(1) A reduction in the quantity

or quality of oil and gas ultimately producible from a reservoir under prudent and proper operations; or (2) avoidable surface loss of oil or gas." 43 C.F.R. 3160.05. Avoidable losses of oil or gas include venting or flaring without authorization, operator negligence, failure of the operator to take "all reasonable measures to prevent and/or control the loss," and an operator's failure to comply with lease terms and regulations, order, notices, and the like. *Id.*; GEN 543 (Notice To Lessee regarding venting and flaring). BLM has, in other circumstances, cited the existence of policies, primarily Notice to Lessees 4A (Jan. 1, 1980), that purport to be designed to prevent waste to defend against its failure to address waste through the NEPA process. However, the existence of waste policies do not obviate BLM's obligation to address waste through the NEPA process; BLM has policies, for example, governing wildlife protection but BLM nonetheless still addresses wildlife impacts through the NEPA process, as it must. BLM's failure to similarly account for waste is a glaring error. Laws and policies are, fundamentally, complied with by establishing a rational connection between the NEPA process and the ultimate decision. Without any NEPA analysis, BLM cannot, by definition, establish this rational connection.

Issue Number: PP-WY-FORTCREEK-0001-1-111
Organization: Powder River Basin Resource Council et. al.
Commenter: Shannon Anderson

At bottom, BLM must initiate preparation of an EIS to account for the significant impacts caused by GHG pollution and associated waste concerns from oil and gas development in the Powder River Basin to the environment. The referenced Cornell study on lifecycle GHG emissions provides a methodological framework to complete this analysis. BLM should ensure, as it conducts this analysis, that it takes a hard look at the specific sources of GHG emissions – a hard look BLM failed to complete here by relying on a simplistic aggregate emissions figure – to inform its alternatives. These alternatives must, in turn, consider alternatives to prevent or abate GHG pollution and waste from oil and gas development. At present, BLM's failure to address GHG pollution and waste violates NEPA, as well as the agency's duty to prevent degradation and waste required by FLPMA and the MLA, as amended.

Summary

The BLM must initiate preparation of an EIS to account for the significant impacts caused by GHG pollution and associated waste concerns from oil and gas development in the Powder River Basin to the environment.

Response

GHG Emissions

Impacts from greenhouse gas emissions in the FCPA do not rise to a level of significance; therefore, the BLM is not required to prepare an EIS. The BLM recognizes GHG emissions as a serious national and worldwide emerging issue, but quantification of GHG impacts that would allow meaningful alternative comparison and informed decision-making in the FCPA is not currently available.

Chapter 4.3.1 of the PRMPA/EA discusses impacts to air quality that will result from CBNG development in the FCPA. Id. at 4-9 – 4-16. BLM acknowledges that emissions of various greenhouse gases will occur during both construction and operation of CBNG wells. The direct and indirect impacts of emissions were analyzed for the FCPA in the PRMPA/EA. Cumulative impacts for the entire Powder River Basin were analyzed in the 2003 Powder River Basin Oil and Gas FEIS. The PRMPA/EA describes that the cumulative impacts from all three FCPA alternatives would be minor in comparison to the Powder River Basin impacts (EA pg. 4-16).

In addition to the PRMPA/EA's air quality analysis (EA pg. 4-9), methodology for the air quality analysis was further explained in the response to public comments (pg. 165 comment 0309-11). "Quantitative air dispersion modeling was completed for the Powder River Basin Oil and Gas EIS (BLM 2003). Air pollutant dispersion modeling was performed to quantify potential PM10 and SO2 impacts during construction based on the individual pollutants period of maximum potential emissions. The EPA CALPUFF dispersion model was used with meteorological data generated by the MM5 (mesoscale model) and CALMET models. These meteorology data were combined with air pollutant emission values to predict maximum potential concentrations in the vicinity of assumed well and compressor engine emission sources for comparison with applicable air quality standards and PSD Class II increments (Argonne 2002). Because this EIS and modeling included the Fortification Creek Planning Area additional modeling was not needed."

Waste

The BLM considers issues brought forward during the internal and external scoping processes. Not all issues raised during scoping will warrant analysis in an EA or EIS. BLM's NEPA Handbook, Chapter 6.4.1 states that an issue should be analyzed if:

- Analysis of the issue is necessary to make a reasoned choice between alternatives
- The issue is significant

Chapter 6.4.2 of the NEPA Handbook states that the BLM need not analyze issues associated with the proposed action that do not meet the criteria described above. Because of the limited scope of the waste issue in the FCPA, and because of existing mandates to limit waste under the

MLA and the BLM's regulations (43 CFR 3161.2), the issue does not rise to a level of significance. Furthermore, the issue of waste would not help the decision-maker to make a reasoned choice between alternatives. As discussed above, the BLM did analyze the impacts of GHG emissions; however, because waste did not meet the issue criteria listed above, detailed analysis was unnecessary.

Furthermore, the BLM responded to comments on the Draft RMPA/EA (comment 0503-06, pg. 264) concerning alternatives to prevent methane wasting as follows: "There is some venting of gas at gas wells in the FCPA, but no flaring. The gas companies try to minimize venting, as it is a loss of gas and therefore profits. EPA's Natural Gas STAR program not only suggests control technologies that can be used to reduce GHGs, but also lists the oil and gas companies that have partnered with EPA in this program. More than 40 percent of the leases in the FCPA are held by companies in the STAR partnership."

Water Resources

Issue Number: PP-WY-FORTCREEK-0001-1-114

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Of importance to this discussion is the fact that WYPDES permits in the Fortification Creek Area use the DEQ's permit methodology known as Tier 2. See, e.g. DEQ, Statement of Basis for Renewal of WYPDES Permit WY0052809 covering the Camp John Augusta Unit, July 5, 2007. Five of the WYPDES permits listed in Appendix E in the EA use the Tier 2 methodology. See WYPDES permits WY0039616, WY0048097, WY0051985, WY0055115, and WY0055352. Tier 2 is used as a method by DEQ to establish effluent limits in WYPDES permits. According to DEQ's own consultants, Tier 2 is "not [a] reasonable nor scientifically valid [method] for determining the EC water that can be discharged into an ephemeral drainage in Wyoming." Jan Hendrick and Bruce Buchanan, Expert Opinion on the Tier 2 Methodology, Report to the Wyoming Environmental Quality Council, May 2009, at iii, and Report to the Wyoming Department of Environmental Quality, Sept. 2009, at ii. Tier 2 is a permit methodology to implement DEQ's "agricultural protection policy," which is designed to implement the non degradation requirements (e.g. protection of existing uses of the water) of the Clean Water Act. However, according to the consultant's report, Tier 2 will not protect existing agricultural uses of Wyoming's water. Id. After the consultants' report DEQ has pulled the proposed rule relying upon this methodology [FOOTNOTE 18 - See DEQ press release September 23, 2009.], but is still implementing it through the existing policy. BLM's sister agency, EPA, wrote to the state on September 29, 2009 expressing concerns regarding the proposed rule and the use of the policy to issue permits. Letter from Karen Hamilton and Sandra Stavnes, EPA, to Dennis Boal, Environmental Quality Council, Sept. 29, 2009. The EPA states that the agency is concerned about: Lack of clarity regarding whether irrigation uses are designated in the State WQA; Protection of existing uses as defined in federal regulation; Whether the proposed sulfate effluent limit is protective of livestock; The procedures for calculating effluent limits protective of irrigation, especially Tier 2; and Livestock and irrigation waivers. Therefore, it is the opinion of expert consultants and EPA that the scientifically flawed methodology DEQ used to determine effluent limits for discharged produced water in the Fortification Creek Area is not protective of agricultural uses nor compliant with the Clean Water Act. BLM has not analyzed any of these issues in its EA.

Summary

The methodology for determining effluent limits for discharged produced water in the Fortification Creek Area is neither protective of agricultural uses nor compliant with the Clean Water Act.

Impacts on water quality within the Powder River ecosystem were not properly analyzed at site-specific or cumulative levels.

Response

The BLM considers issues brought forward during the internal and external scoping processes. While water quality comments were received during scoping and on the Draft RMPA/EA, the specific issues of impacts to agriculture and compliance with the Clean Water Act were not identified in the comments received. The BLM's NEPA Handbook H-1790-1, Chapter 6.4 (pg. 40) states that the CEQ regulations explain that issues may be identified through scoping and that only significant issues must be the focus of the environmental document.

The RMPA/EA does not authorize discharge of produced water, but does contemplate that discharge may occur. The issue of the quality of discharge water is not appropriate at this level of analysis, but may be appropriate during analysis of site-specific actions.

The protestor's issue that the WDEQ is using a flawed methodology is not appropriate for analysis in this planning document, or by the BLM. The protestor's remedy appears to be that the BLM would impose its own WYPDES standard (protective of agricultural uses) ... an action that would be contrary to state primacy over water quality, and perhaps unnecessary (since an unequivocal declaration of inadequacy has not been made by EPA regarding the Tier 2 methodology).

Finally, the BLM selection of an alternative point source discharge permit methodology would be inappropriate and speculative, since any choice would be subject to challenge.

Appropriately however, the RMPA/EA (pg. 3-11) states that: "BLM management actions or use authorizations will comply with all Federal and State water quality laws, rules, and regulations to address water quality issues that originate on public lands." This would include the non-degradation standards of the Clean Water Act.

The introduction to the water analysis (EA pg. 4-26) identifies the specific management actions that will ensure that current WDEQ water discharge standards are maintained. Among these specific management actions is the requirement of a WYPDES permit for all water discharge (EA pg. 4-26). WDEQ recognizes WYPDES Tier 2 as a proper methodology. No alternative methodologies are known to the BLM, nor are any alternatives raised by the protestors. Additionally, EPA provided water quality related comments on the Draft EA, but did not comment on the validity of the WYPDES Tier 2 methodology.

The FCPA impacts were fully disclosed by alternative in section 4.3.3.2. of the RMPA/EA (beginning on EA pg. 4-32). Cumulative impacts to water resources are summarized in the RMPA/EA (EA pg. 4-39) and fully evaluated for the entire PRB in the 2003 PRB O&G FEIS.

Wildlife Impacts

Cumulative Impacts to Elk Herd

Issue Number: PP-WY-FORTCREEK-0001-1-95

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

BLM analyzes impacts in the southern range separately from impacts projected in the FCPA. While briefly disclosing impacts to security habitat from the CBM projects that have been approved with the southern portion of the yearlong range in Table 4-19, BLM then ignores those numbers when analyzing impacts from proposed alternatives in the planning area in Table 4-20. Nowhere in the EA does BLM analyze the combined – or cumulative – impacts of CBM development throughout the yearlong range. This is evident from BLM's statement that its preferred alternative will only decrease security habitat by 17% when in fact security habitat has already been reduced by 30% within the yearlong range. A true cumulative impacts analysis is necessary to determine whether, after the implementation of Alternative III, there will be enough security and crucial range habitat left throughout the yearlong range for the elk to maintain a healthy population. BLM's EA does not do this analysis.

Summary

The BLM does not analyze the cumulative impacts to the elk herd at the proper scale or level of analysis to determine whether there will be enough security and crucial range habitat left throughout the yearlong range for the elk to maintain a healthy population.

Response

The BLM adequately analyzes the cumulative impacts to the elk herd in Chapter 4.3.5 of the FCPA Proposed RMPA/EA. In this section, cumulative impacts are evaluated for the entire Powder River Basin, including the Fortification Creek Planning Area. The yearlong range of the elk herd is considered in this cumulative impacts analysis.

Alternative III retains 80% of security habitat within the yearlong and crucial ranges of the elk herd, through measures taken in the PRMPA/EA's performance-based management plan. BLM admits that some reduction in the population can be anticipated through reduced calving rates, emigration, and potential increased mortality. However, the performance-based management prescriptions in the EA ensure that elk populations would remain at WGFD objectives.

Sage Grouse Science

Issue Number: PP-WY-FORTCREEK-0001-1-100

Organization: Powder River Basin Resource Council et. al.

Commenter: Shannon Anderson

Unfortunately, BLM is proposing scientifically indefensible mitigation measures included in the 1985 RMP as affirmed in the 2003 PRBEIS. These mitigation measures include a ¼ mile year round no surface occupancy buffer around leks and an additional 1 ¾ mile no surface disturbance buffer around leks during nesting and breeding seasons. EA at 220, 477. BLM includes these measures in this EA without any discussion about their effectiveness. Perhaps BLM has failed to conduct this analysis because it would be impossible to do so, since the agency clearly knows that these mitigation measures do not mitigate impacts to sage grouse populations or habitat. In this EA, BLM has failed to heed the peer reviewed research regarding recommendations to protect sage grouse populations and habitat. As fully explained in our comments on the draft EA, scientific studies have documented that CBM development, even with current lease stipulations, conditions of approval and other BLM approved mitigation

measures is one of the leading causes of sage grouse population decline in the PRB. BLM's EA is greatly deficient because the agency does not even mention these studies and instead relies upon mitigation measures that are now recognized as scientifically indefensible. Among other findings, this body of scientific literature illustrates that "leases carry stipulations that have been shown to be inadequate for protecting breeding and wintering sage grouse populations during full field development." WAFWA guidance at 2. One study "indicates that the current 0.25mile buffer lease stipulation is insufficient to adequately conserve breeding sage grouse populations" and increased buffers will "increase the likelihood of maintaining the distribution and abundance of grouse..."Id. at 3. The IBLA has recently held that "[t]he more recent scientific studies uniformly indicate that the current measures are less effective than BLM believed they would be" and given BLM acknowledgement of their ineffectiveness, "[i]t is contradictory for BLM to rely solely on those mitigation measures in issuing an EA and FONSI." William Maycock, 177 IBLA 1, 19 (2009) (emphasis added). Remarkably, in this EA BLM does not attempt to defend the efficacy of the existing lek buffers or to otherwise support these mitigation measures by "substantial evidence" as required by NEPA.

Summary

The measures taken by the BLM to protect sage grouse populations and habitat are scientifically indefensible and do not mitigate impacts.

Response

The BLM's sage grouse mitigation measures are consistent with current science and policy (IM WY-2010- 012 and Wyoming Executive Order 2010-4). The State of Wyoming and the BLM have developed a statewide greater sage-grouse management strategy based on protecting core population areas in Wyoming. The US Fish and Wildlife Service has determined the core population strategy to be "a sound framework for a policy by which to conserve greater sage-grouse in Wyoming" (Wyoming Executive Order 2010-4 pg.2).

The FCPA is not within an identified sage-grouse core population area. The mitigation measures identified in the RMPA/EA are consistent with the statewide greater sage-grouse management strategy for management outside of core population areas. The management actions are identified in Table 2-2 (EA pg. 2-23) and are consistent with the sage-grouse management actions described in IM WY-2010-012. The impacts to the greater sage-grouse across the various alternatives are discussed in Chapter 4.3.6 of the EA (EA page 4-78).

The WGFD comments on the Draft RMPA/EA (WGFD letter pg. 2) recommend a slight date change in the sage-grouse timing limitation dates that are used by the BLM. They did not otherwise criticize the BLM's proposed greater sage-grouse mitigation.