

673



# DOLAR ENERGY, L.L.C.

Phone: (801) 561-3121  
Fax: (801) 561-3133

935 East South Union Avenue  
Suite D-202  
Midvale, UT 84047-2393

February 16, 2006

Bureau of Land Management  
Rawlins Office  
1300 North 3<sup>rd</sup> Street  
Rawlins, WY 82301



RE: Draft Environmental Impact Statement for the Atlantic Rim Natural Gas Field Development Project (Carbon County, Wyoming)

Ladies and Gentlemen:

673-1 | As a working interest partner in the Atlantic Rim Natural Gas Field Development Project (Atlantic Rim Project), Dolar Energy, L.L.C. has waited five years for the Rawlins BLM field office to develop the Draft Environmental Impact Statement (DEIS) necessary for coalbed methane development on our leased federal lands. BLM directives upon completing a DEIS requires the planning documents to be written and released for public comment within an 18 month period, and it is disappointing your office has taken so long to complete the environmental documentation for the Atlantic Rim Project. Since our leased interests will be the first lands developed upon approval of the final EIS, the delay has cost us several hundred thousand dollars in income. In conclusion on this issue, the delay in preparing the DEIS has not stopped the field from being developed since Anadarko has drilled the fee minerals it owns in the area outline of the DEIS, it has only stopped additional development of reserves in the federal minerals in the Doty Mountain and Sun Dog Units.

673-2-2

673-2 | We have carefully reviewed the DEIS, and have discovered it has numerous typographical errors, unfinished sentences, misplaced figures and tables and inconsistent descriptions of alternatives and their potential impacts. Furthermore, the DEIS, in our opinion, is drafted with an unfounded bias against coalbed methane development. It almost seems the Rawlins Field Office is attempting to derail the development of the reserves, by delaying the release of the document, and not releasing a comprehensive plan in the release of this DEIS.

673-3

Applicable laws require BLM to analyze the potential impacts from the proposed action, and to also consider a "no action" alternative along with any other reasonable alternatives that meet the purpose and need of the project, which for this project BLM identified as a "...proposal [ ] to drill for, remove and sell natural gas resources." The DEIS as

673-3-2 673-2-2 673-2-1

673-3

currently drafted analyzes the proposed action, a no action alternative, a phased drilling alternative (Alternative B) and what BLM has termed a “spatial alternative” (Alternative C). The latter is little more than a compilation of additional mitigation measures. BLM has identified its preferred alternative as both B and C; however, BLM has failed to clearly state what this means. Alternatives B and C both fail to meet the purpose and need of the project, while the no action alternative unaccountably fails to address drilling on both fee and state lands that would likely occur even if BLM were to deny the proposal for federal lands.

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673-4

Alternative B would require development to occur in three separate phases. As described in the DEIS, BLM has divided the project area into three sections, and drilling would only be allowed in one section at a time. Operators would be prohibited from moving onto the next section until interim reclamation is completed in the previous section. If BLM adopts this alternative, the ability to maximize the recovery of coal bed natural gas (CBNG) resources will be severely restricted in direct opposition to policies set forth in the Energy Policy Act of 2005. This alternative and BLM’s analysis of its potential impacts is problematic in that: 1) BLM has failed to address whether this proposal is technologically or economically viable; 2) BLM fails to account for the economic impact on lessees both from the perspective that some of the subject leases could be suspended for over fourteen years and that those with interests in the second and third phases will be deprived of revenues for seven to fourteen years; 3) BLM has failed to address the potential economic impact to the federal government both from the perspective of a loss of revenues, drainage, and from potential liability for taking claims; 4) BLM has failed to define what constitutes “interim reclamation” thereby failing to fully analyze both the environmental and economic impacts of phasing drilling in this fashion.

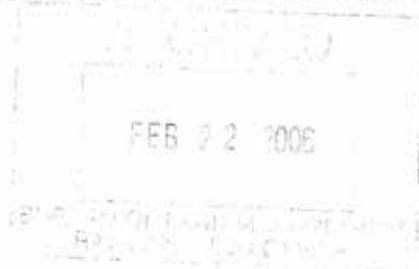
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Alternative C is problematic for two major reasons. It does not appear this plan stages development, but is more a list of mitigation measures that limits development to a 60 day drilling window on many of the lands. Secondly, and most disconcerting, is the fact that under this alternative, BLM would effectively impose 160 acre spacing across ninety-five (95%) of the project area (DEIS at 4-51), despite the fact that current information indicates that these CBNG resources can not be developed under this spacing scenario.

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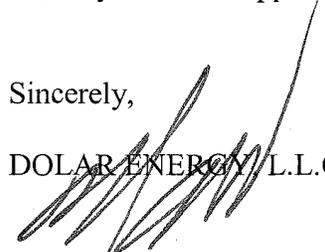
The analyses for potential impacts to air, soil, water and wildlife are similarly flawed. Those sections are characterized by analyses of impacts that are often general in nature; do not sufficiently integrate the effectiveness of engineering designs and operating practices and procedures; do not fully integrate existing information on environmental conditions into the analysis and are severely lacking in qualitative analyses despite the ready availability of such tools (e.g. soil loss models) or are based on dated information.



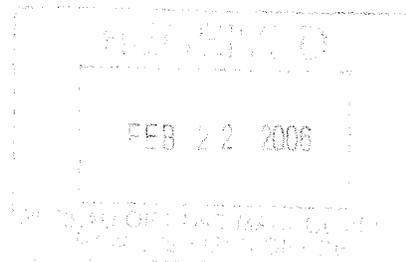
Anadarko has generated a development plan for seven years of staged drilling for reserves on 80 acre spacing, in a manner based on conservation of reserves and accessing the surface systematically. Keep in mind there may be as much as 3 trillion cubic feet of gas to be produced from this field, and the BLM is required to take into account the economic viability of a project, as well as the protecting the surface of the lands, and all who rely on it. We suggest and request the Rawlins BLM to adopt the development program as defined by Anadarko to Alternative B, and approve the EIS based on a document that will allow the development of gas reserves, as well as protect the other resources of concern in the area.

Thank you for the opportunity to submit these comments.

Sincerely,

  
DOLAR ENERGY L.L.C.

Mark S. Dolar, CPL/ESA  
Managing Member



**Office of State Lands and Investments**  
*Funding Wyoming Public Education*

122 West 25<sup>th</sup> Street  
Cheyenne, WY 82002  
Phone: (307) 777-7331  
Fax: (307) 777-5400

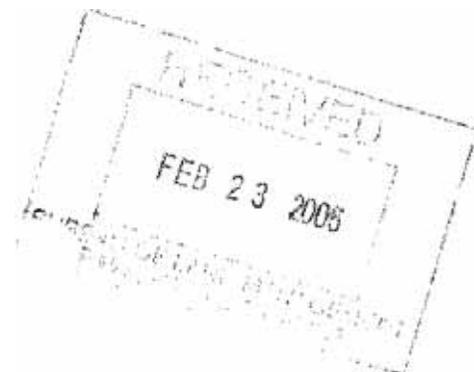


Dave Freudenthal  
Governor

Lynne Boomgaarden  
Director

February 17, 2006

Mr. David Simmons  
Bureau of Land Management  
Rawlins Field Office  
P. O. Box 2407  
Rawlins, Wyoming 82301



**SENT VIA EMAIL - HARD COPY TO FOLLOW VIA US MAIL**

**Re: OSLI Project #2000-034**  
**Atlantic Rim Natural Gas Field Development Project**  
**Draft Environmental Impact Statement**

To Whom It May Concern:

The staff of the Office of State Lands and Investments has reviewed the captioned Draft Environmental Impact Statement and offers the following comments relative to the proposed action insofar as it pertains to the mission of this office.

Our review of the DEIS demonstrates the issues we constantly face with interspersed State land ownership, especially minerals, within areas controlled by the plans for dominant federal lands. Congress granted the State of Wyoming certain lands upon admission into the Union, in surface and mineral, for the benefit of Wyoming institutions, principally the common schools. Congress and the federal land management agencies have established land management policies for the public domain that often run contrary to the purpose of the land grant to the State. Since the State's lands are intermingled within the public domain, this leads to conflicts in land management priorities for both parties. Having said this, the affect of the proposed land use prescriptions/restrictions outlined for Alternative B and Alternative C could make it very hard, if not impossible in some instances, to responsibly manage State Trust lands for income generation for our beneficiaries, as prescribed by our Trust obligation.

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Our records indicate that the State owns approximately 11,552 acres of surface estate and 18,157 acres of mineral estate within the project boundary. With respect to Alternative B, the map on page M-7 of the document portrays three phases of drilling within the project area. In the area

Mr. David Simmons  
Bureau of Land Management  
Atlantic Rim Natural Gas Field Development Project DEIS  
February 17, 2006  
Page 2

designated as "Phase 1 Drilling" on the map the State currently has approximately 2,000 acres under lease that will expire within the next 10 months; in the "Phase 2 Drilling" area there is currently 640 acres that will expire in April, 2006; and there is 2,600 acres in the "Phase 3 Drilling" area that will expire between July, 2006 and December, 2006. In addition, there are approximately 1,082 acres within the Phase 3 Drilling area that are currently unleased.

Chapter 18, Section 8(b) of the Rules and Regulations of the Wyoming Board of Land Commissioners provide for the Board to extend the term of an existing undeveloped, non-unitized oil and gas lease for a period not to exceed five years, in one-year increments. The curtailment of development via phased drilling for six to seven years could jeopardize existing lease rights and/or our lessees may choose to let the leases expire. If this is the case, the next time these tracts are offered at auction, it is extremely likely that the State will not receive a bid for its properties. Federal surface and minerals management actions and development activities anticipated in this area could severely diminish our potential to garner more than grazing income from these properties. Additionally, from the standpoint of development potential, the forgone royalty dollars over time could be significant. The federal government will of course also lose such royalty revenue potential, and this too, will affect the State's revenue.

Although the BLM maintains that it will allow our lessees reasonable access to develop trust resources, our lessees more times than not communicate to us that they find it extremely difficult, if not impossible, to obtain access across the public domain. Even if this is not the case, access is of limited value when no development is authorized or development is stringently restricted within an area in which State lands are completely surrounded by federal lands as could be the case in Alternative C.

If we evaluate this DEIS strictly from the perspective of our responsibility to optimize the revenue derived from the State's trust assets for the beneficiaries, our success would likely be hindered under Alternatives B and C as written in this document. Accordingly, we stand on the record as objecting to any federal interference with the independent exercise of state trust management objectives.

We appreciate this opportunity to comment. If we may be of further assistance, please do not hesitate to contact this office.

Sincerely,



oomgaarden

Director

sc

cc: Governor's Planning Office

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**JOHN D. ADAMSON**

P.O. Box 1567  
Evanston, Wyoming 82931  
**PHONE: 307 920 0599**  
**FAX: 801 486 4599**  
E-mail: [info@geopinion.com](mailto:info@geopinion.com)

February 16, 2006

**David Simons, Project Lead**  
**Bureau of Land Management**  
**Rawlins Field Office**  
**P.O. Box 2407**  
**Rawlins, Wyoming 82301**

**Via Email: [Atlantic\\_Rim\\_EIS\\_VVYMail@blm.gov](mailto:Atlantic_Rim_EIS_VVYMail@blm.gov)**

**RE: "Atlantic Rim Natural Gas Development Project" (ARPA)**  
**Comments on Draft Environmental Impact Statement (DEIS) for the ARPA**

Dear David Simons:

The DEIS for the ARPA in my opinion, is drafted with an unfounded bias against coalbed methane development.

I have waited some five years for the Rawlins BLM field office to develop the Draft Environmental Impact Statement (DEIS) necessary for coalbed methane (CBM) development in this area.

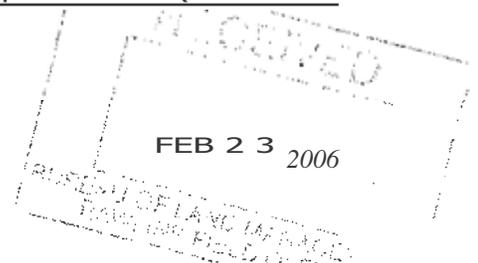
It is disappointing that your office has taken so long to complete the environmental documentation for the Atlantic Rim Natural Gas Development Project and that none of the alternatives presented represent workable, technically feasible, economically viable and/or an ultimately unobtrusive development plan to help sustain future self-sufficient energy supplies and economic well-being of this area involved.

In my observation, Alternatives B and C of the DEIS both fail to meet the purpose and need to the project and the no action alternative fails to address undeniable development on fee and state lands. My comments will urge the BLM to adopt suggested changes to present a workable alternative.

**Recommended changes to the DEIS:**

675-1 | Develop the mineral resource in concert with existing NSO requirements, Best Management Practices, and Timing Stipulations designed to protect the natural resources in the area.

675-2 | Implement additional technically-justifiable mitigations at the site-specific level (i.e. at the APD approval level).



675-3  
Eliminate requirements that prevent 80-acre spacing. Adopt a one well every 80-acre development requirement. Interim drilling results have demonstrated and confirmed that 80-acre spacing is needed to develop the CBM play. Two 160-acre PODs (Red Rim and Blue Sky) are uneconomic and two 80-acre PODs (Sun Dog/Cow Creek and Doty Mtn.) are economic

675-4-1  
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675-4  
No "phased development". A phased development does not consider the reality of the project which covers 270,000 acres. Anadarko expects less than 2% of the area will be affected by a long-term footprint. Phased development ignores leaseholder and correlative rights and is bias toward the Southern Area / Brown Cow Unit by delaying drilling in phase 3 by at least 14 years or more. This action will eliminate flexibility for optimal field development and increase economic risk by concentrating development in one area. The central area currently under development and scheduled for the first phased development only perforates some 20' of coal when the Brown Cow Unit scheduled for later development perforates some 50' of coal. Phased drilling will limit geologic and performance data needed to optimally develop this CBM play. Concentrating activity in phased areas will not demonstrate the environmental impacts of the ultimate area development needed to properly dewater the reservoir. The resource development is critical to the ultimate recovery of over 1.5 TCF of natural gas.

675-5  
Maintain State and Washington BLM involvement for the remainder of the process.

675-6  
Complete the ROD in 3rd Qtr 2006.

675-7  
Permit a 40 well minimum (2 rig) drilling program for 2006 under the interim drilling policy.

Address the Doty Mountain fee acreage (access denied by Rawlins BLM 11/05 – appeal in progress).

Address Sun Dog Categorical Exclusions (2 locations in existing EA).

Permit Sun Dog Demonstration Project (test coil tubing drilling).

Permit Brown Cow (EA expansion, FONSI anticipated 3/15/06).

I strongly urge the Bureau of Land Management to accept the Proponents original proposed action for the ARPA, including the above recommendations, rather than those that have been proposed by your agency.

Thank you for your attention and acceptance of these comments regarding this matter.

Regards,



John D. Adamson



# Wyoming Department of Agriculture

2219 Carey Ave., Cheyenne, WY 82002 Phone: 307-777-7321 Fax: 307-777-6593  
E-mail: wdal@state.wy.us Website: wyagric.state.wy.us

Dave Freudenthal, Governor

John Eschepare, Director

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### Board Members

*District 1*

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*District 1*

Jack Corson

*District 3*

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*District 4*

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Spencer Ellis

*District 6*

David Graham

*District 7*

**Gene Hardy**

February 28, 2006

David Simons, Project Lead  
Bureau of Land Management  
Rawlins Field Office  
P. O. Box 2407  
Rawlins, Wyoming 1



Dear David Simons:

Following are the comments of the Wyoming Department of Agriculture on your Draft Environmental Impact Statement (DEIS) for the proposed Atlantic Rim Natural Gas Development Project.

Our comments are specific to our mission: to be dedicated to the promotion and enhancement of Wyoming's agriculture, natural resources, and quality of life. As this proposed project affects our agriculture industry, our natural resources, and the welfare of our citizens, it's important that we be kept informed of proposed actions and decisions and that we continue to be provided the opportunity to express pertinent issues and concerns.

Four alternatives have been proposed: Proposed Action, No Action, **B** Temporal, and **C** - Spatial. The three action alternatives (proposed, temporal, and spatial) create adverse impacts for grazing permittees in the Atlantic Rim Planning Area (ARPA) which could significantly reduce current levels of grazing, add costly burdens, and decrease revenues.

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We understand and appreciate the need for energy development. We believe the Proposed Action best fulfills that need. We further believe that the Proposed Action with some of the provisions of Alternative C will minimize impacts upon rangelands and grazing permittees, while optimizing energy development.

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We are opposed to Alternative B.. This alternative concentrates drilling to one-third of the ARPA during each of three phases. This is a worst-case scenario for livestock grazing, as the DEIS acknowledges. The DEIS notes that this alternative of timed development would double the number of gas wells in the most affected allotments, resulting in the suspension of some or all grazing in these allotments. The BLM projects development in each phase of this project to last five to seven years. The concentrated development in each area will probably eliminate livestock grazing for the permittees in that area during that time. That's unreasonable, unnecessary, and unacceptable. This alternative also severely restricts the flexibility of the natural gas developers to work with grazing permittees and BLM officials on the placement of gas wells, support structures, and development activities. Moreover, because this alternative concentrates development in each area, the alternative also creates the

678-2-3

most intense adverse impacts on grasses, forbs, and shrubs and the greatest infestation of noxious weeds in each area.

While we support the Proposed Action, the implementation of that action requires successful and timely monitoring, reclamation, and mitigation. We believe the DEIS is deficient in stating that monitoring, reclamation, and mitigation must occur to offset the harmful effects of implementation of this project in the ARPA.

Some of the injurious effects of energy development and operations upon livestock grazing that need to be mitigated include the following.

- Virtual elimination of essential lambing grounds for grazing permittees. These grounds are critical to the continuing operation of these permittees.
- Increased losses of livestock from collisions due to increased traffic and speeds.
- Introduction of halogeton and other poisonous and noxious weeds.
- Unpalatable vegetation from dust created by increased road traffic and construction activities, reducing available forage by 15 to 30 percent, according to the DEIS.
- Destroyed cattle guards, open gates, and cut fences.
- Introduction and dispersal of undesirable non-native/noxious weeds.
- Reduction in AUMs available for livestock grazing for specific allotments.
- Failure to meet Wyoming Bureau of Land Management Standards and Guidelines for Healthy Rangelands.
- Reduced water yield from artesian wells, seeps, and springs.
- Changes in overland hydrology and desertification impacts due to roads on moderate to steep slopes.
- Damages to range improvements.
- Increased interference with herding and animal movement.

While the DEIS notes that these effects cause reduced stocking rates, lower weight gains, reduced animal health, and increased time and expenses by permittees, the DEIS fails to specify (1) the monitoring needed to promptly identify the occurrence of these effects, (2) the mitigation needed to offset these effects, and (3) the consequences needed to be imposed if monitoring and mitigation does not occur. This project possesses the potential to critically endanger the livelihoods of grazing permittees. For that reason, we strongly and unequivocally believe monitoring, mitigation, and consequences for this project must be identified. We understand this project will produce some benefits to livestock grazing,

678-3 including water for self-contained troughs and tanks, additional and improved roads for livestock grazing management, and improved forage if reclamation is prompt and adequate. However, these benefits do not compensate for the severe effects imposed by this project upon livestock grazing permittees. BLM's final decision needs to reflect the Congressional intent expressed in the Federal Land Policy and Management Act of 1976 of managing federal lands in a manner that will provide adequate food and habitat for fish and wildlife and domestic animals (our emphasis).

678-4-1 We are also concerned about slow and ineffective reclamation that occurred during the development of the exploratory wells for this project. The DEIS says "adequate reclamation and weed control has been slow in being implemented" and "control of halogeton in 2004 was inadequate, forcing one operation trailing sheep to go miles out of their normal trail route to avoid this poisonous plant." While the DEIS says weed control and prompt reclamation occurred in some locations during 2005, it is implied that weed control and prompt reclamation did not occur in other locations during that same year.

678-4-2 Prompt and adequate reclamation and weed control must occur throughout the life of this project. The FEIS and final decision need to state actions that will ensure prompt and adequate reclamation and weed control. Those assurances are not evident in the DEIS.

678-4-3 Regarding reclamation, we also recommend the requirement to use locally adapted seed whenever possible. We make this recommendation because in the past energy companies have used native, but non-local seed for reclamation. Often, this seed was not adapted to the growing conditions in the area. The result was unsuccessful reclamation.

678-5-1 We are concerned about the cumulative impacts upon livestock grazing by the Atlantic Rim Project, but we are alarmed about synergistic impacts of the many energy development projects that are, or soon will be, occurring in the Rawlins Field Office planning area. The cumulative impacts of these projects that nearly blanket the planning area magnify the penalties and costs of development upon grazing permittees. The impacts also severely restrict possible mitigation. The 1.1 million acre Continental Divide/Creston Blue Gap II project lies immediately adjacent to the west of the Atlantic Rim project and the projected core area of development lies immediately adjacent to that of the Atlantic Rim project. The Desolation Flats energy development lies immediately west of the Divide project. Currently, Rawlins FO planning area is or will be suffering the wrath of eight coalbed and six conventional natural gas projects, six geophysical projects, and four powerline and pipeline projects. Although the impacts of each project may not critically harm any particular livestock operation in the specific project area, the cumulative impacts of all of these projects may jeopardize the livelihoods of grazing permittees and livestock grazing in the greater Rawlins FO planning area. The accumulating impacts can be catastrophic to many resource values, including livestock grazing.

678-5-2 The accumulating impacts of all of these projects point to the requirement for prompt and adequate on-site mitigation, including reclamation. Moreover, the vast scope of these many projects increases the need for off-site mitigation. Yet, the magnitude of these projects limits the area available for offsite mitigation.

678-5-3

678-5

For this reason, we believe the EIS for each of these projects must consider the accumulated impacts of all of these projects upon the environment and the multiple uses which the Rawlins FO and the BLM are directed to manage.

We appreciate the increased emphasis in the DEIS on identifying the acres of disturbance, not just the number of wells, created by this project. We also agree the emphasis needs to be on (1) minimizing the acres of disturbance, (2) prompt and successful reclamation of disturbed acres, and (3) mitigating for the loss of resource values created by those disturbed acres.

678-6

We believe the wording in Table 2-4, Vegetation, first row, Page 2-13 should be changed to be more accurate. The current DEIS wording is "...suspended grazing would lead to more rapid reclamation, greater ratio of grasses to shrubs...." This wording implies that BLM will suspend and not allow grazing on all lands undergoing reclamation. Given the extent of development of this project and the fact that lands undergoing reclamation often are not fenced, the adoption of this "Vegetation" alternative effectively removes livestock grazing from large areas of the ARPA. We understand the intent of this alternative is to allow voluntary and temporary removal of livestock grazing by permittees from land undergoing reclamation. This alternative needs to be rewritten to more accurately depict this intent.

678-7

We recommend deleting the word "limited" in the fourth line, last bullet, Section 2.2.1, on page 2-2. This section states that an exception to re-injection of produced water is "the closed system with limited use of livestock and wildlife watering systems, with appropriate state permits." If the systems are closed and are with appropriate state permits, then there is no need for "limited" use of these systems. We believe it is essential produced water be available to these closed systems wherever appropriate; they should not be limited if they meet all qualifications.

678-8

Regarding the references to the management of produced water, the DEIS imposes re-injection as the only water management tool. The reason for limiting water management to re-injection is to avoid contributing to the salinity of the Colorado River. Yet the DEIS also notes that produced water from some wells flows into the Divide Basin and the North Platte River Basin. There is no need to restrict water management to re-injection for these two basins. The water in the Divide Basin is self-enclosed, and the North Platte River desperately needs water to support endangered and threatened species downstream in Nebraska. For that reason, the FEIS and final decision must recognize that other water management tools should be considered for the Divide Basin and the North Platte River Basin. These management tools should include consideration of piping produced waters from the Colorado Water Basin the short distance to the North Platte River Basin, and allowing produced water to benefit livestock and wildlife.

678-9

We definitely support the two exceptions to re-injection of produced water for the Colorado River Basin. Produced water can greatly benefit livestock and wildlife and the exception that allows a closed system for produced water provides those benefits with no harm to the basin. The second exception recognizes that withdrawing water for coal bed natural gas production often reduces or eliminates production of artesian water wells for livestock and for other uses. Yet, these water wells are relied upon to provide water for livestock and can benefit

678-9

wildlife, as well. Both exceptions will allow grazing permittees to contribute to meeting Wyoming BLM Standards and Guidelines for Healthy Rangelands

678-10

The DEIS notes in Alternative C that fences needed for the project in Special Management Areas will be converted to BLM standards for improved wildlife passage. We recommend coordination with grazing permittees if these fences affect livestock grazing management. We also recommend that grazing permittees not be responsible for maintaining these fences.

678-11

On page 4-55, the DEIS says the mineral companies should promote a policy to contact grazing permittees or the BLM about damages. We suggest two corrections. First, the company should contact both the permittee AND the BLM, not one or the other. Both the permittee and the BLM need to know. Secondly, the mineral companies should not just promote a policy, but they must actively implement a policy for contacting the grazing permittees and the BLM. Damage to livestock, cattle guards, fences, gates, and range improvements are inevitable. Notification procedures need to be in place and in use.

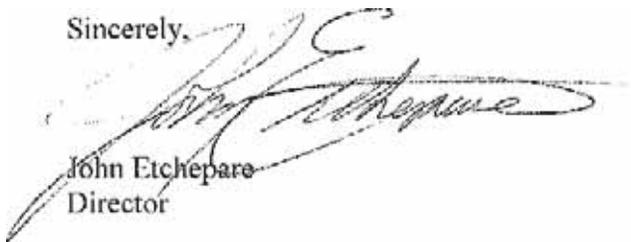
We also recommend Final EIS require energy companies to inform grazing permittees and landowners informed of projected and current activities. These activities will directly affect the food and habitat of livestock, the management of livestock, and the livelihoods of grazing permittees.

678-12

Proposed revisions to Resource Management Plans in Wyoming allow the Field Office Manager to create and consider the recommendations of Activity Working Groups (AWG). These groups of government representatives can study critical issues and conflicts and recommend actions that will help resolve conflicts and find solutions to problems. We strongly recommend that the FEIS and final decision allow the Rawlins FO Manager the flexibility to create an AWG as necessary.

In conclusion, we appreciate the opportunity to comment on this DEIS, we encourage continued attention to our concerns, and we look forward to hearing about and being involved in proposed actions and decisions.

Sincerely,



John Etchepare  
Director

JE/dc

cc: Governor's Planning Office  
Wyoming Game and Fish Department

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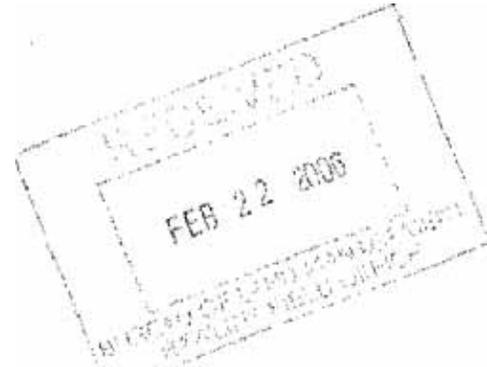
DAVE FREUDENTHAL  
GOVERNOR



STATE CAPITOL  
CHEYENNE, WY 82002

# Office of the Governor

February 17, 2005



Dave Simmons  
BLM Project Manager  
Rawlins Field Office  
P.O. Box 2407  
Rawlins, WY 82301

Re: Atlantic Rim Draft EIS

Dear Mr. Simmons:

Thank you for the opportunity to comment on the Atlantic Rim Draft Environmental Impact Statement (Draft EIS). This document is important to the state of Wyoming as it will set the stage for future coalbed methane development in southwest Wyoming, particularly in the Colorado River system.

**Document Quality:**

681-1

After meeting with state agencies, industry representatives and other interested parties concerning the Draft EIS, I have concerns about the quality of the document. Irrespective of the lack of substantive direction that a preferred alternative would no doubt add to the document, the general nature and overall quality of the document are deficient and will require much alteration in the coming weeks and months. I have heard reasons for the document's faults, but none are acceptable - especially in light of the willingness of cooperators to assist in creating both a quality and timely product. The final EIS must see major improvement in content, organization, and clarity.

681-2

The Atlantic Rim Draft EIS is an example of why such documents should always outline a preferred alternative. A preferred alternative would help the reader to comment meaningfully and specifically on a likely development scenario. Unfortunately, because the Rawlins Field Office did not develop a preferred alternative, comments will be overly broad with the public being left to essentially vote on their favorite of various alternatives. This in contrast to a system where commenters are usually able to provide focused comments related to a preferred alternative. Even though the document indicated that the BLM does favor a combination of Alternatives B and C, it is impossible to determine which parts of each alternative the BLM favors. With this uncertainty in mind, I ask that you work closely with the cooperating agencies and the affected stakeholders during the development of the preferred alternative.

681-3  
**Well Spacing**

From my recollections as a member of the Wyoming Oil and Gas Conservation Commission, this area has been approved for 80-acre spacing. However, this approved well spacing is absent in all but one alternative in the document. Given the added complexities that attend coal bed natural gas production, including the intricacies of dewatering a coal seam in order to extract the gas, it does not seem prudent to require spacing at a level that will not allow for productive dewatering. Single-pad directional drilling is not a sound option for this formation, as it is not technically feasible or economically sound to directionally drill in such shallow coals. Hence, I would offer that requiring spacing at anything less than 80 acres will not allow for efficient and adequate extraction of the resource and I ask that you consider inclusions of 80-acre spacing in the Record of Decision.

681-4  
**Phased Drilling**

I do not support the BLM's proposal for phased drilling as outlined in Alternative B. The phased development scenario provided in the proponents' proposal is a more efficient and economical way to develop the resource. The BLM's phased development scenario will burden existing natural gas and agricultural lessees and may impact the proponents' ability to responsibly and effectively develop the reservoir. The approach outlined in Alternative B might also affect state leases. The various interested agencies will be providing you with specific concerns related to these issues.

681-5  
**Wildlife**

As with any development of this scale, there will be potentially significant impacts to fish and wildlife. Seasonal stipulations, if included in the Record of Decision and adhered to during field development and production, can avoid some impacts and mitigate others. However, regardless of the use of seasonal stipulations, there will be additional impacts from this project, and these will be added to other adjacent developments and land uses. The EIS needs to adequately disclose and analyze the remaining impacts, as well as all cumulative impacts, and to respond with adequate monitoring, mitigation, and reclamation plans to deal with them. This is particularly necessary with regard to crucial big game ranges, sage grouse habitats, and the Muddy Creek drainage with its high-concern fish species. The operators have shown a willingness to work with Wyoming Game and Fish Department in formulating a development plan for dealing with these fish and wildlife issues, and we encourage your consideration of their input as part of the preferred alternative.

681-6  
**Cultural Resources**

It is inevitable that there will be impacts to cultural resources, especially historic trails, within the Atlantic Rim project area, and it is likely that those impacts can be mitigated. However, it is important that the Rawlins Field Office take into account the cumulative impacts of cultural and trails disturbance not only in Atlantic Rim but in combination with adjacent current and planned development. While one or two disturbances within a project area might not translate to a significant impact, numerous impacts along the trails across different project boundaries could significantly affect the integrity of the trails. I ask that you work with the State

681-6

Historic Preservation Office, the proponents and the surface landowners to plan for a collective strategy to ensure long-term trail preservation.

681-7

### **Reclamation**

Proper reclamation of well pads and service roads will be critical in the Atlantic Rim, given the sensitive soil types and arid climate of the area. It is my understanding that part of the delay in the development of this document is in part due to issues related to reclamation. It is absolutely essential that all reclamation be completed as quickly as possible with any long-term issues being dealt with in a proactive manner coordinated by state agencies, BLM, the operators and their subcontractors. Should there be problems with current practices or seed mixtures, new practices should be explored, and perhaps a performance-based standard be put in place to allow the operator the flexibility to modify practices to fit soil type, slope and weather conditions.

681-8

### **Mitigation/Monitoring**

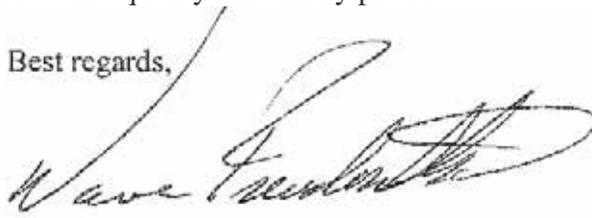
As the preferred alternative is developed, there will undoubtedly be resource values that conflict with one another. I encourage the BLM to consider appropriate mitigation practices that may offset short- and long-term impacts to various resources. However, I do believe that a strong monitoring program must be in place to make sure that planning assumptions are confirmed and that unintended impacts are addressed as quickly as possible. State and local cooperators stand ready to provide you with assistance and information in this regard.

681-9

In closing, I understand that the BLM will require re-injection of all produced water within the project area. While I understand the protection requirements within the Colorado River drainage system, I would like to stress that as new solutions are proposed and new technology is made available that the BLM consider acting on those new proposals.

Thank you for the opportunity to comment on the Atlantic Rim Draft EIS. I am certain that the Rawlins Field Office, in its enhanced capacity as a BLM pilot project office, will be able to deliver a quality final EIS within the allotted time schedule. For my part, I have directed all state agencies to work with the BLM to ensure both a quality and timely product.

Best regards,



Dave Freudenthal  
Governor



"Michael Saul"  
<Saul@nwf.org>  
02/17/2006 04:16 PM

To <Atlantic\_Rim\_EIS\_WYMail@blm.gov>  
cc  
bcc  
Subject Atlantic Rim Natural Gas Development Project (ARPA)

Dear Mr. Simons:

Please find attached, in Adobe .pdf format, an electronic version of the comments of the National and Wyoming Wildlife Federations regarding the Draft Environmental Impact Statement for the Atlantic Rim Natural Gas Field Development Project. A .pdf copy of the Great Divide Area Wildlife Analysis (2003) cited in footnote four is also attached for your convenience.

Hard copies of both documents have also been sent by U.S. mail.

If you have any questions regarding these comments, please contact me at 303-441-5166 or via email at saul@nwf.org

Thank you for the opportunity to participate in this EIS process.

Sincerely,

Michael Saul  
Associate Counsel  
National Wildlife Federation

NWF's mission is to inspire Americans to protect wildlife for our children's future.

Michael Saul - Associate Counsel  
Phone: 303-786-8001 ext. 26 | Fax: 303-786-8911 | saul@nwf.org  
National Wildlife Federation  
2260 Baseline Road, Suite 100  
Boulder, CO 80302  
www.nwf.org



Aldredge Great Divide Report.pdf FINAL NWF Atlantic Rim DEIS comments 2-17-06.pdf

February 17, 2006

David Simons, Project Manager  
Bureau of Land Management  
Rawlins Field Office  
P.O. Box 2407  
Rawlins, Wyoming 82031

**Via first class mail and electronic email to [Atlantic\\_Rim\\_EIS\\_WYMail@blm.gov](mailto:Atlantic_Rim_EIS_WYMail@blm.gov)**

Re: Atlantic Rim Natural Gas Development Project Draft Environmental Impact Statement

Dear Mr. Simons:

The National and Wyoming Wildlife Federations (“NWF and WWF”) appreciate this opportunity to comment on the Draft Environmental Impact Statement for the Atlantic Rim Natural Gas Field Development Project (“Atlantic Rim DEIS”). These nonprofit conservation organizations have thousands of members and supporters who live, hunt, fish, and view wildlife in Wyoming, and millions nationwide who are concerned about the environmental impacts of coalbed methane (“CBM”) development on federal lands and the resources that depend on those lands.<sup>1</sup> NWF’s members and supporters value the Atlantic Rim area for its abundant wildlife and the scenic, recreational, and sporting opportunities it provides for local residents and state, regional, and national visitors.<sup>2</sup>

Although we appreciate the BLM’s acknowledgment of certain indispensable resource protection measures, specifically the need for re-injection of coalbed methane produced water to avoid unacceptable impacts to soils and the Colorado River system, we believe the Atlantic Rim proposal and DEIS fall far short of BLM’s obligations under the Federal Land Policy and Management Act, 43 U.S.C. § 1701 (“FLPMA”) and the National Environmental Policy Act, 42 U.S.C. § 4332 (“NEPA”). As brought to the BLM’s attention in scoping, “[t]he risk of reductions in wildlife habitats and populations from the [Atlantic Rim Project] was brought forward . . . and identified as a key concern.” DEIS

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<sup>1</sup> We also hereby incorporate by reference the comments of A. William Alldredge, Ph.D., regarding big game issues.

<sup>2</sup> The National Wildlife Federation commented during the 2001 scoping period on the initial scoping notice for the Atlantic Rim Project. In addition, NWF and other groups are parties to five currently-pending appeals before the Interior Board of Land Appeals challenging the legality of the five Interim Development Policy PODs on Atlantic Rim whose development would continue under all proposed alternatives.

at 1-13. Despite this “key concern,” and an acknowledged lack of data regarding wildlife habitats and migration corridors, the proposed project appears to ignore BLM’s obligation to preserve multiple uses of federal lands, and fails to adequately describe or mitigate the environmental impacts of the proposed action or the alternatives described. In these comments, we will set forth a description of reasonably available or obtainable information that would permit a more fully-informed consideration of the environmental consequences of the proposed Atlantic Rim project, and a reasonable alternative aimed at allowing development to proceed without unnecessary and unacceptable costs to wildlife, recreation, water quality, and other resources the BLM is obligated to protect.

## BACKGROUND

Although the Atlantic Rim proposal does incorporate some essential measures to reduce some of the impacts seen in the Powder River Basin and elsewhere, particularly by mandating underground re-injection of most coalbed methane produced water, it is our view that it represents a significant, long-term adverse alteration of some 270,000 acres of Wyoming’s most productive wildlife habitat and the loss of a premier hunting and recreation destination for generations.

- The DEIS acknowledges the potential significant, adverse impacts to a number of important natural resources:
  - Sedimentation and changes in stream function for Muddy Creek – a Wyoming threatened waterbody and home to several sensitive fish species
  - Significant effects on vegetation from direct disturbance, dust, and erosion, including the long-term loss of sagebrush plant communities essential to pronghorn and sage-grouse
  - Significant negative effects for sage-grouse, mule deer and elk under all alternatives
  - Fundamental changes that will make the Atlantic Rim area “undesirable for hunting or wildlife viewing”

682-1-1 | 682-1 | • Although BLM asserts in passing that the Atlantic Rim coalbed methane proposal is consistent with the governing Great Divide Resource Area Resource Management Plan, in reality, the nature and scope of the project greatly exceed anything contemplated in that Plan, now under revision. The Atlantic Rim project, particularly considered together with other nearby proposals and ongoing projects, greatly exceeds development levels forecast or considered in the Plan.

682-2-1 | 682-2 | • Under all alternatives, BLM proposes approximately 2,000 wells, at 80- or 160-acre spacing, throughout a 270,000 acre area. These gas wells would be drilled over an approximately 20-year period, and remain in production for 30-50 years. This means approximately 16,000 acres of direct habitat loss, and 1,000 miles of new roads, throughout the Atlantic Rim area. The indirect loss of wildlife habitat due to displacement, additional browse pressure, competition, and other effects, is vastly greater but unquantified.

- The Atlantic Rim project area is home to some of the most productive big game habitat in Wyoming. Its diverse upland and riparian habitats support mule deer, pronghorn, and elk, and some of the highest-density sage-grouse habitat in the state. According to Wyoming Game and Fish data, it's similar in productivity to the Sublette region around Pinedale, "the most productive big game region in the state," but one experiencing severe impacts from development. It's one of the few areas to support an "any deer" harvest. However, range evaluations show that the sagebrush important to multiple species for winter diet is already under considerable browsing pressure.

682-3-1

- The Atlantic Rim project area also contains transitional range and migration corridors for mule deer and pronghorn. Although a mule deer migration study is ongoing, the precise effect of the proposal on blocking migration routes remains unknown. Pronghorn movement and access to winter range in the area is already restricted by pronghorn-impassable fences along Highway 789.

682-3

682-4-1

- The "Rawlins to Baggs Geographic Area," the core area impacted by the Atlantic Rim proposal, is an exceptional recreational destination containing "unique and valuable vegetation and wildlife resources," containing "vast tracts of undisturbed wildlife habitat." "There are few locations elsewhere in Wyoming that support a higher density of greater sage-grouse." None of the alternatives, however, contains measures adequate to prevent the loss of this exceptional recreation destination and the essentially complete fragmentation of sage-grouse habitat. The latest research shows that the BLM's current stipulations are inadequate to maintain sage-grouse breeding populations in gas fields.

682-4

682-5-1

- Although about 6% of the Atlantic Rim area would be directly converted to well pads and roads, anywhere from 15-30% of the entire area would be affected by dust and disturbance, resulting in loss of habitat quality or avoidance of previously-used habitats by wildlife. Restrictions on timing of development alone cannot "address the displacement of animals/loss of critical habitat due to the presence and operation of wells, facilities and roads after construction is complete."

682-5

- Although BLM proposes revegetation and reclamation efforts, this is a formidable task in arid southern Wyoming, and BLM acknowledges that vital shrub communities (specifically, Wyoming big sagebrush), may not return for decades, if ever.

- Recent rangeland evaluation shows crucial winter range already at risk in the area. With browse rates on mule deer and pronghorn crucial winter range already at 40-60% levels, displacement of more animals onto less crucial winter range due to development will increase browse levels and plant mortality, further reducing the winter range available for big game and the nesting, brood-rearing, and other habitat available for greater sage-grouse.

- Under the Atlantic Rim proposal, approximately 44% of crucial winter range for the Baggs pronghorn herd unit and 27% of the crucial winter range for the Baggs mule deer herd unit will be affected. “The critical shrub component within [crucial winter range] would not be replaced . . . to pre-development levels within the life of the project.” When other nearby development projects are considered, some 83% of pronghorn crucial winter range and 50% of mule deer crucial winter range for the respective herd units is within one or another oil and gas development zone.
- The recent Sublette mule deer study has shown that mule deer habitat selection and distribution is seriously affected by well pad development, road development, and associated traffic and human disturbance. The DEIS acknowledges that the Pinedale example indicates that mule deer don’t acclimate to this sort of disturbance, shift use to areas farther from development, and “suggests that within the [Atlantic Rim area], indirect impacts such as displacement from activities, dust from roads, and competition for forage within the already poor condition [crucial winter range] habitat may lead to reduced mule deer numbers and die offs from animals going into [crucial winter range] in poorer health with reduced body reserves.”
- 92% of the Atlantic Rim project area is greater sage-grouse nesting or brood-rearing habitat. Sage-grouse are “abundant within [the project area] due to high amount and diversity of suitable habitat, lack of habitat fragmentation, and the close proximity of upland and riparian habitat. In addition, all habitats needed to fulfill the life history requirements of this species are found adjacent to one another. Potential impacts to greater sage-grouse include: loss of nesting or early brood-rearing habitat; decreased population caused by loss of nesting or early brood-rearing habitat; reduced utilization of suitable habitats due to indirect disturbance; loss of winter habitat; and displacement of birds into lower-quality habitats.” Sagebrush communities lost to removal, dust, and increased multi-species pressure are not anticipated to recover for generations, if ever. Pronghorn as well are extremely reliant on sagebrush, particularly during winter, when it comprises 96% of their diet.
- BLM’s Alternative C, the “spatial development alternative,” reduces, although does not eliminate, some of the most severe impacts. This alternative proposes reduced density of development in sensitive areas (20 acres and 4 well pads per section in crucial winter range and grouse brood-rearing and nesting habitat), reduced road density, and improved road design. At a minimum, these measures are essential to preserve any long-term habitat values, but still, by BLM’s own admission, result in significant impacts—i.e., loss of vital and high values habitats in violation of Wyoming Game and Fish mitigation policy—to mule deer, elk, and greater sage-grouse and Columbian sharp-tailed grouse.

- Similarly, under all alternatives, “displacement of wildlife and loss of a natural-appearing setting” will make the entire 270,000-acre Atlantic Rim area “undesirable for hunting or wildlife viewing.”
- Increased runoff, sedimentation, and erosion associated with pad and road construction and stream crossings will put the Muddy Creek watershed at risk of water quality losses and hydrologic function changes (including the loss of deep pool habitats). This watershed is home to several sensitive species and has been the subject of intensive restoration efforts. Although BLM’s Alternative C avoids some of the worst impacts by redirecting or improving road construction and avoiding steep slopes in certain areas, possible impairment of the Muddy Creek watershed and adverse effects to Colorado River fish species is a serious concern.

682-6-1  
682-6

**THE “PURPOSE AND NEED” OF THE DEIS IS UNREASONABLY NARROW**

A key requirement of NEPA is that an agency must analyze and consider all reasonable alternatives to any action it is proposing. 42 U.S.C. § 4332(2) (E); 40 C.F.R. §§ 1501.2(c), 1508.9(b). In doing so, alternatives must obviously meet the purpose and need of the federal agency’s proposal for action. However, NEPA does not permit the BLM to define the purpose and need of the action so narrowly as to preclude analysis of a reasonable range of alternatives, nor to define the purpose and need for action based solely on the goals of a third-party proponent or applicant. As CEQ guidance states, “in determining the scope of alternatives to be considered, the emphasis is on what is ‘reasonable’ rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative.”<sup>3</sup>

The Atlantic Rim DEIS defines the purpose and need of the project in a fashion that is both unreasonably narrow and inconsistent with the BLM’s multiple-use obligations. In the DEIS, the BLM states that “[t]he purpose of, and need for, the proposed natural gas development is to exercise the lease holders’ rights within the project area to drill for, extract, remove, and market gas products.” DEIS at 1-5. It makes no mention whatsoever of the BLM’s offsetting obligations to conserve multiple resources and prevent unnecessary and undue degradation of the public lands. FLPMA requires that the public lands are to be “managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values . . .” as well as to “preserve and protect certain public lands in their natural condition” and provide “food and habitat for fish and wildlife.” 43 U.S.C. §1701(a)(8). While it is reasonable for the Operators to focus exclusively on maximizing extraction of gas from their leaseholds, a single-minded focus on facilitating this objective is entirely inappropriate for the BLM, which manages the public lands for the benefits of the entire American public. BLM, in restricting the purpose and need for action solely to the exercise of lease rights, also ignores its own regulations governing the exercise of those rights:

682-7-1

682-7

<sup>3</sup> Council on Environmental Quality *Forty Questions Memorandum*, 46 Fed. Reg. at 18,027 (1981) at Question 2a.

682-7

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 addressed in the lease stipulations at the time operations are proposed. To the extent consistent with lease rights granted, such reasonable measures may include, but are not limited to, modification to siting or design of facilities, timing of operations, and specification of interim and final reclamation measures.

682-7-2

43 C.F.R. § 3101.1-2. Although the DEIS implicitly acknowledges this authority to impose “reasonable measures” to protect other resource values—notably by considering certain resource-based use and timing restrictions under Alternative C (DEIS App. L), and by proposing the temporary suspension of certain leases during what it calls “phased development” under Alternative B, it fails to adequately acknowledge or explore its duty and ability to manage the Atlantic Rim area for uses beyond solely gas extraction.

**THE DRAFT ENVIRONMENTAL IMPACT STATEMENT FAILS TO PROVIDE NECESSARY AND REASONABLY OBTAINABLE INFORMATION REGARDING THE IMPACTS OF THE PROPOSED ACTION**

682-8

Although NEPA does not require BLM to achieve complete certainty regarding the environmental impact of a proposed project, the Act does require all federal agencies to make every reasonable effort to obtain the requisite information to make an informed and environmentally sound decision. 42 U.S.C. § 4332(2)(C). CEQ’s regulations implementing NEPA expressly mandate that “[i]f . . . incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.” 40 C.F.R. § 1502.22(a) (emphasis added). The agency is excused from gathering information only if “the overall costs of obtaining it are exorbitant or the means to obtain it are not known.”

682-8-1

In that case, the regulations require disclosure of the missing information, its relevance, a description of existing information, and the agency’s evaluation of that existing information. 40 C.F.R. § 1502.22(b). The Atlantic Rim DEIS, while providing some useful information regarding impacts to air, water, wildlife, recreation, and other uses, fails to either adequately account for impacts or to obtain reasonably-available incomplete information. Perhaps the most glaring example of this deficiency is the acknowledgment that research is not only feasible but actually underway to delineate migration routes used by mule deer within the project area. DEIS at 4-64. Rather than deferring action to gather and employ this essential information, however, the DEIS simply proposes to authorize development, without any tangible measures to ensure the integrity of migration routes, or even knowledge of how they will be affected. Such a course plainly violates the knowledge-forcing mandate of 40 C.F.R. § 1502.22(a)

682-8-2

682-8

Under NEPA, “[e]nvironmental impact statements shall be written in plain language and may use appropriate graphics so that decision makers and the public can readily understand them.” 40 C.F.R. § 1502.8. The purpose of an environmental impact statement is to ensure that environmental considerations are integrated into federal planning decisions. Environmental impact statements are intended force a “hard look” at the environmental consequences of federal action, and to this end, they must be understandable and comprehensible to both decision makers and the public.

682-9

Unfortunately the Atlantic Rim DEIS’s description of the project and its consequences to wildlife habitat are neither clear nor comprehensible. While the DEIS provides a wildlife map (Appendix M: Overlapping Wildlife Concerns) representing “currently known” wildlife resource concerns. It then asserts that “[a]s more field data are gathered, additional areas that include wildlife resource concerns may be identified and mapped. If development occurs in areas of overlapping wildlife resource concerns, mitigation measures for each individual resource would be developed.” DEIS at 4-59. Unfortunately it is no exaggeration to say that this assertion is completely devoid of content. Absent any explanation or assurance of how overlapping concerns would be identified, absent any commitment of resources for either identification or development of hypothetical mitigation measures, and absent any explanation of what the scientific or legal basis for these measures would be, this assurance that wildlife impacts would be somehow mitigated is entirely empty.

682-10-1

**The BLM suggests that their recommended alternative to the Proposed Action is a combination of Alternatives B & C, but there is no discussion of what components from each are proposed to be adopted.**

682-10

In order to accurately evaluate the action that the BLM proposes to permit, it is necessary to know which specific components of the various alternatives the BLM would adopt. The DEIS states that the BLM’s proposed alternative is some combination of Alternatives B and C, but does not specify what elements of these alternatives would be incorporated. Alternative B is largely similar to the Proposed Action, with development of the same number of wells (8 well sites per section) using general Best Management Practices, with the single caveat that development be divided into three phases corresponding to different areas of the project site—a variation, which, as discussed below, does not amount to meaningful phased development. Alternative C, while noting that it too would permit up to 8 wells per section, imposes additional mitigation measures which would limit the level of development in various habitat areas. For example, under Alternative C, development in big game crucial winter range would be limited to 20 acres per section, with a maximum of 4 well sites.

While it is possible to assume that a “combination” of Alternative B and C might mean a so-called “phased” plan of development (Alternative B) in which the various mitigation measures applicable to areas and habitat types are imposed (Alternative C), it is not clear from the DEIS that this is what the BLM intends. It might also mean adopting Alternative B’s absence of resource protection measures and Alternative C’s absence of

682-10 any phasing—an outcome that would appear largely equivalent to the Proposed Action. Without a specific accounting of the components from each Alternative that the BLM proposes to adopt, the DEIS does not provide a clear plan that decision makers and the public can understand.

### 682-11-1 **Specific mitigation requirements are inadequate, unclear, or inconsistently defined**

682-11-2 682-11-1 There is no comprehensive accounting within the DEIS that lays out the specific mitigation or development requirements under each Alternative. Conditions noted in the body of the DEIS are, in some cases, inconsistent with those summarized in the appendices. While Appendix L purports to lay out the additional protection measures imposed under Alternative C, the Appendix does not reflect a number of the mitigation measures described within the body of the document. For example, Appendix L notes that initial disturbance in big game crucial winter range should be limited to twenty or fewer acres per section. DEIS at L-3. However, this is not entirely consistent with the more explicit limitations noted directly in the text, where surface disturbance in big game crucial winter range would be limited to less than twenty acres, four locations per section, and roads would be limited to less than three miles/sq. mi. in each section. DEIS at 2-5. Chapter four also notes that disturbance in crucial winter range would be limited to less than twenty acres “pre-reclamation” and five acres of “post-reclamation” surface disturbance, with a maximum of 4 pads per section. DEIS at 4-71. Such specifications are notably absent from Appendix L.

682-11-3 682-11-1 In addition to the inconsistencies within the text, the DEIS does not explain the assumptions inherent in factors such as “disturbance,” and “pre and post-reclamation” and whether and how such assumptions compare to those of the Wyoming Game and Fish Department. Where the DEIS notes that certain vegetation communities are unable to be reclaimed within the life of the project, will disturbance in these areas accrue to the “post” reclamation limits, or is the act of attempted reclamation itself sufficient, regardless of actual reclamation success? The lack of clarity and specificity on these and other issues limit the usefulness of the DEIS for the public and decision makers.

682-11-4 682-11-1 Similarly, the status of “Required Best Management Practices” is far from clear. In Appendix H, the BLM lists a host of salutary measures for big game crucial winter range: directional drilling, drilling multiple wells from a single pad, remote well monitoring, transportation planning to reduce road density and traffic volumes, cluster development, “compensation mitigation,” and seasonal restrictions on public access. DEIS at H-9. Although BLM states that the measures in the BMP appendix “would be implemented,” DEIS at 4-59, the DEIS is replete with qualifiers and inconsistencies. For example, the widespread use of directional drilling is rejected at the outset. DEIS at 2-8. Remote monitoring would be utilized only “to the greatest extent possible” in elk habitat. DEIS at 4-65. If all of the BMPs were implemented field-wide, it is possible that this could reduce, although not eliminate, some impacts to big game crucial winter range. But because the DEIS is unclear and inconsistent as to which BMPs would be implemented and when, or even what the precise content of vague concepts such as “cluster development” might be, it is impossible to ascertain the nature or effects of the action to

682-11-2 682-11-1

682-11-4 682-11-3

682-11-5

682-11-5

be taken.

682-11-6

682-11

Finally, and perhaps most egregiously, the monitoring proposed in the DEIS falls far short of the minimum that would be necessary to account for, much less adapt to, impacts resulting from development. The absence of any information regarding wildlife-related monitoring resulting from several years of development on the IDP PODs is not reassuring. The DEIS itself, however, includes a “Wildlife Monitoring and Protection Plan” that does not live up to its name. *See* Alldredge Comments at 7-8 (discussing inadequacy of big game monitoring in Appendix E and discussing necessary components of meaningful monitoring program).

## Big Game

### BLM Failed to Utilize Available Data

682-12-1

We are particularly concerned by the apparent absence of any substantial information regarding the effects to date from the existing IDP PODs. Although we believe that development of the interim PODs was contrary to law, they also presented an opportunity for the BLM to obtain valuable data for purposes of this EIS. Based on our review of the DEIS, however, the lessons learned from the IDP PODs (apart from information regarding gas reserves and groundwater hydrology) appear limited to a finding that impacts on surface hydrology were adverse and reclamation inadequate (DEIS at 3-48 to 3-49) and that the spread of invasive weeds was a serious problem. Why was development of the IDP PODs not used as an opportunity to study effects on wildlife habitat use and population?

682-12

The DEIS also fails to make use of available scientific data that could aid the BLM in evaluating, anticipating, and preventing wildlife impacts. In 2003, biologists A. William Alldredge and Matthew W. Alldredge, at the request of the National Wildlife Federation, prepared a report analyzing population data for sage-grouse, mule deer, elk, and pronghorn populations within the BLM’s Great Divide (now Rawlins) Resource Area. A. William Alldredge and Matthew W. Alldredge, *Great Divide Resource Area Wildlife Analysis* (2003).<sup>4</sup> In this analysis, the authors evaluate the status and trend of populations for each of these important game species, and provide habitat management recommendations. Despite the availability of this analysis to the BLM, the DEIS cites only the most general, herd-level data regarding big game populations in the area. DEIS at 3-69 to 3-71. By employing only general population data from a single point in time, the DEIS fails to obtain or utilize readily-available information regarding population trends that could be used to better evaluate effects on game species populations. *See* Alldredge Comments at 3-4.

682-12-2

In addition, as indicated in the Alldredge comments, important information regarding transitional ranges for big game is available to the BLM, but has not been utilized:

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<sup>4</sup> A copy of Professors Alldredge’s study is submitted as an attachment to these comments in electronic and print form

Transition ranges are important for big game animals (Alldredge and Alldredge 2003). Current thinking by many big game biologists is that transition ranges may be at least as important as winter habitats. Transition ranges are generally the place where big game animals are able to build body reserves essential for winter survival and these are also the ranges where animals immediately move at winter's end to replenish vital energy stores. It is essential for animals have access to these ranges and that they are not disturbed while residing in these areas. Energy development activities certainly have the potential to alter and fragment these habitats and disturb resident big game animals. WGFD data are available for the locations and acreages of transition and summer ranges and the BLM should have expanded their impact evaluation to consider these areas. Conclusions from this evaluation would result in admission of far greater impacts to big game populations in the ARPA than currently exist in the DEIS.

Allredge comments at 2 (emphasis added). Similarly, summer and other habitats for pronghorn could have been identified, but were not:

If data for pronghorn parturition and summer habitats are not available, the BLM could have obtained these from field observations or by using GIS technology and published literature that describe characteristics of these habitats. The same approach could have been applied to ascertain potential fawning habitats for mule deer and calving habitats for elk. Based upon the potential consequences for big game populations, I do not believe that the cost of obtaining this essential information would be unreasonable. There is some indication in the DEIS that the BLM at least thinks they have these data, (2-2). Discussion of Alternative C says, "Resource data, in the form of GIS layers would be used to identify specific areas of resource concern." And a following sentence says that these areas could be sensitive wildlife habitat. If these data are available, the BLM should have used them in their analysis.

*Id.*

The DEIS does acknowledge recent research, in the Sublette mule deer study, showing that roads and well pads affect deer habitat use patterns, do not lead to acclimation, and result in substantial reductions in winter range size, quality of usable habitat, and potentially carrying capacity. DEIS at 4-64. "This suggests that within the ARPA, indirect impacts such as displacement from activities, dust from roads, and competition for forage within the already poor condition CWF habitat may result to reduced mule deer numbers and die offs from animals going onto CWR in poorer health with reduced body reserves." DEIS at 4-64. Given the greater sensitivity of elk to disturbance, displacement—and increased stress on animals and use of poorer quality range—seems even more likely for elk. *See* DEIS at 4-65. What the DEIS fails to do is to employ this

682-12-5 | knowledge to reach useful conclusions beyond the bare, unexplained, and unhelpful conclusion that impacts will exceed an (unspecified) one or more of its significance criteria. In addition, apart from a passing mention of the risks to overlapping big game crucial winter range (DEIS at 4-65), it fails to provide any informed consideration of impacts involving “increased inter-specific and intra-specific competition resulting from displacement of big game animals into what is assumed to be more marginal habitats.” See Alldredge Comments at 6. If mule deer and antelope share 22,637 acres of overlapping crucial winter range, *see* DEIS at 4-65 how much of this range will be lost? How much avoided due to disturbance? How many and what types of animals will be concentrated on the remaining range? Will they even be able to reach it due to roads, fences, and other barriers? What will the increased competition mean for the already-poor-condition vegetation on the range, and its carrying capacity for the various species?<sup>5</sup>

682-12-6 | Direct and indirect habitat loss, increased browse pressure, displacement of animals—these are all serious concerns, particularly in light of the host of additional mineral development projects threatening adjacent habitats. *See* DEIS M-6. In light of these serious concerns, it is inadequate for the DEIS to acknowledge that impacts will be significant and “may result to reduced mule deer numbers and die offs,” without providing any actual information as to what the effects, and what the implications for wildlife populations, distribution, management, and harvest may be. Acknowledging a significant impact does not excuse the BLM from disclosing the actual nature and scope of that impact.

682-12 | **Impacts to big game species cannot adequately be determined without greater information regarding locations of well, facility and road sites.**

682-12-7 | Impacts such as fragmentation and barriers to movement and migration can be effectively analyzed only when the actual location of well pads, facilities, and roads are known. Impacts to big game species, particularly in crucial winter range, differ significantly depending on whether the development is concentrated in one area of the range, or spread throughout. Alldredge Comments at 5. In the Atlantic Rim DEIS, the BLM has acknowledged that impacts to mule deer, pronghorn and elk would be significant under the proposed action, as well as each of the action alternatives. DEIS at 2-15. Despite the recognition that impacts to big game crucial winter range would be anywhere from “high” to “extreme,” due to insufficient location information, the BLM has failed to realistically evaluate the extent of impact and the adequacy and likely success of

682-12-8 | <sup>5</sup> *See also* Alldredge Comments at 6 (“It is erroneous to assume that when disturbed, big game animals can simply move to some new area (Tessmann et al. 2004). Because of habitat limitations and social behavior of these animals, there generally are no new places for displaced animals to move. The consequences of displacement of big game animals are not adequately considered in the DEIS. The BLM should provide information regarding the locations of habitats where big game animals might move, the current conditions of these habitats including forage availability and big game population levels and some indication about the accessibility of these habitats for displaced animals.”)

682-12-8

mitigation measures offered under the action alternatives. Furthermore, by its own admission, the BLM has “not take[n] into account the impacts [of the project] to transitional range or migration corridors,” which will be significantly impacted where animals are displaced from crucial winter range due to development and production activities.

682-12-9

Additionally, an assessment and portrayal of impact within crucial winter habitat would be more accurate if analyzed based on vegetation type. (Alldredge Comments, 4). Within each migration corridor and area of crucial winter range, there are particular vegetation types that are critical plant species for habitat and winter forage. While the BLM has noted mitigation requirements under Alternative C of “no surface disturbance” in Aspen, juniper-woodland, Mahogany and Serviceberry plant communities (DEIS, 4-17, L-5, L-7), it is not clear to what extent these vegetation communities – and thus development restrictions – overlap with big game crucial range.

682-12-10

Moreover, Wyoming big sagebrush (ATW), occurring in 34% of the project area, has been recognized as “ecologically perhaps the most important” habitat and forage species for big game and other wildlife (DEIS, 3-59). The BLM notes that “[t]he value of ATW as an important winter browse species cannot be over emphasized,” however, despite its importance, no mitigation measures have been considered to protect this vegetation species, and there is no further analysis of the impact of its decimation on big game. DEIS at 3-60.

682-12

**The BLM failed to analyze the impact of development on adjacent and surrounding private and state land.**

682-12-11

While recognizing that large percentages of big game crucial winter range occur on private and state property where no protections to development exist (42% of mule deer crucial winter range, 24% of pronghorn crucial winter range, and 17% of elk crucial winter range is on private and state land), the BLM failed to include an analysis of the impact of development on these adjacent and surrounding lands. DEIS at 3-69 to 3-71. The DEIS does not address the displacement of big game species likely to occur with development on adjacent private and state land, and the consequent higher density of animals and browse rate of vegetation on public land. Nor does the DEIS consider the impact of restrictions and mitigation measures on public land to the likely increased development intensity on private land. For example, where development in crucial winter range is prohibited during the winter season (November 15 to April 30), this will likely lead to greater activity on private lands during this time, and thus even more significant displacement of animals from this crucial habitat. Alldredge Comments at 5-6. Additionally, the DEIS does not consider the cumulative impacts on big game species due to development activities occurring on both public and private land. The fact that BLM does not control surface use of private and State lands does not mean that its analysis must stop there, or that it cannot take into account cumulative effects on wildlife that ignore land ownership boundaries.

Moreover, Maps M-52 and M-53, showing areas of overlapping sensitive resources

682-12-12 (sage-grouse habitat, big game crucial winter range, and soils with runoff potential) and comparing those areas with federal land ownership, suggests a significant alternative that BLM has not considered. Given the concentration of sensitive, overlapping resources and uninterrupted federal ownership in the central portion of the project area (around Cow Creek in particular), why has the BLM not even considered an alternative that would emphasize development of mixed-ownership lands in the northern (checkerboard) areas, while providing a refuge for displaced wildlife, and a remaining area of undeveloped public land, in the central area where ownership is more consolidated and federal management more feasible? If development on private lands cannot in fact be effectively controlled by the BLM, doesn't this suggest that preserving soil, vegetation, water quality, habitat, and recreation opportunity on those lands the BLM does control is all the more important?

682-12-13 **The BLM did not analyze the impact of development on big game migration routes.**

682-12 Studies to determine mule deer migration in the area have not yet been conducted or concluded (only scheduled to begin in 2006) and, thus, there is no data on which to base an analysis of the impacts of well, road, and facility development in mule deer migration habitat. Without information regarding migration routes, the BLM has not, and cannot, analyze the impact of development in the project area in terms of fragmentation, access to migration corridors, and options for coping with environmental factors.

682-12-14 Required Best Management Practices recognize the need to prevent impediments to migration and require that surface disturbance be avoided in migration corridors. DEIS at H-9. Of even greater concern are migration "bottlenecks" of less than 0.5 miles, where BLM does not permit any surface occupancy. DEIS, Appendix H. As the Wyoming Game and Fish Department has noted, "[e]xtended disruptions of migration or habitat use can result in loss of learned behavior from entire cohorts of young animals, breaking the tradition of migration to the most suitable winter habitats" WGFDM Minimum Recommendations at 8. Despite the importance of mitigation requirements to minimize impacts to these vital corridors, the BLM is unable to accurately determine where mitigation measures should be implemented and where development need be restricted to protect big game migration, where studies have not yet been conducted. The suggestion, DEIS at H-9, that a no-surface-occupancy corridor might be imposed "following data collection and analysis from Mule Deer Study," for a "narrow migration corridor," makes no sense if development is to be authorized prior to the study's completion. What does the DEIS mean by "identified migration corridors"? How can the corridors be identified if development of the existing PODs continues, and new development commences, prior to a study being completed?<sup>6</sup> Does the BLM really propose to require the Operators to

<sup>6</sup> DEIS at 4-64. ("A research project initiated by the BLM and WYGFDM in February of 2005, funded by two of the operators, should help delineate the migration routes utilized by mule deer on the ARPA. When information is available from this research, additional mitigation would be placed on development for the protection of

remove already-built wells and other infrastructure from migration corridors in the future? Most importantly, how can the BLM even come to understand patterns of movement and habitat use if it begins altering them before obtaining the information? The DEIS itself is unambiguous: “this project could alter or block mule deer movements along existing migration routes.” DEIS at 4-64. Rather than altering and blocking migration routes, then studying them, NEPA and CEQ regulations mandate that the BLM study first, alter second.

The situation is even worse with respect to pronghorn and elk movements, where the DEIS acknowledges a lack of information and a potential for impairment, but does not propose to obtain the missing information. *See* DEIS at 4-63 (“Several general pronghorn migration routes traverse the ARPA; it is not known how critical these routes are. This project could alter or block pronghorn movements along existing migration routes.”); 4-65 (“Several elk migration routes traverse the ARPA; it is not known how critical these routes are. This project could alter or block elk movement along existing migration routes.”). Furthermore, the BLM has noted that existing migration corridors for pronghorn antelope have already been cut off due to existing road and fence development, preventing pronghorn from migrating throughout their range and putting greater pressure on crucial winter habitat. DEIS at 3-69. Not only is such a restriction to migration contrary to BLM’s own Best Management Practices, but it compounds the impact of any additional development within the range. The BLM has failed to address the actual effects added pressure on crucial winter range, transition range, as well as adjacent private lands, created by further development and fragmentation within these existing pronghorn migration corridors. Without knowing the habitats and routes that animals use, how can the DEIS do anything more informative than concede that impacts will be “significant,” without telling us what they may actually be?

**Reclamation information for Wyoming big sagebrush has not been determined, despite the recognition by the BLM that this vegetation is of critical importance to pronghorn antelope (making up 96% of its winter forage).**

BLM acknowledges that “[t]he value of ATW [Wyoming big sagebrush] as an important winter browse species cannot be over emphasized,” however, despite its importance, no mitigation measures have been considered by the BLM to protect this vegetation species (even under Alternative C), and there is no further analysis of the impact of its decimation on big game DEIS at 3-60. It is noted in the DEIS that the greatest impact would be to antelope who rely on Wyoming big sagebrush for 96% of their diet during the winter months, but what this impact would be is not quantified. DEIS at 4-68.

Furthermore, the ability to reclaim Wyoming big sagebrush habitat after initial surface disturbance has not been determined (DEIS, 3-60). By analogizing to occupation times after fire, the BLM has estimated that the species may take from 75 to 150 years to

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mule deer migration corridors. Meanwhile, this project could alter or block mule deer movements along existing migration routes.”)

682-12-17

regenerate (DEIS at 3-60). However, the BLM also notes that other species, such as mountain big sagebrush, that are arguably easier to recover, have had limited success under previous reclamation efforts (DEIS, 3-59). Whatever the actual reclamation rate may be for Wyoming big sagebrush, if reclamation is possible at all, it is clear that the habitat will not be reestablished during the life of the project. What this means, in part, is that Alternative B does not constitute meaningful “phased development” for purposes of wildlife habitat and forage. If “interim reclamation” cannot restore habitat to its prior function, then it does not avoid habitat loss. The DEIS acknowledges this implicitly in Chapter 2, noting that vegetation impacts from Alternative B are “similar to [the proposed alternative.” DEIS at 2-13.

682-12-18

682-12

It is suggested that under Alternative C, surface disturbance would be limited to 20 acres “pre-reclamation” and 5 acres “post-reclamation” in each section, however, this surface disturbance limitation is not addressed in the context of vegetation types. DEIS, 4-71. It is unclear whether, and if so how, such calculations have taken into account the inability during the life of the project to reclaim any critical Wyoming big sagebrush habitat that is destroyed. Moreover, without a definition of “reclamation” or meaningful, achievable standards, Alternative C leaves considerable uncertainty as to what (if any) actual forage value and habitat function will be restored.

682-12-19

Furthermore, under the Wyoming Game and Fish Department guidelines for areas of “vital” habitat, including big game crucial range, it is recommended that while some modification of habitat characteristics may occur, there should be no loss of habitat function. WGFD Minimum Recommendations at 9. Maintenance of habitat function is described as maintaining “the arrangement of habitat features, and the capability of those features to sustain species, populations, and diversity of wildlife over time” WGFD Minimum Recommendations at 4. Coupling the lack of knowledge of the length of time or even the ability to reclaim Wyoming big sagebrush habitat with the known importance of the vegetation species in big game crucial winter range, allowing this habitat to be destroyed by well, road, and facility development is inconsistent with the requirement that habitat function be maintained in these vital areas.

### **Upland Game Birds**

682-13-1

682-13

Impacts to greater sage-grouse, and the availability of reasonable measures to conserve the species, are discussed at greater length below. However, we would note that BLM has not fulfilled its NEPA duty to examine the regional and cumulative impacts of the proposed action. BLM acknowledges that “bird displacement and nest abandonment from direct and indirect impacts such as habitat fragmentation, dust, noise, human activities and long term loss of sagebrush habitat would be cumulatively significant, leading to lower productivity and a long-term decline in the population of this species.” DEIS at 5-17. BLM has not addressed the possible impacts from other projects being conducted in the region. The cumulative impacts from this project in addition to other projects could result in a region-wide species decline. Such decline is likely because while it is possible that sage-grouse within the impacted area will move to other, offsite areas, there is evidence that this will only overburden the surrounding areas where

wildlife have relocated as a result of other projects. Matthew J. Holloran, Greater Sage-Grouse Population Response to Natural Gas Field Development in Western Wyoming 73 (2005).<sup>7</sup> The presence of other projects in the area also means that relocation of wildlife to adjacent habitats will be limited by the fact that the impacts of large-scale developments within habitats cannot be absorbed by surrounding habitats because wildlife populations already occupy whatever vacant, suitable habitat exists. *See* WGFD, Minimum Recommendations at 5-6. In addition, BLM has not addressed the possibility of other mitigation measures recommended by WGFD, such as mitigation trusts, conservation easements, and offsite/off lease mitigation efforts to counteract the offsite effects. WGFD, Minimum Recommendations at 21.

## Recreation

The DEIS acknowledges, but does not fully analyze, the importance of the Atlantic Rim area for hunting. “The ARPA attracts hunters for mule deer in particular, but also for elk, antelope, grouse, and cottontail rabbit.” DEIS at 3-87. Wyoming Game and Fish data for hunt areas including Atlantic Rim (of which the project area is a “significant portion”) show use by nearly 7,000 hunters in 2002. Map M-38 provides some very minimal information, without any explanation, of the “location of successful hunts” (although not broken down by species, date, number, or anything else). This information does indicate that hunter success is concentrated in five areas within Game Management Unit 82, “one of the most heavily hunted areas of the state.” DEIS at 4-97. These are Sand Hills, Deep Gulch and Cow Creek, Wild Cow Creek, Cherokee Creek, and Wild Horse Creek. *Id.* “Development in these areas would be expected to displace big game, and thus big game hunting.” *Id.* Although Alternative C would provide some reductions to disturbance and road density within the Cow Butte/Wild Cow and Sand Hills, four wellpads per section is still a level of disturbance that will substantially alter not only wildlife habitat but the nature of the hunting experience. *See* DEIS at 4-98. What this discussion fails to convey is, however, is either the full importance of the Atlantic Rim area as a hunting destination or the impacts that development (and effects on species distribution and population) may have on Wyoming Game and Fish management actions and permitted hunting levels. We note the DEIS’s statement, at 3-69, however:

Using WGFD information that was averaged from 1997-2001, comparisons can be made about the species richness and productivity across Wyoming. When numbers for antelope, mule deer, and elk are combined for similar-sized geographic units, the harvest data for the Sierra Madre/Snowy Range area (includes the ARPA) within the RFO are similar to the Sublette region around Pinedale, which is considered the most productive big game region in the state. In addition, recreation days and the economic benefits associated with hunting were 50 percent higher for the Sierra Madre/Snowy Range area when compared to the Sublette region (Rawlins Draft RMP 2004).

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<sup>7</sup> Doctoral dissertation, available at [http://www.sagebrushsea.org/th\\_energy\\_sage\\_grouse\\_study2.htm](http://www.sagebrushsea.org/th_energy_sage_grouse_study2.htm).

See also DEIS at 3-119 to -120. The consequences to the numerous local, regional, and out-of-state hunters who visit this “most productive” area to harvest multiple species and enjoy the exceptional hunting experience on Atlantic Rim will be severe:

In addition to the direct loss of habitat due to construction of well pads and associated roads, pipelines and utilities, disturbance from human activity and traffic would lower the utilization of habitat immediately adjacent to developed areas and cause wildlife displacement from an area larger than the actual disturbed sites. As noted in Section 4.7 (Wildlife), this displacement effect has the potential to have a great impact on wildlife not only due to displacement, but also due to wildlife concentration beyond carrying capacity in alternative habitats.

The extent of wildlife displacement is impossible to predict for most species. After initial avoidance some species such as deer and pronghorn may acclimate to the activity and begin to re-occupy the disturbed areas. Acclimation and re-occupation would be expected to occur following construction and drilling when the project moves into the production phases where less noise and human activity would take place. Despite acclimation and re-occupation, it is generally assumed that overall the increased human footprint on a previously lightly developed area is detrimental to big game species.

To the extent that displacement of big game does occur in connection with the Proposed Action, adverse impacts to hunting would occur in the ARPA. The impact would be borne primarily by local and regional hunters, especially local hunters for whom the benefits of the ARPA would be diminished as a convenient and economical place to hunt for sport and for game meat for the table.

DEIS at 4-94 to 4-95. In addition to displacement of big game species and population reductions (and ensuing management impacts), the DEIS acknowledges, but only indirectly, that the open, undisturbed natural setting that currently makes the Atlantic Rim such a superior hunting (and wildlife viewing) destination, will be lost:

the Proposed Action and Action Alternatives would have a high, adverse impact on the natural appearance of the landscape. This level of degradation of the scenery would potentially affect hunters and other recreation visitors to the ARPA.

Research has found that hunters participate in this activity for many reasons. Though hunting success is the predominant reason, enjoyment of the outdoors and the environment has a role for many hunters (Manning 1986). Therefore, the visual quality of the setting would likely be important to many hunters in the ARPA, and degradation of the scenery in the project area would potentially diminish their enjoyment and the satisfaction of the hunt.

For pleasure drivers and wildlife viewers, natural scenery and productive wildlife habitats are an essential part of the activity. Therefore, recreation visitors who visit the ARPA to drive for pleasure or view wildlife would likely be very sensitive to changes in visual quality, and for these visitors, adverse impacts to visual quality in the project area would likely diminish their enjoyment of the outdoor experience.

DEIS at 4-95.

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What we would like to know is, given these acknowledged consequences for thousands of hunters in some of the state's best hunting areas, why the DEIS does not give any consideration to an alternative that would not merely adopt helpful but minor measures (fence conversions to BLM standards, road density reduction) in five specifically-identified areas of exceptional hunting value (Sand Hills, Deep Gulch and Cow Creek, Wild Cow Creek, Cherokee Creek, and Wild Horse Creek), but actually preserve those areas from development to retain their value as hunting destinations. Why, out of those areas, have only Sand Hills and Cow Butte/Wild Cow Creek been even considered for any measures to reduce impacts on hunting under Alternative C? Why has no portion of the area been given consideration for management with a priority on wildlife habitat and recreational value? In short, why is it an unquestioned assumption of the DEIS that the costs of development should fall heavily on the shoulders of local hunters and ranchers and the local businesses they support? Why does no alternative give consideration to measures to purchase, lease, protect, or improve other lands to provide substitute habitat and/or hunting opportunity to make up for lands lost to the project?

### **The DEIS Fails to Acknowledge or Evaluate the Reasonably-Foreseeable Consequences of Future Infill Development**

682-15  
682-15-1

During the June 2001 scoping process, the Operators suggested that some 3,880 gas wells from 3,880 separate locations would be required to fully develop the Atlantic Rim gas resource. DEIS at 2-7. The BLM has now eliminated this alternative from detailed study, stating that “[t]he information obtained during interim drilling has provided technical data that indicates it would no longer be necessary to drill 3,880 wells at individual locations to fully develop the potential gas resources within the ARPA.” *Id.* at 2-8. However, the DEIS goes on to say that “[d]efinitive predictions on the final number of wells and timing of drilling operations are not currently possible due to the fact that the technical information being gathered by the drilling has not been completed to date and this information would play a significant part in the evaluation and determination of the number of wells needed to economically and efficiently develop this gas reservoir in the Atlantic Rim Natural Gas Project Area.” *Id.* Although this statement is not explained further, it appears to suggest a substantial possibility that the 2,000-well scenario evaluated under all alternatives is a beginning, not an end point, for development. The decision to evaluate the (already-severe) consequences of 2,000, as opposed to 3,880 wells, leaves several important questions unanswered? How many more wells are “economic and efficient” if natural gas prices continue to rise? What, if anything, prevents a later decision to allow infill up to

682-15-1  
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3,880 wells? BLM's recent Instruction Memorandum (2005-247, Sept. 30, 2005) on "Developing a Range of Reasonable Alternatives in Oil, Gas, and Geothermal Development Environmental Impact Statements," cautions that, based on the 2005 Energy Bill, "alternatives that analyze the impacts of higher well density and development levels beyond what is proposed should be considered." (IM 2005-247, Attachment 1 at 3). Although we are certainly not advocating the authorization of 3,880 wells, we believe that this guidance, coupled with NEPA's requirements regarding analysis of reasonably foreseeable future actions, requires the BLM to evaluate the consequences not only of the first 2,000 wells, but of full-field development.

**THERE IS NO REASONABLE RANGE OF ALTERNATIVES AS REQUIRED BY THE NATIONAL ENVIRONMENTAL POLICY ACT**

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682-16-1  
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682-17-1  
682-17  
Regulations adopted by the Council on Environmental Quality (CEQ) require a reasonable range of alternatives to be presented and analyzed in every EIS so that issues are "sharply defined" and the EIS provides "a clear basis for choice among options . . ." 40 C.F.R. § 1502.14. CEQ regulations and court decisions make clear that the discussion of alternatives is "the heart" of the NEPA process. This "heart" is absent from the Atlantic Rim DEIS. The key element to every one of the alternatives is the same: 2,000 new gas wells, and the near-complete conversion of the Atlantic Rim area to single-use management. Alternatives B and C are only minor variations on this theme. Alternative B, because it allows continued development of the "Interim" PODs while other phases are being developed, and incorporates no enforceable reclamation thresholds prior to development of new phases, does not offer any of the benefits of real phased development. Alternative C, while incorporating some useful measures that should be incorporated into any final decision, in the end amounts to little more than the Proposed Action, albeit with only 4 pads per section in most areas. However, perhaps because of the projects overly-narrow Purpose and Need, no alternative considers meaningful measures for conserving some or all of the area's wildlife habitat and recreation opportunity through means such as lease buyouts, exchanges, or suspensions. Although Alternative C's measures for the Cow Butte/Wild Cow Areas, Upper Muddy Creek Watershed, and Sand Hills ACEC do provide some reduction in density of development and would avoid some of the most egregious impacts to the Muddy Creek watershed, there is no alternative even under consideration that would leave any appreciable portion of the area without extensive surface-disturbing development or provide any sort of refuge for upland game birds, big game, or other wildlife. What's more, although we do not believe that offsite mitigation should be used as an excuse to justify avoidable and unacceptable impacts, despite the severity of impacts forecast under all alternatives, no alternative even contemplates compensatory and/or offsite mitigation to provide, protect, or improve substitute wildlife habitat and/or recreation opportunity, replace lost or degraded aquatic habitats, or compensate for adverse effects to Colorado River species.

**Alternative B Fails to Include Reclamation Thresholds and Does Not Constitute Meaningful Phased Development**

Phased development is a viable means of concentrating impacts of development, over time, while leaving other areas undisturbed while active areas are developed and then reclaimed.

Unfortunately, Alternative B is not phased development, for two reasons. First, by allowing development of the existing IDP PODs to continue, large areas right in the middle of the “Phase 2” and “Phase 3” areas, as well as roads and other linear disturbance accessing those areas, will be continue to be active during Phase 1. Map M-7, “Phases of Drilling and Drilling PODs,” dramatically illustrates how little of Phases 2 and 3 will be actually undisturbed (particularly considering limited public ownership within Phase 2) during the initial phase. DEIS at M-7.

Second, Alternative B does not represent meaningful phased development because it includes no standards for reclamation, and indeed appears quite contrary to the DEIS’s acknowledgment that reclamation of shrub communities is highly unlikely within the entire project lifespan, let alone the time spans of individual phases. *See* DEIS at 4-48 (noting “difficulty in reclamation” for Wyoming big sagebrush plant communities and “the likelihood that only initial shrub reestablishment may occupy disturbed sites during the estimated 30-50 year LOP”); 4-61 (“shrubs re-establishment to pre-disturbance levels would not be achieved during the life of this project. Consequently, the total acres disturbed would constitute a long-term loss of shrubs and would not be usable by species dependant on the shrub component for forage or shelter.”). The DEIS acknowledges that, for Alternative B, “[i]n terms of impacts to vegetation cover types, they would essentially remain the same as described under the proposed action.” DEIS at 4-51. The benefit, if any, would be that Alternative B “may result in better planning and reduced acreage of disturbance to vegetation,” DEIS at 4-51 (emphasis added) and provide additional time to develop seed sources and learn reclamation techniques. DEIS at 4-51. These potential benefits however are highly speculative. The DEIS does not explain how or why Alternative B might result in better planning. Nor does it provide any certainty or commitment that the BLM and/or the Operators actually will develop seed sources or learn reclamation techniques. If, as is apparent from the DEIS, there is a deficiency of knowledge, technique, and materials for successful reclamation, the knowledge should be developed before development. Taking a chance that better reclamation plans or methods might be developed during the project is a poor justification for proceeding with Alternative B.

We would also like to note that the failure of reclamation on the Interim Drilling PODs is another reason to be skeptical of Alternative B. The DEIS, at 3-48 to 3-49, provides a long list of reclamation failures on the existing PODs, both with regard to hydrologic/erosion impacts and vegetation impacts. *See also* DEIS at 4-47 (“The lack of adequate weed control efforts in the first few years of development under the Interim Drilling Plan has already increased weeds and seed banks that would have to be controlled for several years at a minimum.”)

### **BLM MUST ENSURE CONSISTENCY WITH THE GREAT DIVIDE AREA RESOURCE AREA MANAGEMENT PLAN**

The Federal Land Policy and Management Act of 1976 (“FLPMA”) requires that decisions, permits, and other authorizations conform to the approved resource management plan (“RMP”). Specifically, FLPMA provides that “[t]he Secretary shall manage the public lands under principles of multiple use and sustained yield, in accordance with the land use plans developed by him under section 1712 of this title.” 43 U.S.C. § 1732(a). After the development of an

RMP, “[a]ll future resource management authorizations and actions . . . shall conform to the approved plan.” 43 C.F.R. § 1610.5-3(a). “Conformity” means “that a resource management action shall be specifically provided for in the plan, or if not specifically mentioned, shall be clearly consistent with the terms, conditions, and decisions of the approved plan or plan amendment. 43 C.F.R. § 1601.0-5(b).<sup>8</sup>

Although the Great Divide RMP is currently under revision, FLPMA directs the BLM to develop and maintain comprehensive Resource Management Plans (RMPs) that govern all aspects of land management, and any land use decisions must be consistent with RMPs. 43 U.S.C. § 1712(a) and 43 U.S.C. § 1732(a) (2000). The pendency of a revision process cannot authorize disregard of the requirement that specific actions must conform to the existing plan. 43 C.F.R. § 1610.5-3(a) provides that “[a]ll future resource management authorizations and actions . . . shall conform to the approved plan.” Nothing either in that section or in 43 C.F.R. § 1610.5-6, addressing plan revisions, can possibly suggest that this rule becomes inapplicable prior to the approval of a new plan, simply by virtue of the fact that revision is “in process.” The mere fact that a plan revision is “in process,” a process which may take many years, should not authorize the BLM to disregard its obligations under the existing plan. Until such time as a final record of decision is issued revising or amending the RMP, BLM actions within the resource area must still be consistent with the plan now in place.

In addition, by proceeding with the Atlantic Rim project prior to the RMP revision, the BLM would impermissibly prejudice the outcome of the RMP revision process. If this project is approved, the BLM will have committed itself to wholesale conversion of the Atlantic Rim area from lands containing wildlife habitat, rangeland, watershed, and energy resources, into a single-use zone effectively committed to coalbed methane extraction to the exclusion of most other uses. By doing so, BLM preemptively restricts its options in the RMP revision, foreclosing any alternative that would preserve some or all of the Atlantic Rim area for its wildlife, watershed, and recreation values.

### **The DEIS Fails to Address Consistency with the GDRMP’s Reasonably Foreseeable Development Scenario**

One essential element of conformity with an RMP is that oil and gas development must remain within the Reasonably Foreseeable Development (“RFD”) scenario set forth in the plan. In the case of the GDRMP, BLM’s RFD scenario contemplates 1,440 oil and gas wells (including not

<sup>8</sup> These conformity requirements have been confirmed by the courts. *See National Parks and Conservation Assoc. v. FAA*, 998 F.2d 1523, 1526 (10<sup>th</sup> Cir. 1993) (nonconforming land use required RMP amendment); *Marvin Hutchings v. BLM*, 116 IBLA 55, 61-62 (1990); *Southern Utah Wilderness Alliance*, 111 IBLA 207, 212 (1989) (striking down BLM approval of application for jeep trip where proposal was not properly analyzed under NEPA and “was contrary to existing MFP”) and *Uintah Mountain Club*, 112 IBLA 287 (1990) (striking down BLM off-road vehicle route designation which did not conform to the approved RMP).

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only federal but also private and state minerals) for the planning area. GDRMP Draft Environmental Impact Statement (“GDRMP/DEIS”) at 220 (“It is projected that approximately 1,440 new wells will be drilled on private, state and federal mineral estate in the planning area over the next 20 years.”) This RFD scenario further contemplated approximately 34,355 acres of land disturbance, of which 18,263 acres would be reclaimed by the end of the 20-year period. GDRMP/DEIS at 220.

The Atlantic Rim EIS fails entirely to address the issue of consistency with the GDRMP RFD. Although, BLM planned in the RMP for 1,440 new wells to be drilled in the Great Divide planning area, but it has already authorized, in total, nearly 2,000 more wells than that forecast (approximately 240% of the RFD forecast). Even according to the BLM’s latest in a string of constantly-changing calculations for land disturbance due to mineral development, the RFD permits, at the very most, an additional 3,985 acres available for oil and gas related disturbance within the planning area.<sup>9</sup> The Atlantic Rim project proposes, in dramatic contrast, disturbance of 15,800 acres, an amount by itself nearly equal to the total amount authorized (and already consumed) for the entire resource area. *See, e.g.*, DEIS at 4-48. According to the DEIS, Alternative C’s resource protection measures would reduce disturbance approximately 64%, to approximately 5,700 acres—an amount that would still greatly exceed available disturbance under the RFD under the BLM’s most optimistic calculations. This disregard of the governing resource management plan violates FLPMA’s mandate to manage the public lands “in accordance with the land use plans developed” under FLPMA §202. 43 U.S.C. § 1732 (a).

BLM cannot, consistent with FLPMA, authorize oil and gas development that substantially exceeds the RFD scenario authorized in the GDRMP. Indeed, in a proceeding before the Interior Board of Land Appeals, BLM itself has acknowledged that it cannot authorize full-field development of the Atlantic Rim area prior to revision of the Rawlins (formerly known as Great Divide) RMP, “because the level of development that would occur from the full field development from any reservoir type would exceed the reasonably foreseeable development described in the Great Divide Resource Management Plan.” *Wyoming Outdoor Council*, IBLA No. 2004-84 (Jan. 22, 2004), at 7 (*quoting* Government’s Opposition to Petition for Stay). Despite this acknowledgment, the Atlantic Rim DEIS is inexplicably silent on the entire issue of consistency with the GDRMP’s RFD scenario. Presumably, this is because it is impossible for the BLM to even attempt to argue that the scale of development proposed for Atlantic Rim is conceivably consistent with the existing RFD. However, regardless of the fact that an RMP revision is underway (although not yet complete), FLPMA still requires consistency with the existing RMP, including the RFD limit. Indeed, the sole federal court to address the issue has found that an RFD scenario, as developed through an RMP/EIS process constitutes an enforceable check on the development of mineral leases. In *Northern Plains Resource Council*

<sup>9</sup> Draft Environmental Impact Statement for the Seminole Road Natural Gas Development Project at C-3 (November 2005) (“12,107 acres of disturbance are either existing or authorized within the RFO. Long-term disturbance acreage available for future, as yet unauthorized oil and gas related disturbance within the RFO area would be 3,985 acres (16,092 minus 12,107).”)

v. *BLM*, 298 F. Supp. 2d 1017 (D. Mont 2003) (“*NPRC*”), the district court addressed mineral leases issued under the Billings and Powder River Resource Management Plans. Those RMPs included an RFD analysis that projected 1293 (conventional) oil and gas wells over 15 years. *NPRC*, 298 F. Supp. 2d at 1020. In addition, in the RMP, BLM determined that “small-scale development of [coalbed methane] would not cause significant environmental impacts,” and determined “that the RFD projections could accommodate some exploratory [coalbed methane] drilling.” *Id.* In *NPRC*, the District Court found that this RFD limitation on coalbed methane (“CBM”) development—to “some exploratory drilling”—constituted an enforceable limitation on development, and that this limitation had thus been incorporated into the terms of mineral leases issued under the RMP. Those leases, the District Court held, necessarily incorporated the mandate of 43 U.S.C. § 1732 and 43 C.F.R. § 1610.5-3, that actions be consistent with approved resource management plans. *Id.* at 1024. Given the RFD scenario at issue in *NPRC*, a scenario contemplating only limited exploratory CBM drilling, the District Court held that “the lessees were granted only the right to undertake exploratory drilling and small-scale development of CBM resources.” *Id.* Thus, under *NPRC*, the leases which BLM now proposes developing on Atlantic Rim necessarily incorporate the RFD limit, and nothing close to the scale of development now proposed is allowable under the GDRMP.

### **The Atlantic Rim Proposal Is Inconsistent With the RMP’s Provisions on Greater Sage-Grouse Habitat Conservation**

Given the 2004 BLM National Sage-Grouse Habitat Conservation Strategy and because the greater sage-grouse was listed in 2002 as a WY sensitive species, any revised Rawlins RMP should contain a more stringent sage-grouse conservation strategy than the previously issued RMP. However, even under the 1990 Great Divide RMP, the BLM’s treatment of sage-grouse under all alternatives is inconsistent with Plan obligations.

In 2005, the first U.S. District Court to address the issue squarely confirmed the enforceability of RMP mandates for sensitive species conservation. The court in *Western Watersheds Project v. Bennett*, 392 F. Supp. 2d 1217 (D. Idaho 2005) granted an injunction and partial summary judgment against the BLM for renewing ten-year grazing permits without taking a “hard look” at the impact on the sage-grouse population. Moreover, the court pointed out that the governing RMP directed that “priority for habitat management will be given to habitat for listed, candidate, and sensitive species.” *Id.* at 1227. The court found that the BLM EAs completed were inadequate because they failed to examine the “big picture,” or the cumulative effects of increased grazing on the sage-grouse, and that the RMP “clearly placed wildlife interests ahead of grazing increases,” which effectively mandated the BLM to protect sage-grouse habitat. *Id.* . The court further reaffirmed that “agency action inconsistent with the [RMP] ‘can be set aside as contrary to law pursuant to 5 U.S.C. § 706(2).’” *Id.*, (quoting *Norton v. Southern Utah Wilderness Alliance*, 542 U.S. 55 at 65 (2004)).

Similarly, the ARPA DEIS has failed to examine the full cumulative effects of natural gas extraction on the greater sage-grouse as well as ignored clear mandates set forth in the 1990 Great Divide RMP. The Great Divide RMP sets forth a priority for habitat management in its

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Wildlife Habitat Management Objective, which is “[t]o provide habitat quality (food, cover, space, and water) adequate to support natural diversity of wildlife and fisheries, including big game, upland game, waterfowl, non-game species game fish, sensitive, threatened, and endangered species, species of special management interest in Wyoming, as well as to assist in meeting the goals of recovery plans.” Great Divide Resource Area Record of Decision and Approved Resource Management Plan (RMP) at 41 (1990). The RMP also states, in its Management Actions in Other Areas Important to Wildlife, that “[s]age grouse and sharp-tailed grouse strutting/dancing grounds and nesting habitat will be protected.” RMP at 45 (emphasis added). As the *Western Watersheds* court explained, interpreting a similar RMP mandate: “[t]he plain language of the provisions speaks in terms of requirements, not suggestions. For example, the JRA RMP-DEIS does not suggest that priority for habitat management ‘may’ be given to habitat for Sensitive species – rather, it requires that such priority ‘will’ be given.” *Western Watersheds*, 392 F. Supp. 2d at 1227. This mirrors closely the requirement language in the 1990 RMP: “[s]age grouse and sharp-tailed grouse strutting/dancing grounds and nesting habitat will be protected.” Thus, BLM’s requirement to incorporate greater sage-grouse habitat conservation in its decision making is evident. However, as discussed below, the standard buffers and timing limitations employed by the DEIS’s alternatives have proved inadequate for the job.

The Great Divide RMP further elaborated on required management actions in the RMP-EIS Chapter 4: Environmental Consequences, Effects on Wildlife and Fisheries when it listed the goal of the wildlife and fisheries program as emphasizing maintenance or improvement of wildlife habitat values and, where necessary, restriction of conflicting activities. Proposed Resource Management Plan/Final Environmental Impact Statement for the Great Divide Resource Area (formally Medicine Bow and Divide Resource Areas) (RMP-EIS) at 111 (1988). The plain language also emphasizes BLM’s duty to protect sage-grouse habitat by describing Effects from Management Actions for Various Programs, “Riparian areas, sage-grouse strutting grounds...and known habitat for threatened and endangered species would be protected from surface disturbance.” RMP-EIS at 117. Unfortunately, the quarter-mile buffer around “known leks” currently employed by BLM oil and gas projects is unsupported by any evidence suggesting it is effective to meet this duty of protecting grouse habitat.

In sum, without modifying the Proposed Action or Alternative B or C to give greater weight to the importance of greater sage-grouse habitat conservation and population effects, the BLM would be placing itself in a position where its actions are inconsistent with the Great Divide RMP.

### **The RMP Does Not Provide for Large-Scale Coalbed Methane Development**

As addressed at length in briefing before the IBLA in appeals, now pending, of five of the Atlantic Rim Interim Drilling Plan projects, authorizing coalbed methane development on Atlantic Rim is inconsistent with the existing GDRMP, which never contemplated or authorized this type of activity and its associated impacts. Once again, the DEIS fails entirely to address the question of whether coalbed methane development is consistent with the RMP. Although we appreciate that underground reinjection of produced water, as proposed in the DEIS, would help

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The DEIS fails entirely, however, to make the necessary analysis required under its sensitive species rules: what does this habitat loss, combined with other factors affecting the species, mean for its long-term outlook and prospects for avoiding listing as threatened or endangered? The DEIS's analysis is grossly deficient. Section 4.8.3, purportedly dealing with effects to sensitive species, limits its discussion to a cursory acknowledgment that "impacts would exceed the significance criteria" under all alternatives. In effect, the DEIS acknowledges that the Atlantic Rim project will cause substantial loss of habitat function for a sensitive species, but fails to either analyze (or compensate for) the effect this will have on the species' prospects for avoiding loss of viability.

**BLM's Proposed Action and Alternatives B and C do not adequately address sensitive species criteria as adopted by either the BLM or WGFD.**

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Both the Wyoming BLM and the WGFD maintain sensitive species lists. Designation as a sensitive species means that WGFD monitors and tracks the species while BLM implements stricter management guidelines to avoid or minimize adverse impacts to listed species. Wy. BLM, Sensitive Species List at 2. Therefore, the BLM should coordinate its management decisions with WGFD findings and recommendations. In accordance with its duties to sensitive species, WGFD has designated sage-grouse habitats as vital, meaning "no loss of habitat function is recommended, although some modification of habitat characteristics can take place." WGFD, Minimum Recommendations at 9. BLM acknowledges that this project will result in significant harm to the sage-grouse species: "bird displacement and nest abandonment from direct and indirect impacts such as habitat fragmentation, dust, noise, human activities and long term loss of sagebrush habitat would be cumulatively significant, leading to lower productivity and long-term decline in the population of this species." DEIS at 5-17. The alternatives considered by BLM, resulting in lower productivity and decline of the species, certainly do not fall within the WGFD allowance for "modification of habitat characteristics" in its recommendations. By considering in the DEIS only alternatives that would result in significant impacts to the sage-grouse, BLM has not followed the recommendations of WGFD.

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Not only has the BLM failed to coordinate with WGFD requirements, but the Proposed Action and Alternatives B and C fail to meet the BLM sensitive species criteria of ensuring that the species does not become listed because each is likely to result in a decline of the greater sage-grouse population. BLM admits that the Proposed Action, Alternative B, and Alternative C would all exceed the criteria for significant impact on the greater sage-grouse. DEIS at 4-70, 4-74. Significant impact, according to the DEIS, means that the species would experience both direct loss of habitat and the indirect effects of other disturbances related to the project. *Id.* at 4-69. The DEIS states that the potential impacts to greater sage-grouse from the Proposed Action include: "loss of nesting or early brood-rearing habitat; decreased population productivity caused by loss of nesting or early brood-rearing habitat; reduced utilization of suitable habitats due to indirect disturbance; loss of winter habitat; and displacement of birds into lower quality habitats." DEIS at 4-66. Alternative B impacts would basically be the same, with the only possible benefits being short-term, concentrated disruption coinciding with each phase. However, the long-term affects of Alternative B would be similar to the Proposed Activity,

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which is a decline in population numbers due to the decline in the health of the CWR and the movement of big game species into greater sage-grouse habitat. DEIS at 4-70. Finally, Alternative C is expected to reduce the impact by sixty-four percent on public lands and the short-term suspensions of grazing may benefit habitat quality. However, the indirect impacts of displacement from construction and drilling noises, traffic, and increased human activity would still exceed the significance criteria. Moreover, there would still be a decline in the greater sage-grouse population, merely reducing the long-term loss of greater sage-grouse habitat to the “moderate” category. DEIS at 4-73. Thus, BLM has failed to adequately protect a listed sensitive species according to both its own internal mandates and the recommendations of the Wyoming Game and Fish Department.

**BLM will not comply with its legal duties to protect and conserve greater sage-grouse habitat if it does not change the mitigation options contained in the DEIS.**

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BLM maintains that the continued modification of sagebrush habitats results in the need to use careful management practices and to not only conserve but improve the quality and amount of sage-grouse habitat. DEIS at 3-72. BLM states that it has implemented, or will implement, “careful management practices,” but does not clearly say what those practices will entail. Recent scientific research, some of which has already been adopted by WGFD, shows that BLM’s requirements in the DEIS are outdated and will not protect the sage-grouse from further decline. In order to fulfill its duty to protect and conserve sage-grouse habitat, BLM’s mitigation requirements should correspond to the recommendations of both the most recent scientific research and the other agencies charged with protecting the same resources.

**The Proposed Action and Alternatives B and C will result in unacceptable direct impacts to sage-grouse habitat unless BLM incorporates the findings of recent scientific research and WGFD recommendations.**

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It is apparent that direct loss of sage-grouse habitat should be avoided. 82% of the project area is covered by the two types of sagebrush most depended upon by the sage-grouse for its habitat needs; thus avoiding direct loss of habitat will be difficult using any alternative. DEIS at 3-72. In order to best mitigate this type of direct loss, BLM imposes a ¼ mile buffer around the edge of occupied or unknown status leks. *Id.* at 3-73. A lek is the strutting ground for the sage-grouse, and is relatively easy to identify by the presence of strutting and displaying sage-grouse. Wyoming Bureau of Land Management, Sage-grouse Lek Definitions 1 (2004). Given the fact that recent scientific research has shown that even a minimal level of development within 3 km (or a little over 2 miles) of a lek negatively influences breeding activity, a ¼-mile buffer, accompanied by first-year seasonal restrictions on initial development that do nothing during the decades of gas production, seems grossly inadequate to protect the function of this type of habitat. *See* Holloran at 57 (“current development stipulations are inadequate to maintain greater sage-grouse breeding populations in natural gas fields”). Allowing any surface disturbance within 3 km of leks will result in the negative indirect impacts for the sage-grouse that WGFD has recommended against; while the most effective measures would include a permanent buffer

682-18 | reduce the adverse impacts of this particular coalbed methane-specific phenomenon, the basic fact remains that development of this area and type of resource was not contemplated in the RMP. We refer the BLM to the comments of NWF *et al.* on the Blue Sky, Cow Creek, Sun Dog, Doty Mountain, Brown Cow, Red Rim, and Jolly Roger Interim Drilling PODs for detailed discussion of the inconsistencies between the RMP and coalbed methane development.

### BLM MUST CONSERVE SENSITIVE SPECIES AND THEIR HABITAT

682-19-1 | Under FLPMA, the BLM is bound by the general policy that “the public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.” 43 U.S.C. § 1701 (a)(8) (1976). Therefore, FLPMA sets forth a multiple use mandate that federal agencies may not ignore. With regard to the Atlantic Rim Project Area (“ARPA”) specifically, this means that the Rawlins BLM must consider effects on the conservation of wildlife species, notably the greater sage-grouse and Muddy Creek sensitive fishes, and their habitat in determining appropriate natural gas extraction management.

682-19 | The greater sage-grouse has lost its foothold in most of the country; the state of Wyoming contains some of the last areas of healthy and functional sagebrush habitat that the sage-grouse needs to survive. *See* Wyoming Game & Fish Dept., Recommendations for Development of Oil and Gas Resources within Crucial and Important Wildlife Habitats 1 (2004) (“WGFD Minimum Recommendations”). The sage-grouse has a rather complex life history that requires a wide variety of sage brush habitats. DEIS at 3-73. Big sagebrush is the primary habitat for the sage-grouse, although Wyoming sagebrush also provides for the sage-grouse’s forage, nesting, mating, brood-rearing, and winter cover needs. *Id.*; Holloran at 73 (2005). Riparian areas are also important habitat for the sage-grouse. DEIS at 3-73. The sage-grouse’s various life stages take place in different, although usually adjacent, types of habitat. *Id.* The proximity of these areas to each other and the ease with which the sage-grouse can move from one to another is an indicator of the quality of the habitat. *Id.* Fragmentation of its habitat is one of the principal reasons why a wildlife population declines. WGFD, Minimum Recommendations 1. Thus, it is important that the quality and diversity of sagebrush habitat in Wyoming be preserved in order to secure the future of the sage-grouse. This is necessary because, even in Wyoming where the species appears plentiful, the sage-grouse has experienced a steady decline in the last 35 years. *See* WGFD, Wyoming Greater Sage-grouse Conservation Plan 2 (2003).

682-19-2 | The Greater Sage-grouse has been identified by the Wyoming BLM and WGFD as a sensitive species; this designation places a heightened duty on the agencies to conserve and protect the species and its habitat. Wyoming Bureau of Land Management, Sensitive Species Policy and List 7 (2002). The DEIS Proposed Action as well as Alternatives B and C are wholly inadequate to address the greater sage-grouse conservation needs because each will result in population declines. The BLM is required by both internal management and FLPMA to not only conserve

the greater sage-grouse, but also to ensure that the species will not be listed under the Endangered Species Act (“ESA”).

Against this background of range-wide decline, the Atlantic Rim area at present continues to support substantial sage-grouse populations. “Greater sage-grouse are abundant within the ARPA, due to a high amount and density of suitable habitat, lack of habitat fragmentation, and the close proximity of upland and riparian habitats.” DEIS at 4-65. “There are few locations elsewhere in Wyoming that support a higher density of greater sage-grouse.” DEIS at 3-119. All of this will change, however, if the Atlantic Rim project is implemented without significant improvements in its protection of sage-grouse habitat and life cycle functions. If the productive and occupied habitat on Atlantic Rim is fragmented and converted to gas extraction, with acknowledged significant adverse consequences for greater sage-grouse, what does that conversion, combined with surrounding ongoing, imminent, and foreseeable development projects, mean for the future of the species throughout south-central Wyoming?

**BLM Manual 6840 governing Special Status Species Management requires BLM to conserve the greater sage-grouse population and their habitats to ensure that the species does not become listed.**

The BLM Manual 6840 (“Manual”), governing Special Status Species Management, sets heightened internal BLM management requirements for special status species, which include those species designated by BLM State Directors as “sensitive species.” The Manual requires “conservation” of sensitive species, where “conservation” is defined as “the use of all methods and procedures which are necessary to improve the condition of special status species and their habitats to a point where their special status recognition is no longer warranted.” Manual at .01.

*Moffat County Road Department*, 158 IBLA 221 (2003), supports BLM authority to adopt a range of measures to conserve sensitive species. The BLM is authorized under FLPMA to exercise their discretion in applying a multiple use strategy to public lands. However, when special status species are involved the BLM must meet heightened conservation requirements that will be upheld by the IBLA.

In *Moffat County Road Department*, the BLM placed both operational and timing restrictions on a mining authorization in order to protect a western burrowing owl nesting site. Moffat County objected to the restrictions because the burrowing owl was not listed under the ESA, but merely designated by the BLM as a sensitive species. However, the BLM argued that on the basis of multiple use principles they were required to maintain the habitat of sensitive species and that a failure to protect burrowing owl habitat would result in a prohibited taking of a protected species. Moreover, the BLM argued that their internal policy, as set forth in section 6840 of the BLM Manual, required such habitat protection. *Moffat County Road Department* at 224-5.

The IBLA concluded that BLM properly exercised its discretion regarding sensitive species conservation and its FLPMA mandate to manage the public lands under multiple use principles. See 43 U.S.C. §§ 1701 (a)(7) and (b) (1994). *Moffat County Road Department* at 231. In

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demonstrating the BLM's authority to protect species outside the ESA, the court stated "There is no requirement that wildlife protection afforded in the context of a resource management plan be limited to protections afforded by the ESA...There is, however, the requirement that the resource management plan be applied consistently." *Moffat County Road Department* at 231. Therefore, regarding the greater sage-grouse population in the ARPA, it is clear that the BLM has not only the obligation but also the authority to base its management decision on conservation requirements of a sensitive species. Unfortunately, the Atlantic Rim DEIS fails to utilize available information regarding the species and its habitat in order to do so.

**The BLM fails to examine the greater sage-grouse as a candidate species, which requires ensuring that the species does not become listed.**

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Although sensitive species do not receive the statutory protections of the Endangered Species Act due listed threatened and endangered species, the Manual sets the minimum level of protection for BLM sensitive species at that of candidate species. To protect candidate species, the BLM is required to implement management plans that conserve candidate species and their habitats and to ensure that actions authorized, funded, or carried out by the BLM do not contribute to the need for the species to become listed. Manual at .12. Therefore, the minimum requirement for the greater sage-grouse is to ensure that they do not become listed under the ESA. Furthermore, the BLM's goal is to improve the status of such species to the point where their special status recognition is no longer warranted. Taking conservation action before listing is warranted is necessary and considered to be "in the interest of the public." Manual at .22.

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The Proposed Activity and Alternatives B and C fail to address the issue of the greater sage-grouse's treatment as a candidate species. The Manual clearly sets forth the minimum treatment of sensitive species at that of a candidate species. Manual at .12. However, DEIS Appendix G – Biological Assessment, which discusses potential effects on all threatened, endangered, and candidate species, does not make any mention of the greater sage-grouse population. DEIS at G-1. Considering that greater sage-grouse populations are in decline throughout the country and that this area is considered one of the last strongholds for the population, BLM should have conducted an equivalent analysis for greater sage-grouse. The result of this analysis would certainly indicate the potential for severe impacts, as noted in the DEIS at 4-66: noise disruption to breeding, nesting, brood-rearing, and foraging; increased nest abandonment; loss and fragmentation of habitat, all leading to "lower productivity and long-term decline in the population of the species." (DEIS at 4-66). In addition, of even "greater concern" is indirect loss of nesting and early brood-rearing habitat, resulting from dust on vegetation from project activities and over-browsing by antelope and mule deer themselves displaced by the project. *Id.* Some 92% of the entire project area is potential sage-grouse nesting habitat, meaning that, under all alternatives, some 250,000 acres or more of this dwindling species' remaining habitat will be adversely affected. The DEIS further acknowledges that employing only seasonal protection (ineffective for production-phase activities) for wintering habitat would "result in habitat loss as well as potential displacement of wintering birds." DEIS at 4-67. This habitat loss is recognized as significant under all alternatives. DEIS at 4-69, 4-71, 4-73.

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682-19-13 of 3km. To the extent that information regarding disturbance effects on sage-grouse from oil and gas development is incomplete, what information there is suggests a buffer of at least 3 kilometers. BLM has cited no studies or data suggesting that the 1/4-mile buffer proposed is actually effective. This lack of information is particularly distressing given the widespread use of this buffer, and the opportunities foregone for monitoring and research regarding impacts, including from the IDP PODs already developed in the area to date.

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682-19-16 In addition, the BLM's method of determining an occupied lek is not adequate. BLM would conduct an inventory of leks within the project area and a two/one mile buffer zone around the area every five years. DEIS at E-3. "Selected" leks will be monitored annually to determine lek attendance, and in this manner all leks will be monitored at least once every three years. *Id.* BLM should give a more detailed description of when and how leks are classified as active. Active leks are most easily located in the spring, and all known sites should be checked for activity each spring. Those classified as active should be closely monitored during the spring, and counted 3-4 times at 7-10 day intervals. Clait Braun, Sage-Grouse Scoping Issues For Revision of the BLM's Great Divide Resource Management Plan 3 (2003).

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682-19 Besides the lek, another crucial habitat element for the sage-grouse is the nest. These are generally found within 5k (or around 3 miles) of a nest, but can be found farther away as well. *Id.* at 4. The current BLM recommended buffer for sage-grouse nests during the nesting and early brood-rearing period (from March 1-July 15) is 2 miles. DEIS at E-3. Since even a minimal level of development within 3 km (or 2 miles) negatively influences breeding activity, (Holloran at 57) the buffer should be at least 5k or 3 miles, and should be a NSO area. Braun at 4. BLM acknowledges that hens from active leks could use "most of the project area for nesting and brood-rearing," accounting for approximately 92% of the ARPA. DEIS at 3-73. The best protection is therefore provided by protecting suitable habitat within a 5km perimeter of occupied leks during the breeding season. John W. Connelly et al, Guidelines to Manage Sage-grouse Populations and their Habitats in 28 *Wildlife Society Bulletin* 967, 978 (2000).

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682-19-20 Winter habitat is also not adequately addressed in the DEIS. This is partially due to the fact that the winter habitat of the sage-grouse has not been adequately researched or mapped. DEIS at 3-73 ("Winter concentration areas have not been identified and mapped yet."). This should be done prior to commencement of the project so that well pads and other facilities are not placed directly in winter habitat, and a 200m buffer, as recommended by WGFD, can be given to all occupied winter habitat. WGFD, *Recommendations* at 19. BLM proposes only a timing restriction on direct surface disturbance to winter habitat from Nov. 15 – March 14. DEIS at 3-73. BLM needs to be more specific and should require the buffer recommended by WGFD. WGFD, *Minimum Recommendations* at 19 (requiring a seasonal restriction from Nov. 15-March 14 on surface disturbance and human activity within 200m of winter habitat). As a final, or perhaps alternative protection, winter habitat areas, once identified, should be designated as Areas of Critical Environmental Concern (ACEC). Braun at 3.

However BLM chooses to protect the winter habitat, the areas that would qualify need to be identified and mapped. There is currently no requirement placed on the developer to map the

winter habitat, but it would be impossible to protect it in the way required by the DEIS without mapping. *See* DEIS at 3-73. BLM's failure to require a survey or map of sage-grouse winter habitat is a curious oversight on the part of BLM, given that severe winter relief habitat has been located and submitted to BLM. *Id.* In addition, for some reason BLM has not required any impact mitigation for the severe winter relief habitat that *is* identified. So, BLM has required mitigation measures for areas that haven't been mapped and yet hasn't made any effort to get those areas mapped; then, for areas that *have* been mapped, BLM requires no mitigation. This doesn't make any sense. The winter habitat should be mapped, and then protected as provided in the DEIS in accordance with the WGFD suggestions for winter habitat. The severe winter relief habitat that is already identified should have the same protections as the regular winter habitat.

**The indirect impacts of the project will also result in unacceptable habitat loss and resulting population decline if BLM does not incorporate WGFD recommendations and recent scientific research.**

While the above measures may reduce direct losses of sage-grouse habitat, there are other effects of development that can result indirectly in habitat and population loss. Noise from development has a detrimental impact to the breeding activity of sage-grouse that is not adequately addressed in the DEIS. BLM states that transient noise is bad, but more consistent, lower level noise may be ignored by wildlife. DEIS at 4-60 (citing 1978 Busnel study). This is contrary to recommendations from WGFD that continuous and frequent traffic noises have eliminated almost all leks within 2 miles of the source, and reduced the number of active leks as far out as 4-5 miles. WGFD, Recommendations at 19. Consistent with the WGFD recommendations, BLM should require that noise be kept to a level below 10 dBA (above ambient noise levels) between March 15 and May 15 within 2 miles of an occupied lek. The DEIS does not currently contain any requirements on noise levels. To achieve compliance with WGFD recommendations, BLM should require a more detailed traffic and road plan so that vehicle trips are reduced and confined to areas away from both occupied leks and nesting/brood-rearing grounds. This will help decrease fragmentation of habitat, reduce the stress on nesting and breeding sage-grouse, and reduce the possibility of nest abandonment, all recognized by BLM as effects of development and elevated noise levels. DEIS at 4-60.

Dust constitutes another effect of increased traffic and construction. Dust covers the vegetation depended on by the sage-grouse for forage and habitat cover and interferes with that dependence; dust from the project, which is expected to affect 15-30% of the project area, results in both direct habitat loss, as the grouse can't actually forage, and indirect loss due to avoidance. DEIS at 4-61. The mitigation efforts for traffic described above should also help reduce the amount of dust, in addition to measures already in place requiring use of non-chlorine chemical treatments and compaction techniques on roads. However, BLM did not include a detailed description of how dust abatement would be achieved beyond these measures. Road closures, seasonal and permanent, would help mitigate both the traffic and noise problems. Holloran at 58 (suggesting travel restrictions and daily timing requirements as well). BLM has not addressed this mitigation possibility in the DEIS.

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Oil and gas field development also appears to increase the population of avian predators in the vicinity of sage-grouse habitat. Holloran at 58; Connelly at 979. While BLM does require that any power lines constructed should be put underground to avoid creating perches (DEIS at appendix E), both WGFD and Holloran recommend installing perching deterrents on gas field structures. WGFD, Minimum Recommendations at 18; Holloran at 58. BLM should include these requirements in the DEIS.

**The BLM must manage the ARPA taking into consideration “Best Practices” and the conservation of habitat.**

Instruction Memorandum No. WY-2001-040 from the BLM State Director, accompanying WY 2001 Sensitive Species Policy and List, directs all Field Managers and Deputy State Directors to apply “Best Practices,” set forth in species monographs and conservation strategies, in managing populations or habitats of sensitive species. In delineating “Best Practices,” the BLM National Sage-Grouse Habitat Conservation Strategy sets forth the following sage-grouse management goals: “sustain the integrity of the sagebrush biome to provide the amount, continuity and quality of habitat that is necessary to maintain sustainable populations of sage-grouse...by achieving the following results: 1. Maintain large patches of high quality sagebrush habitats, with emphasis on patches occupied by sage-grouse; 2. Maintain connections between sagebrush habitats, with emphasis on connections between habitats occupied by sage-grouse.” BLM National Sage-Grouse Habitat Conservation Strategy, 1.3.1 Guidance for Addressing Sagebrush Habitat Conservation in BLM Land Use Plans at 5-6 (2004).

Therefore, at the minimum, where lands administered by the BLM or BLM authorized actions have a significant effect on sensitive species’ status, as in the case of the greater sage- grouse and the ARPA, the BLM must manage the habitat or entire ecosystem to conserve the species. This includes ensuring that BLM activities affecting the sensitive species are carried out in a manner that is consistent with the objectives for managing those species. Manual, .06 C and E. The BLM National Sage-grouse Habitat Conservation Strategy specifically states to maintain connections between patches of occupied habitats; whereas, the Proposed Action and Alternatives B and C do just the opposite. Regarding negative impacts to the greater sage-grouse population, the ARPA DEIS states, “besides the excessive noise levels and disruptive human behavior, the ‘greatest concern’ is the indirect loss of habitat resulting in bird displacement and fragmentation of nesting and early brood-rearing habitat. There is expected to be a long term loss of nesting habitat and population numbers are not expected to return to pre-development levels.” DEIS at 4-66.

The Draft RMP-EIS for the Medicine Bow and Divide Resource Areas in 1987 warned that “the most serious habitat losses by the oil and gas industry have been long-term or permanent physical removal of habitat, or long-term changes in habitat structure (that is vegetative composition), and creation of behavioral avoidance zones.” Draft Resource Management Plan/Environmental Impact Statement for the Medicine Bow and Divide Resource Areas (Draft RMP-EIS), Wildlife Appendix at 477 (1987). At that time, the BLM found that past experience had shown that for each gas well brought into production, approximately 40 acres of surface

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disturbance occurs. Draft RMP-EIS at 477. This means that for the ARPA, if the current Proposed Alternative were to be implemented, which is to drill 2,000 natural gas wells, roughly 80,000 acres of surface disturbance would occur. While Alternative B would be the same and Alternative C would bring this down to, at best, 28,800 acres. These estimates do not include acreage disturbed by geophysical exploration, major transport lines, or acreage disturbed by communities and local infrastructures established or expanded primarily due to oil and gas industry development. Draft RMP-EIS at 477. Either way, this translates into a severe and unacceptable loss of greater sage-grouse habitat. The Draft RMP-EIS further highlights that losses in terms of “habitat usability or behavioral avoidance zones” can be twice that of physical habitat loss and that rehabilitation and reclamation of lands may be extremely difficult due to “limited rainfall, severe weather conditions, and poor soils.” Draft RMP-EIS at 477.

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Out of the overly narrow range of alternatives presented, Alternative C is the least-damaging option for the sage-grouse. Even Alternative C, however, as currently explained in the DEIS, falls short of adequate habitat protection as required under the GDRMP, WGFD guidelines, and BLM sensitive species policy. WGFD sets a “moderate impact” designation for sage-grouse for impact of 1-4 well locations and less than 20 acres of disturbance per section. WGFD, Minimum Recommendations at 11. WGFD impact designations are keyed to the number of well locations and the cumulative acres of disturbance per section. *Id.* at 8. The “moderate impact” designation represents the least amount of “development or disturbance that can impair key habitat functions by directly eliminating habitat, by disrupting access to, or use of habitat, or by causing avoidance and stress” that is recommended by WGFD for the species. *Id.* Only Alternative C has this configuration, and it doesn’t appear that less than 4 wells per section would ever be the case, despite Holloran’s finding that well densities exceeding one well per section within 3k of leks negatively influenced male lek attendance. Holloran at 57.

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The BLM must provide for sensitive species in planning and ensure that the greater sage-grouse will not be listed. The BLM must also consider all applicable planning documents, other agencies’ recommendations, the importance of the planning area as habitat from a regional perspective, the extent and trends of habitat for the greater sage-grouse, and the size, condition, and connectivity of habitat areas. BLM National Sage-Grouse Habitat Conservation Strategy at 4. Therefore, the BLM should take a much harder look at the conservation measures necessary for the health and stability of the greater sage-grouse.

### **BLM Must Conserve Muddy Creek Sensitive Fishes**

We are also concerned by the serious adverse consequences that the Atlantic Rim Project, especially the Proposed Action and Alternative B, pose for four sensitive fish species in the Muddy Creek watershed: roundtail chub, bluehead sucker, flannelmouth sucker, and Colorado River cutthroat trout. DEIS at 3-84. BLM is obligated under both its sensitive species policy and agreements with WGFD to conserve and maintain habitat for these native fish species. *Id.* at 3-84 to 3-85. The three warmwater species (chub and suckers) represent “one of the highest conservation priorities for native fishes within Wyoming.” *Id.* at 3-85. The Colorado River Cutthroat Trout has been the subject of extensive efforts on the part of WGFD and others to

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restore habitat in Muddy Creek and eventually re-introduce fish into the upper creek. *Id.* Under the Proposed Action and Alternative B, however, degradation of habitat due to roads and other facilities would be severe:

Research conducted during the summer and fall of 2003 and 2004 within the upper Muddy Creek watershed, including the ARPA, found the two most consistent habitat associations among sub-adult and adult roundtail chubs, bluehead suckers, and flannelmouth suckers to be positive associations with both rock substrates and deep pools (Figures 4-1 and 4-2; Bower 2005). Under the Proposed Action, the primary impacts to these two habitat features are (1) sedimentation from new construction and project-related land disturbance resulting in decreased availability of rock substrates, and (2) alteration of local hydrologic conditions by new road construction that could lead to sedimentation and channel adjustments resulting in a loss of deep pool habitats. Additionally, fragmentation of aquatic habitats, if any project-related road crossings of Muddy Creek are constructed, could limit access to required habitats or block fish migration. Also, though no discharges of produced water to the Little Snake River drainage are planned for the project, because of their limited distribution in Wyoming and range-wide, accidental releases of produced waters or other toxic materials to Muddy Creek would pose a potential risk to sensitive fish populations.

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DEIS at 4-81. Under the proposed action, impacts to roundtail chub, bluehead sucker, and flannelmouth sucker would be adverse and “may preclude improvement of their status as prescribed” in WGFD/BLM conservation agreements. *Id.* at 4-86. Given the inconsistency of this result with BLM sensitive species obligations and interagency conservation agreements, we are at a loss as to why this would even be under consideration. The DEIS contends that Alternative B, by using Muddy Creek as a boundary between phases, might decrease the Operators’ desire to construct crossings, but does not appear to prohibit such crossings, and results in significant adverse impacts from roads and other development features just like the proposed action. *Id.* at 4-87. Therefore this approach is similarly contrary to law and should not even be considered. Alternative C, by contrast, does incorporate some protective measures to protect Muddy Creek: maintenance of road densities, low-impact designs, avoidance of steep slopes, and road reclamation. *Id.* at 4-88. We believe that adoption of these measures is essential under any alternative and required under BLM’s sensitive species policy, interagency agreements, and governing law.

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### **BLM MUST ENSURE CONSISTENCY WITH STATE PLANS AND POLICIES**

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For many years, it has been the official policy of the State of Wyoming that there should be **no net loss** of important wildlife habitats within the state. In August of 2004, the Wyoming Game and Fish Commission adopted guidelines on the minimum mitigation measures required to conserve crucial wildlife habitats impacted by oil and gas development. We believe that the State of Wyoming and its citizens deserve an explanation for why BLM fails to fully implement

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recommendations of the Wyoming Game and Fish Commission regarding protection of crucial big game habitats. The expertise of the State's fish and wildlife agencies is entitled to serious consideration. Moreover, hunting and other forms of wildlife recreation are important components of Wyoming's natural heritage and its economy. FLPMA specifically requires that BLM's RMPs be consistent to the maximum extent possible with state plans and policies. This DEIS should also reflect the State of Wyoming's "no net loss" standard and its minimum recommendations for crucial habitat conservation.

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FLPMA requires that BLM's land use plans be consistent with officially approved resource related plans of State and local governments as well as Indian tribes. 43 U.S.C. § 1702(c)(9); *see also* 43 C.F.R. § 1610.3-2; BLM Handbook H-1601-1 at II-1 ("Land use plans must be consistent with State and local plans to the maximum extent consistent with Federal law."). It is the official policy of the Wyoming Game and Fish Commission that crucial habitat for wildlife species within the State should be managed to prevent "any loss of habitat function." Wyoming Game and Fish Commission Policy No. VII H (April 28, 1998) at 138. Some modification of crucial habitat is permitted but only if "habitat function is maintained (i.e., the location, essential features, and species supported are unchanged)." *Id.* In August 2004, the Wyoming Game and Fish Commission adopted guidelines on the minimum mitigation measures required to conserve crucial wildlife habitats impacted by oil and gas development. The DEIS acknowledges that impacts that exceed these guidelines are "significant," finding significant impacts from "[m]anagement actions that result in substantial disruption or irreplaceable loss of vital and high value habitats as defined in the Wyoming Game and Fish Department Mitigation Policy (WGFD 2004)." DEIS at 4-59.

The Interior Board of Land Appeals has interpreted the State plan consistency requirement to give the BLM broad discretion to encourage and enact policies on federal lands that are consistent with identified state goals and strategies. Even where state policies are more protective than those adopted by the federal government, the Interior Board of Land Appeals (IBLA) has supported the BLM's use of such state policies as the basis for imposing heightened restrictions on public lands. In *Moffat County Road Department*, cited above, the County challenged date restrictions imposed by BLM on a gravel permit, pursuant to Colorado law protecting a State- (though not federally-) protected species. In affirming the BLM's imposition of the timing restrictions at issue, the IBLA found that it "is clear that BLM acted within its discretion in recognizing Colorado law as a basis for including Stipulation # 20...." *Moffat County Road Department*, 158 IBLA 221, 231 (2003). Thus, it is clear from the IBLA's interpretation that the BLM is within its discretion to impose more stringent development restrictions to protect wildlife if such restrictions are consistent with state policy. Under *Moffat County Road Department*, the BLM should be well within its discretion to impose "reasonable measures" regulating surface use of mineral leases, *see* 43 C.F.R. § 3101.1-2, where those measures are based on State policy.

**Wyoming has developed state-wide guidelines and recommendations applicable to oil and gas development for the express purpose of preventing harm to important wildlife habitats.**

Under FLPMA, principles of land management include "...harmonious and coordinated management of the various resources without permanent impairment of the productivity of the land and the quality of the environment with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output."

Pursuant to these FLMPA principles, and recognizing that the pace of oil and gas development in Wyoming was greatly accelerating, and that such development would have adverse impacts on the state's wildlife resources, Wyoming developed guidelines for mitigating the potential harmful effects (WGFD, i). Specific purposes and goals of the guidelines include:

- 1 Identify thresholds of oil & gas development and related activities that impair the functions of important wildlife habitats
- 2 Prescribe management, mitigation, and monitoring practices to sustain important wildlife habitats as oil and gas developments reach identified thresholds
- 3 Prescribe mitigation practices to offset or compensate unavoidable, adverse effects of oil and gas development.

**Activities proposed in Alternative B are inconsistent with Wyoming Game and Fish Department guidelines.**

The BLM is not clear in the DEIS which alternative or components of alternatives are recommended to be adopted. Alternative B proposes the same level of development (8 well sites per section) as the Proposed Action, only limiting initial development to one third of the project area at a time.

Development of eight well sites per section is considered by WGFD to be "High Impact" in pronghorn and mule deer crucial winter range, and is discouraged (WGFD, 14). The same level of development in Elk critical winter range is considered to be an "Extreme Impact" because of Elk's greater sensitivity to disturbance. At this development level, there are no viable alternatives to mitigate the impact to Elk habitat, and "the function an effectiveness of crucial winter habitat would be severely compromised" (WGFD, 16). Because of these significant short and long-term consequences, Wyoming guidelines strongly recommend that such intensity of development be avoided in such habitat.

**Activities proposed in Alternative C are inconsistent with WGFD guidelines.**

Although mitigation measures adopted under alternative C, such as limiting surface disturbance within big game crucial winter range to less than 20 acres and 4 well locations per section, are more closely aligned with Wyoming guidelines, other requirements remain inconsistent (DEIS, 2-5 and 4-71).

1. Seasonal restrictions imposed only during the development phase are

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inconsistent with Wyoming guidelines.

Under DEIS Alternative C, seasonal restrictions prevent activity within big game crucial winter range during critical winter months (11 November through 30 April) for the development phase only. The DEIS acknowledges that there are no similar protections to big game in crucial winter habitat during the lengthy production phase.

Such lack of seasonal protections during the production phase is inconsistent with Wyoming guidelines that would “limit disturbances and activities *within operating well fields* during the same timeframe” (WGFD, 13). The Wyoming guidelines emphasize that “[i]t is equally important that mitigation measures be applied during the production phase, as production results in substantial, long-term loss of habitat function” (WGFD, 8).

2. The monitoring plan outlined in the DEIS is insufficient to comply with Wyoming guidelines.

Under the Wyoming Game and Fish Department’s guidelines for oil and gas development in crucial wildlife habitat, extensive monitoring is required to “detect and evaluate ongoing wildlife effects, including avoidance, distribution shifts, habituation, migration barriers, mortalities, and depressed productivity” (WGFD, 15). Furthermore, the results of monitoring activities are to be evaluated annually and relevant information integrated into the management of development and production activity.

Despite the comprehensive nature of Wyoming’s monitoring guidelines, the monitoring requirements under the Atlantic Rim DEIS are virtually non-existent. Although the DEIS suggests that the “Wildlife Monitoring/Protection Plan will be followed to prevent, reduce and detect impacts to wildlife,” there is no elaboration of such a plan (DEIS, 4-59).

Appendix E (Wildlife Monitoring and Protection Plan) suggests that “proposed inventory, monitoring and protection measures will be implemented under every development scenario,” however, there follow no discernable monitoring or protection measures. The only monitoring notation listed in Appendix E regarding big game is that “[d]ata on big game use of crucial winter ranges on the project area and an adjacent one mile buffer will be requested annually by the BLM from the WGFD, as deemed necessary by the BLM” (DEIS, E-5). Such a plan is problematic for a number of reasons. Primary among them is the complete lack of information on what specific factors will be monitored and in what manner. Furthermore, the DEIS appears to place responsibility for monitoring and collection of data on the WGFD, with the BLM merely “requesting” such data as the BLM deems necessary. Not only is the responsibility of the BLM to monitor the impacts of its projects on public lands misplaced onto the WGFD, but additionally the existing WGFD data collection program is not designed to collect the relevant data at the resolution necessary to ascertain impacts. Alldredge Comments at 7.

Furthermore, there is no elucidation of what impacts will trigger a modification in development activities, nor what such modification might be should a triggering impact be detected.

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3. Permitting long-term vegetation loss winter range is inconsistent with the requirement that “habitat function” be maintained.

The Wyoming Game and Fish Department has classified big game crucial winter range as “vital” habitat. WGFD Minimum Recommendations at 3. Vital habitat describes areas that directly limit a community, population, or subpopulation and where restoration or replacement of the habitat may not be possible. For vital habitats, the WGFD permits some modification of habitat characteristics; however, no loss of habitat function should occur. This means that “the arrangement of habitat features and the capability of those features to sustain species, populations, and diversity of wildlife over time” should be maintained. Minimum Recommendations at 4.

The DEIS acknowledges, in impacts common to all alternatives, severe consequences to important components of winter range for all three big game species. As the DEIS notes, “long-term loss/reduced usability of shrub habitat would lead to an increase in use on remaining shrub habitats. This increase of use would then lead to a long-term reduction of shrub habitats outside the immediate project disturbances. A further reduction of shrub habitat from die off caused by overuse would further reduce the habitat quantity and quality available in the long term, resulting in a significant impact.” DEIS at 4-61. This chain of vegetation loss is only exacerbated by the fact that average browse rates on crucial winter range and transition range are already at moderate (40-60%) levels; project-caused direct and indirect habitat losses of some 20-35% of available Wyoming big sagebrush habitat would, by shifting browse onto already-stressed remaining habitat, continue the cycle of vegetation loss. DEIS at 4-48 to 4-49, 4-63. Despite conclusory statements regarding “interim reclamation” in Alternative B, the DEIS cannot avoid the conclusion that restoration of sagebrush habitat is speculative at best, and that the project means a loss of this vital element of winter and transition range for decades. *See* DEIS at 4-64 (“The critical shrub component within [crucial winter range] removed would not be replaced (with potentially the exception of mountain sagebrush) to pre-development levels during the life of the project.”)

As discussed above, the BLM has acknowledged that certain vegetation types, notably Wyoming big sagebrush (ATW), cannot be adequately reclaimed within the life of the project. In fact, the ability to reclaim Wyoming big sagebrush at all is unknown, however, it is known that the species takes from 75 to 150 years to regenerate following fire (DEIS, 3-60). The BLM also recognizes that Wyoming big sagebrush is a critical species for pronghorn antelope, for whom it makes up 96% of their winter forage (DEIS, 4-68). Although the BLM has conceded that “[t]he value of ATW as an important winter browse species cannot be over emphasized,” the DEIS does not consider limiting development within this vegetation type. Permitting the obliteration of such an important forage species, with no hope of reclamation, is contrary to the Wyoming requirement that habitat function be maintained.

**Alternative C falls short of WGFD minimum recommendations, but is preferable to Alternative B or the Proposed Action.**

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While Alternative C does not fully comply with the minimum guidelines set forth by the Wyoming Game and Fish Department, as described above, this alternative provides superior protection than Alternative B or the Proposed Action.

Neither the Proposed Action nor Alternative B provide any mitigation measures for sensitive habitat such as important vegetation communities and big game crucial winter range. While Alternative B requires use of Best Management Practices including directional drilling, transportation planning, and seasonal restriction of public vehicular access (Appendix H), there is no discussion of how and when these limitations might be imposed, and what protective effect they would have on wildlife and habitat. In fact, the DEIS makes clear that for most resources, the impact under the Proposed Action, and the impact under Alternative B are largely the same DEIS at 2-12 to 2-17. Implementing the mitigation measures under Alternative C, however, would reduce impacts to both vegetation and wildlife throughout the project area. For example, seasonal restrictions would limit development activity in big game crucial winter range between November and April, and total surface disturbance in these areas would be limited to 20 acres and a maximum of 4 well sites. DEIS at L-3. This is a reduction from both the Proposed Action and Alternative B which would permit up to 8 well sites and 80 acres of disturbance per section, even in critical habitat.

Alternative C provides additional surface disturbance restrictions for important vegetation communities (aspen, juniper-woodland, mahogany, and serviceberry, L-7), and for areas with a slope of greater than 8% (L-6). These limitations indirectly provide greater protection to big game habitat where they overlap with migration corridors and crucial winter range.

Although Alternative C could be strengthened to provide better protection to habitat and wildlife within the Atlantic Rim project area, as drafted, it remains a superior alternative than the Proposed Action or Alternative B. However, given the information available, it would appear that Alternative C still generates unacceptable levels of wildlife impact. *See* Alldredge Comments at 8-9.

### **BLM MUST ADEQUATELY PROTECT SOILS AND WATER QUALITY, AND ENSURE COMPLIANCE WITH ALL LEGAL OBLIGATIONS REGARDING WATERS WITHIN THE COLORADO RIVER SYSTEM**

As an initial matter, we note that analysis of all alternatives in the DEIS proceeds from the assumption that virtually all co-produced water from coalbed methane extraction will be disposed of by underground re-injection. Given soils, vegetation, and aquatic habitat concerns for the area, coupled with the need to avoid adverse impacts to salinity in the Colorado River system, we believe that this appears to be a prudent alternative for produced water management. The DEIS (2-8 to 2-9) states that other water treatment methods (surface disposal with or without treatment, storage, or trans-basin pumping) were eliminated from consideration. Should surface disposal be considered, which we believe would contravene requirements under the Colorado

River Salinity Pact within the Colorado River watershed, full NEPA analysis of the consequences of such disposal – not present in the DEIS – would, at a minimum, be required.

Potential harms associated with surface disposal of CBM water are numerous. “Water production associated with CBM extraction is significantly greater than water production associated with non-CBM oil and gas development.” *Pennaco Energy, Inc. v. U.S. Dept. of Interior*, 377 F.3d 1147, 1158 (10<sup>th</sup> Cir. 2004) In *Pennaco Energy, Inc.* the Tenth Circuit Court of Appeals held that “CBM development poses unique environmental concerns related to water discharge.” *Id.* at 1159. As a result, the *Pennaco* Court ruled that the IBLA was justified in its determination that the CBM activities in question warranted additional environmental analysis beyond what had already been done for conventional oil and gas activities. *Id.* at 1160.

Environmental impacts associated with CBM development include adverse affects to surface water quality, soil, agriculture, wildlife, and human health. Surface discharge of CBM water is a popular method of disposal—case in point: most of the CBM water in the Eastern Powder River Basin is “discharged to surface drainages or soils.”<sup>10</sup> The popularity of discharging CBM water above-ground is due to the ease and low financial cost associated with this practice.<sup>11</sup> But despite the fact that discharging CBM water above-ground is both cheap and easy for CBM developers, the significant environmental costs that come along with above-ground discharge need also be considered.

Surface discharge of CBM water can negatively impact the quality of surface water. The high salinity of CBM water is a common concern, and has the impact of deterring plant growth and adversely impacting wildlife. CBM water discharged on the surface can also increase water flow at stream crossings, making it more difficult for wildlife to utilize its habitat. Final Report at 23 (table 3). Furthermore, in some cases, increased flows of surface water due to CBM surface discharges may cause soil erosion that places foreign particles into flowing water. In other cases, increased water flows may dilute naturally turbid waters which may adversely affect native species. *Id.* Either way, it is safe to say that water discharged from CBM activities disrupt the natural balance of surface waters hosting important plant and animal species.

Next, surface water discharge can have substantial and irreversible effects on soil erosion and soil quality. *Id.* Increased water flow on the surface can cause streambank erosion, which forever changes stream paths and perpetuate erosion problems. *Id.* Increased in-stream flows can also cause riparian erosion and a resulting change in vegetation. *Id.* Finally, increased water

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<sup>10</sup> Water Production from Coalbed Methane Development in Wyoming: a Summary of Quantity, Quality, and Management Options v., *available at* <http://www.uwyo.edu/enr/ienr/CBMWaterFinalReportDec2005.pdf> (hereinafter Final Report) at 23 (Table 3).

<sup>11</sup> U.S. Environmental Protection Agency (EPA). 2003a. Federal Register Online. Via GPO Access (wais.access.gpo.gov). DOCID: fr29ja03-92.

682-22-4 | impacts to vital and high-value habitats. Compliance with WGFD Minimum Recommendations should be just that – a minimum.

- 682-22-5 | • Employ Real Phased Development – Close Inactive Areas and Require Significant Reclamation Before Opening New Ones. Alternative B is not phased development – it neither closes the IDP PODs nor requires reclamation before new phases can be development. A real phased development alternative should be considered.
- 682-22-6 | • Require No Surface Occupancy for Overlapping Big Game Crucial Winter Range. Winter range is already over-stressed and development with displace animals and increase competition. Without reliable information showing that there’s enough quantity and quality of habitat to maintain populations, at a bare minimum, these particularly important and at-risk ranges should be off-limits to new disturbance.
- 682-22-7 | • Vital Seasonal Habitats Must Be Protected Throughout Development, Not Only During Initial Disturbance. “[S]easonal limitations apply only during the development phase and not during the production phase. Albeit human activity may be reduced during the production phase, there is still enough activity to disturb resident wildlife.” Allredge Comments at 8. “If seasonal limitations are to be used as effective mitigation, they must be applied throughout the life of the project and enforced. As discussed above, seasonal limitations should also consider resulting impacts to big game using habitats on private lands where limitations do not apply. A better approach to protect critical big game habitats would be to give them a NSO or no ground disturbance designation. Because site specific data for big game habitat are currently not included in the DEIS, it would seem prudent that the BLM consult with WGFD biologists and utilize their best estimates for habitats that should be off-limits to energy development. The BLM has an obligation to demand limits on development sufficient to prevent unacceptable impacts to wildlife populations and those limits are a cost of development for energy companies.” *Id.*
- 682-22-8 | 682-22-9 | • Analyze and Prevent Unacceptable Impacts to All Vital Wildlife Habitats. As discussed above, big game aren’t limited only by winter range, nor sage-grouse by leks. Habitat requirements need to be analyzed, and protected, with regard to the complete seasonal and life cycle needs of affected species.
- 682-22-10 | • Avoid Net Loss of Water Quality or Aquatic Habitats in the Muddy Creek Watershed. The mitigation measures identified in Alternative C are the minimum necessary to comply with sensitive species obligations and interagency agreements.
- 682-22-11 | • Avoid Disturbance in Identified Exceptional Wildlife/Hunting Areas. The DEIS identifies five specific areas of exceptional importance for hunting. Preserve this extraordinary value by requiring no surface occupancy in all five of these areas.
- 682-22-12 | • Compensate for Loss of Recreation and Hunting Opportunity. To the extent that the Atlantic Rim project results in loss of wildlife habitat and carrying capacity and hunting

flows can create hardpan soil (soil that is not permeable enough to sustain plant growth)—hardpan soil can have negative effects on established agriculture. *Id.*

Another concern with surface disposal of CBM water are adverse affects caused by increased quantity and decreased quality of water running from disposal sites to warmwater stream ecosystems. “Changes in the flow regime, increased sodium content, and additions of water with different temperature or sediment load than the natural water” can have negative impacts on ecologically important native plant and animal species. *Id.* at 22. Several studies of various managed irrigation sites in the Powder River Basin with less than five years of CBM water exposure have revealed some of the affects of surface CBM water disposal. *Id.* at 26. One study showed increased forage production of native perennial species, but this increase in volume of some perennial species’ forage was accompanied by a decrease in overall species diversity of native plants.<sup>12</sup> The same study showed a decrease in surface infiltration rates, indicating that the soil had become less permeable during the time that the CBM water had been present (hardpan soil).<sup>13</sup> As explained above, hardpan soil will not allow for absorption of water and thus will not support plant growth. Another study showed a build up of salt at the plant root zone (and deeper in some places).<sup>14</sup> Increased salinity of water is a common concern of surface discharge activity—water that is too saline can, among other things, inhibit plant growth.

Surface disposal of CBM water can also have negative impacts on the health of humans and other important animal species. Contamination of drinking water supplies is a major concern, as is the concern that storage ponds associated with CBM water serve as breeding grounds for mosquitoes carrying West Nile virus.<sup>15</sup> “This poses major concerns for human health as well as wildlife, because Sage-grouse are particularly susceptible to West Nile virus.”<sup>16</sup> According to Montanta State University entomologist Greg Johnson, who is studying the affects of CBM water on populations of West Nile-carrying mosquitos, “the coal bed methane ponds [in

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<sup>12</sup> King, L.A., G.F. Vance and G.K. Ganjegunte. 2005. Use of Coal Bed Natural Gas (CBNG) Waters: Soil and Plant Responses. Pages 607-622 In Barnhisel, R.I. (ed.). Proceedings of the American Society of Mining and Reclamation (AMSR), Breckenridge, CO, June 19-23, 2005. AMSR, Lexington, KY.

<sup>13</sup> *Id.*

<sup>14</sup> Ganjegunte, G.K., G.F. Vance and L.A. King. 2005. Soil chemical changes resulting from irrigation with water co-produced with coalbed natural gas. *Journal of Environmental Quality*, In Press.

<sup>15</sup> Final Report at 22.

<sup>16</sup> *Id.*

682-21-3 | 682-21 | Wyoming] are producing the vectors for West Nile virus.”<sup>17</sup> In fact, in 2005, according to Johnson, CBM ponds produced more mosquitoes than both natural ponds and irrigated agricultural areas.<sup>18</sup> The consensus seems to be that although the hard data has yet to be analyzed and a firm conclusion has yet to be drawn, CBM water *is* increasing the incidence of mosquitoes and thus *is* increasing the incidence of West Nile virus.

### **BLM SHOULD GIVE FULL CONSIDERATION TO A RESOURCE CONSERVATION ALTERNATIVE THAT LEAVES ROOM FOR MULTIPLE USES ON ATLANTIC RIM**

682-22-1 | 682-22 | Given the BLM’s statutory and regulatory obligations to manage public lands for multiple use, conserve sensitive and listed species, and prevent unnecessary and undue degradation of the public lands, it is not unreasonable for the DEIS to consider and adopt a conservation alternative that focuses on balancing economical and efficient gas development with conserving adequate land to maintain other values, including water quality in Muddy Creek, habitat for big game and upland birds, and recreation opportunity. Alternative C is a starting point for such an alternative, but it does not go far enough. Given the exceptional importance of Atlantic Rim for wildlife and other values, the area deserves better. Although the precise management measures and geographic data would have to be developed—prior to project approval—in consultation with all affected State and federal agencies, we believe a real balanced development alternative would incorporate the following key principles:

- Require Underground Reinjection of Produced Water.
- Gather Information First – Not Later. This includes information regarding big game migration routes and summer habitats, sage-grouse winter and other habitats, feasibility of reclamation, and all other incomplete information necessary to an informed decision.
- Adequately Conserve Sage-grouse, Incorporating Legitimate Science (Including Minimum 3-kilometer No Surface Occupancy Around Leaks and Preservation of Nesting Habitat). Make use of the findings and recommendations of studies such as the 2005 Holloran dissertation on greater sage-grouse population response in gas fields in western Wyoming. Quarter-mile NSO buffers are unsupported by science and demonstrably inadequate.
- Comply Fully With WGFD Recommendations for Oil and Gas Development in Critical and High-Value Wildlife Habitat. As discussed above, the Atlantic Rim proposal falls short of what WGFD has identified as minimum measures to prevent unacceptable

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<sup>17</sup> Evelyn Boswell, West Nile Carriers Flourish in Coal Bed Methane Ponds, Montana State University News Service, Nov. 2, 2005, *available at* <http://www.montana.edu/news/1131209283.html> (last visited February 16, 2006).

<sup>18</sup> *Id.*

682-22-12

opportunity, identify and improve or protect substitute lands elsewhere. This may be done through purchase, lease, easement, mineral lease exchange or buyback, as well as through habitat improvements.

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- If Impacts Are Inevitable on Private Lands, Conserve Remaining Unbroken Public Lands. If development is inevitable in the ownership-fragmented northern portion of the project area due to private ownership, then manage the unbroken public lands in the central portion to preserve acceptable levels of undisturbed wildlife habitat and intact watershed.

We remind BLM yet again that the “primary purpose” of an EIS is to “insure that the policies and goals defined in [NEPA] are infused into the ongoing programs and actions of the Federal Government.” 40 C.F.R. § 1502.1. The policies and goals of NEPA include:

- Encouraging a “productive and enjoyable harmony between man and his environment,”
- Promoting “efforts which will prevent or eliminate damage to the environment and biosphere,”
- Using “all practicable means and measures . . .to create and maintain conditions under which man and nature can exist in productive harmony . . .,”
- Fulfilling “the responsibilities of each generation as trustee of the environment for succeeding generations,”
- Assuring “all Americans safe, healthful, productive and esthetically and culturally pleasing surroundings,”
- Allowing beneficial use of the environment “without degradation . . . or other undesirable or unintended consequences,”
- Preserving “important historic, cultural and natural aspects of our national heritage . . .,”
- Achieving a “balance between population and resource use . . .,” and
- Enhancing “the quality of renewable resources” and maximizing recycling of depletable resources.

42 U.S.C. §§ 4321-4331; *see also* BLM Handbook H-1790-1.V. B.2.a(3). The DEIS all those alternatives under consideration by BLM reflect neither “productive harmony” between man and his environment nor a recognition that this generation is the “trustee of the environment for succeeding generations.” This DEIS fails at the outset in achieving NEPA’s goals when the agency must admit that significant adverse impacts to crucial wildlife habitats, water quality, and recreation are inevitable under all alternatives, overridden by what is apparently a single-use goal of maximizing oil and gas development at any cost.

## CONCLUSION

Thank you for considering these comments.

Sincerely,

David Simons  
February 17, 2006  
Page 45

*Signed by Michael A. Saul*  
Michael A. Saul  
Associate Counsel  
National Wildlife Federation  
Rocky Mountain Natural Resource Center  
2260 Baseline Road, Suite 100  
Boulder, Colorado 80302  
303-441-5166

*Signed by Michael A. Saul for:*  
Ben Lamb  
Western Field Director  
Wyoming Wildlife Federation  
P.O. Box 106  
Cheyenne, Wyoming 82003  
307-637-5433



# United States Department of the Interior

BUREAU OF RECLAMATION  
PO Box 25007  
Denver, Colorado 80225-0007

IN REPLY REFER TO:

D-5500  
ENV-1.10

FEB 28 2006

Rawlins Field Office  
Attn: Mr. David Simons, Project Lead  
Bureau of Land Management  
PO Box 2407  
Rawlins, Wyoming 82301

Subject: Comments on the Draft Environmental Impact Statement for the Atlantic Rim Natural Gas Field Development Project, Carbon County, Wyoming

Dear Mr. Simons:

The Bureau of Reclamation has the following concerns with regard to the subject project:

We note that the project is largely within the Little Snake River Drainage in Wyoming, a tributary to the Yampa River in Colorado, which flows into the Green River, and then into the Colorado River. There is a significant concern with salinity in the Colorado River Basin, which has been managed for over three decades by the seven basin states' Colorado River Salinity Forum. Wyoming is a charter member of the salinity forum. Discharges of salt are limited by Salinity Forum policy for sources controlled under authorities of the 404 National Pollutant Discharge Elimination System (NPDES) permits.

Reclamation believes the uncertainty concerning the nature and magnitude of salt loading to the Colorado River Basin that may occur from this proposed project needs to be recognized. A primary concern, given the large scale of this project in this particular hydrogeologic setting, is that there is the potential for mobilization of ground water into surface discharges of salt that would not be directly controlled by 404 permits. For this reason, Reclamation believes there should be a long-term commitment to project-related monitoring, which would include continuous Electrical Conductivity (EC) monitoring and a monthly total dissolved-solids sample analyzed by the sum of constituent's method. Monitoring and sampling should occur on the Muddy Drainage and/or the Little Snake River drainage downstream of the project area to monitor and detect any unforeseen salinity impacts. An "environmental commitment" to contract the U.S. Geological Survey to conduct this monitoring should be a part of the final environmental impact statement and associated record of decision for this National Environmental Policy Act process. It is anticipated that this monitoring would need to stay in place for several decades, as the impacts of the project may not be immediately evident.

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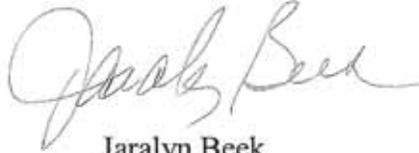
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BUREAU OF RECLAMATION  
DENVER, COLORADO

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Preparation of a contingency plan to allow involved parties to respond to unanticipated adverse conditions should be part of the management of the uncertainty.

We appreciate the opportunity to provide comments. For questions, please contact Mr. Jerry Miller at 801-524-3700 (jmillier@uc.usbr.gov).

Sincerely,



Jaralyn Beek  
Manager, Water and  
Environmental Resources

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