



March 10, 2011

Ms. Jacqueline Buchanan
Forest Supervisor
Bridger-Teton National Forest
P.O. Box 1888
Jackson, WY 83001

RE: Comments on the Draft Environmental Impact Statement for the Eagle Prospect and Noble Basin Master Development Plan Project

Dear Ms. Buchanan:

Please accept the following comments submitted by the Wyoming Outdoor Council, Western Resource Advocates and The Wilderness Society and on behalf of Greater Yellowstone Coalition, Jackson Hole Conservation Alliance, Biodiversity Conservation Alliance, Wyoming Wilderness Association and Defenders of Wildlife regarding the Draft Environmental Impact Statement (DEIS) for the Eagle Prospect and Noble Basin Master Development Plan Project in the Upper Hoback Basin of the Bridger-Teton National Forest.

A local, regional and national public cherishes the Bridger-Teton National Forest for its scenic vistas, backcountry recreational opportunities, abundant big game populations, habitat that supports threatened and sensitive species, clear skies, pristine streams and its ability to foster sustainable, tourism-related businesses. As the January 2011 public meetings in Jackson, Bondurant and Pinedale illustrated, and as the number of public comments to the Forest Service will also show, there is overwhelming public support for ensuring that PXP's drilling proposal does not destroy these resources.

Our comments recognize the unfortunate circumstance in which we, as advocates and concerned citizens, now find ourselves. As we have reviewed PXP's proposal to transform this remote basin into an industrial gas field, the consequences of the Forest Service's now seventeen-year old oil and gas leasing decision are evident and sobering. As much as we hope to safeguard the Upper Hoback entirely from oil and gas

development—and we continue to work toward a solution that would honor PXP’s financial interests while seeking to retire these leases permanently—we have provided in these comments constructive and detailed feedback about ways the environmental analysis and the project proposal can be improved. We have pointed out numerous inadequacies in the analysis, the broad authority of the Forest Service to impose protective measures, and the significance of the unique stipulations that accompany PXP’s leases. We have also offered suggestions for ways the Forest Service can condition PXP’s development proposal in order to minimize some of the impacts.

As you are aware, the Forest Service is charged with finding the appropriate balance between honoring its lease contract with PXP, and ensuring that authorization of the project does not violate federal laws or compromise its ability to safeguard other forest resources. We are sensitive to the magnitude of this responsibility and the inherent challenges in striking such a balance. We ask, however, that after reviewing these comments and others, that the Forest Service recognizes the shortcomings of the draft EIS and decides a supplemental draft analysis is warranted in which a true conservation alternative can be developed and reviewed.

BACKGROUND AND PROCEDURAL HISTORY

Regulations governing the Forest Service’s oil and gas leasing process are set forth in 36 C.F.R. § 228.102. We have attached a copy of these regulations as Exhibit 1. The Land and Resource Management Plan for Bridger-Teton National Forest (Forest Plan or LRMP) made specific forest lands available for oil and leasing pursuant to 36 C.F.R. § 228.102(d). Based on that broad scale environmental analysis completed more than two decades ago, the Forest Plan identified lands located within Management Area 23 as available for leasing, subject to “constraints that will require the use of lease stipulations....” 36 C.F.R. § 228.102(c)(1)(ii); see also BTNF LRMP at 238, 245 and 307.

Since the completion of the plan-level “availability analysis,” the Forest Service made various “leasing decisions for specific lands” pursuant to 36 C.F.R. § 228.102(e), including the specific lands in MA 23 that now comprise PXP’s Master Development Plan project area. See Decision Notice/Finding of No Significant Impact and EA for Making the Oil and Gas Leasing Decision for Specific Lands Within the Cliff Creek (MA 22) and Upper Hoback (MA 23) Management Areas, Big Piney Ranger District, Bridger-Teton National Forest, Sublette County, Wyoming, signed by Brian E. Stout, Forest Supervisor, September 30, 1991. (hereinafter “1991 Leasing EA/Decision”) (Exhibit 2).

As mandated by regulation, the BTNF prepared the above-referenced EA in order to: (1) verify adequate site-specific NEPA analysis and consistency with the Forest Plan; (2) ensure that conditions of surface occupancy identified in the availability decision are properly included as stipulations in resulting leases; and (3) determine that operations and development could be allowed somewhere on each proposed lease, except where stipulations will prohibit all surface occupancy. 36 C.F.R. § 228.102(e).

Informed by the environmental disclosure contained in the above-referenced Leasing EA/Decision, the Forest Supervisor selected “Alternative 3—Implement Forest Plan Leasing Availability Decision, Meet Site Specific Management Goals.” In his decision, the Supervisor explained that “[t]he Forest Service would not object to leasing lands in MA 22 and 23 with the stipulations required in the Forest Plan *plus the additional stipulations necessary to protect other site-specific resources.*” 1991 Leasing EA/Decision at 1 (emphasis added). He concluded by stating: “Based on the Forest Plan and this EA, I am informing the Bureau of Land Management (BLM) that we have no objection to the issuance of oil and gas leases for the lands identified as suitable in the Forest Plan *as long as they are issued with the specified stipulations and notices.*” *Id.* at 2 (emphasis added).

The 1991 Leasing EA/Decision also states: “Conditions of leasing (stipulations and notices) to be applied to specific lands within the MAs have also been identified as part of this analysis (Appendices F & G). The maps of where the stipulations will be applied for alternatives 2 & 3 are in Appendix D.” *Id.* at 2.

Ten months after his September 30, 1991, leasing decision, the Forest Supervisor authorized the Wyoming BLM to auction oil and gas leases in MA 23, “*provided that the lease contains the enclosed stipulations.*” See letters from Brian Stout, Forest Supervisor, BTNF to Ray Brubaker, Wyoming State Director, Bureau of Land Management, dated July 31, 1992, consenting to lease parcels WYW 132829, WYW 132830, WYW 132831, WYW 132832 and WYW 172634 attached as Exhibit 3.

On June 23, 1994, the BLM issued the oil and gas leases located within MA 23 now held by PXP.¹ The leases contain no surface occupancy (NSO) stipulations for steep slopes, technically unsuitable soils, and landslide areas; timing limitation stipulations for wildlife; the standard Forest Lands stipulation (shown on page 3 of Forest Plan Appendix B); the unique Jackson Hole Area Oil and Gas Lease Stipulation (shown on page 12 of Forest Plan Appendix B); and a special stipulation entitled, STIPULATION FOR LANDS OF THE NATIONAL FOREST SYSTEM ADMINISTERED BY THE BRIDGER-TETON NATIONAL FOREST. Due to its importance, and significant implications for PXP’s proposed development, the entire BTNF stipulation is quoted below:

The National Forest Management Act of 1976 requires all National Forests to be managed in accordance with their respective Land and Resource Management Plans, and requires all leases, permits, and licenses for the use and occupancy of National Forest System Lands to be consistent with completed Plans. The management standards which apply to this leaseholding are contained within Chapter 4 (Land Management Direction) of the Land and Resource Management Plan for the Bridger-Teton National Forest. The accompanying Record of Decision document contains some changes and additions to the standards contained in Chapter

¹ See copies of original leases for WYW-132829 (which now encompasses WYW-172634)(Exhibit 4), WYW-132830 (Exhibit 5), WYW-132831 (Exhibit 6) and WYW-132832 (Exhibit 7).

4, and an enclosure to an accompanying letter from the Regional Forester dated Feb. 20, 1990, contains some clarifying information about management standards. *Additional site-specific standards apply to this leaseholding, and are contained within the Environmental Assessment for Oil and Gas Leasing in Management Areas 22& 23, Big Piney Ranger District, Bridger-Teton National Forest.*

Stipulation for lands of the NFS administered by the BTNF, (Exhibit 8)(emphasis added).

Accordingly, based on the explicit language of the above-quoted stipulation, it is clear that *PXP's leases are subject to the "[a]dditional site-specific standards ... contained within the Environmental Assessment for Oil and Gas Leasing in Management Areas 22& 23."* The ramifications of these stipulations are significant, and have not been considered in the DEIS. As explained in more detail below, PXP's "lease rights" are highly constrained by the numerous, protective stipulations attached to its leases—stipulations the Forest Service improperly overlooked.

THE DEIS FAILS TO DISCLOSE AND APPLY THE STIPULATIONS ATTACHED TO PXP'S LEASES.

The Forest Service is required by its own oil and gas regulations to "ensure that the surface use plan of operations is consistent with the lease, including the lease stipulations, and applicable Federal laws...." 36 C.F.R. § 228.107(a)(1)(Exhibit 9). There is no indication or evidence presented anywhere in the DEIS that the Forest Service gave any thought to, much less analyzed, the stipulations attached to PXP's leases, including the unique Jackson Hole Area Oil and Gas Lease Stipulation, or the stipulations, terms and conditions set forth in the 1991 Leasing Decision referenced above.²

This inexcusable omission, which constitutes a direct violation of the Forest Service's own regulations, calls into question the validity of the entire environmental analysis. How can the Forest Service "ensure" the Surface Use Plan of Operations is consistent with PXP's lease stipulations if those stipulations are not even revealed or discussed? Moreover, how can the Forest Service meet its stated management goal of "provid[ing] opportunities for mineral extraction . . . while avoiding or otherwise mitigating significant impacts on other resource objectives," if it doesn't even acknowledge the protective stipulations that give it added authority to protect those very resource objectives? DEIS at 1-11. Consequently, by ignoring or failing to recognize the importance of these binding lease stipulations, the Forest Service's analysis is incomplete and legally flawed, and as a result, the preferred alternative is far from the kind of true conservation alternative the Bridger-Teton National Forest deserves and the law requires.

PXP's "right" to develop its proposed gas field on public land is limited by federal regulation, making such use explicitly contingent upon and "subject to"

² Although Table 2-7 displays "Seasonal Constraints on NFS Lands" it is clear based on the content of this table that neither the Jackson Hole Stipulation nor any of the additional stipulations required by the 1991 Leasing Decision have been considered.

stipulations attached in the lease. 43 C.F.R. § 3101.1-2 (Exhibit 10). This regulation states:

A lessee shall have the right to use so much of the leased lands as is necessary to explore for, drill for, mine, extract, remove and dispose of all the leased resource in a leasehold *subject to: Stipulations attached to the lease*; restrictions deriving from specific, nondiscretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize adverse impacts to other resource values, land uses or users not addressed in the lease stipulations at the time operations are proposed.” Id. (emphasis added).

There are numerous lease stipulations set forth in the 1991 EA/Leasing Decision that are attached to each and every one of PXP’s leases.³ These stipulations, which are part of the contract between PXP and the federal government, were required by the Forest Service in order to safeguard sensitive resources while allowing some highly constrained oil and gas development to occur on the forest. The Forest Service failed entirely to mention the existence of these stipulations in the DEIS and more importantly, did not apply them in any way, shape or form to PXP’s proposed Master Development Plan or to any of the alternatives analyzed in the DEIS. These stipulations are discussed in detail below.

Stipulations attached to PXP’s leases:

1) The Jackson Hole Area Oil and Gas Lease Stipulation

This stipulation is required by the Secretary of the Interior Krug Memorandum of August 15, 1947, for inclusion in oil and gas leases in the Teton Division of the BTNF.⁴ Among other things, its terms require the lessee to agree:

- To drill only such wells on the leased land as may be authorized by the Secretary of the Interior under an approved unit plan.
- To drill no well within 1250 feet of any public road on or adjacent to the leased land without the consent of the Secretary of Interior first had and obtained.
- To keep to an absolute minimum the number of access, tote roads, and other travelways necessary to conduct the lessee’s operations, the location of which shall be designated by the Supervisor prior to the time of their construction.
- That the location, alignment and cross section of all roads constructed for the convenience of the lessee’s operations, shall be such that after discontinuance of use, they can be obliterated and the area over which they traverse can be restored

³ The South Rim Unit Agreement, known more formally as “The Unit Agreement for the Development and Operation of the South Rim Unit Area, County of Sublette, State of Wyoming, No. WYW161591X,” explicitly incorporates all of the stipulations attached to PXP’s leases, including but not limited to the Jackson Hole Stipulation. See South Rim Unit Agreement at ¶¶ 30, 34 (1-7)(Exhibit 11).

⁴ As shown on maps contained in Appendix D of the 1991 Leasing EA/Decision, the Jackson Hole Area Oil and Gas Lease Stipulation applies to all leases within MA 22 and MA 23.

- to its original condition.
- To protect the scenic and aesthetic values of roadsides, waterfronts, and recreation area zones as far as possible consistent with the authorized use in connection with construction, operation, and maintenance facilities.
 - To conduct operations in a manner that will offer the least possible disturbance to wildlife on or adjacent to the leased land.
 - To observe and comply with all State and Federal laws and regulations relating to wildlife.

EA at 35.

2) No Surface Occupancy

Slopes greater than 40% or technically unsuited soils. Surface of Wyoming Range National Recreation Trail. All lands within a quarter mile on either side of the portions of the Upper Hoback River and Cliff Creek deemed eligible for inclusion in the Wild and Scenic River System as Wild Rivers. EA at 7 and EA Appendix G at 31.

3) Timing Limitation

Elk calving and bighorn sheep lambing areas—limit development and other activities from May 15 to June 30. Crucial elk, bighorn sheep, and moose winter ranges - limit development and other activity from November 15 to April 30. Where calving/lambing areas and winter ranges overlap - limit development and other activities from November 15 to June 30. EA at 7 and EA Appendix G at 32.

Stipulations in the 1991 Leasing EA and Decision Notice:

These following additional stipulations can be found in the 1991 Leasing EA/Decision based on Forest Plan direction and the Jackson Hole Area Oil and Gas Lease Stipulation. None of them were considered in the DEIS:

1) 2,500-foot total NSO buffer along Forest Development Roads

The Jackson Hole Area Oil and Gas Lease Stipulation required by the Krug Memorandum on all lands on the Teton portion of the Forest requires a 1,250 foot wide strip along all public roads in the area. The IDT determined these would be the roads identified in the present Teton Travel Plan as open for public use. These will not be identified on the NSO map but the roads are identified in Appendix H. EA at 7. It is clear that the Krug Memorandum prohibits wells to be drilled within 1250-feet on either side of Forest Development Roads within the MDP area. See Jackson Hole Area Oil and Gas Lease Stipulation attached to each of PXP's leases (stating, "[T]he lessee hereby agrees: ... to drill no well within 1,250 feet of any public road on or adjacent to the leased land without the consent of the Secretary of the Interior first had and obtained...)(Exhibits 4, 5, 6 & 7).

2) Other mitigation measures

These examples are not all inclusive, and will not apply to all projects. By reviewing these examples, the potential lessee or operator will be better able to anticipate design requirements and costs for projects located on Bridger-Teton National Forest administered lands. Technical and safety design limitations of the proposed operation, the nature of the target being evaluated, or the nature of the field being developed will contribute toward determining the mitigating measures which can be required for a project. EA at 7.

3) Access

Road locations and standards may be altered through realignment, relocation, screening, use of construction methods and materials having less impact, and reclamation, to meet the intent of adopted visual quality objectives, coordinate with recreation activities, and minimize impacts on other resources. Mitigating measures may include—

- fewer stream crossings;
- longer access roads which have less impact on other resources;
- insloped roads with drainage relief instead of outsloped roads, to lessen visual impact;
- construction techniques which lessen the amount of sidecast fill material;
- use of materials for bridges, traffic control devices, guard rails, retaining walls, and culverts which visually blend with surroundings;
- interim recontouring or revegetation to minimize the visual impact of ongoing operations;
- providing alternate recreation opportunities, such as a groomed snowmobile trail, when a road used by snowmobiles must be plowed; and
- considering the use of a helicopter or other non-road access during wildcat exploration of a remote area.

EA at 7.

4) Visual Impacts

To maintain aesthetic values, all surface disturbing activities may require special design, screening, or location to blend with the natural surroundings and meet the intent of adopted visual quality objectives. Mitigating measures may include—

- moving facilities or disturbance to an area where it can be screened by vegetation or topography (or better reclaimed);
- constructing artificial “hills” or berms or planting vegetation to screen the disturbance;
- shaping and revegetating topsoil stockpiles and other temporary disturbances to blend with the natural surroundings;

- removing trees and other vegetation in a manner which creates a natural appearing opening;
- limiting the height of facilities;
- selecting construction materials which blend with the surrounding area;
- painting or staining facilities;
- treatment of disturbance to blend with the surrounding area; or
- moving or burying transmission lines, pipelines, or other facilities.

EA at 8.

5) Activity Coordination

Operations will be coordinated with recreation and other activities. Operations other than drilling or production may be limited or halted on weekends, holidays, or during other periods of high use, such as hunting season, snowmobile season, or during livestock trailing. Construction of facilities, such as a snowmobile parking area, or fences designed with consideration for livestock and wildlife, may be required to reduce conflicts. EA at 8.

6) Wildlife

Operations may be limited within key habitat components during periods of use by wildlife. The number of daily or weekly trips made to a site may be limited. Roads may be closed in other areas in order to meet established road density standards. Surface disturbing activities and facilities may be moved or centralized to minimize the impacts on wildlife. Mitigating measures may include—

- moving some facilities off-lease, such as: camps and temporary housing (during drilling); centralized tank batteries or other facilities; and treatment or processing facilities.
- Pipelines and other transmission corridors may be rerouted, and lengthened to minimize impacts on other resources.
- Reserve pits may be covered by screen or netting to avoid injury or mortality to migratory waterfowl.

EA at 8.

7) Watershed

Projects will be designed to minimize impacts to the surrounding watershed, including minimizing impacts to surface and groundwater quality, wetlands, floodplains, and associated riparian and fisheries habitats. Mitigating measures may include—

- relocation of surface disturbance away from water courses, steep slopes, sensitive soils, and landslides;
- stabilization of landslides;

- limiting the number of stream crossings;
- diversion of surface runoff from areas of surface disturbance;
- interim revegetation of disturbed areas to minimize erosion and sedimentation;
- construction of sediment control structures;
- limiting or halting construction activities during spring runoff, or during spawning periods for fisheries;
- halting construction with frozen materials;
- containment of potentially contaminated fluids, including installation of leak detection systems; and
- monitoring of surface and groundwater quality.

EA at 8.

8) Reclamation

During and following operations, reclamation measures will be required to restore resource values, including recreation, scenic, watershed, wildlife, and fisheries, to the extent practical. Reclamation measures may include—

- recontouring disturbed areas and road cuts and fills;
- aesthetic placement of downed timber, snags, or boulders to camouflage recontoured areas;
- reestablishment of appropriate vegetation which blends visually and ecologically with the surrounding area, and which provides erosion control;
- re-establishment of effective drainage and erosion control for the disturbed area;
- construction of sediment control structures;
- reestablishment of wetlands and riparian areas;
- reestablishment or improvement of wildlife and fisheries habitat;
- construction of fences and other structures which are designed with consideration for livestock, wildlife and fisheries;
- control of noxious weeds; and
- monitoring to ensure that reclamation objectives are being met.

EA at 9.

9) Stipulation for National Forest System Lands

Applies to all National Forest System Lands. Requires lessee to comply with all the rules and regulations of the Secretary of Agriculture set forth in Title 36, Chapter II, of the Code of Federal Regulations governing the use and management of the National Forest System. EA at 9.

10) Stipulation for National Forest System Lands administered by the Bridger-Teton National Forest

Administered by the Bridger-Teton National Forest. Requires compliance with

stipulations, terms and conditions of the 1991 Leasing Decision, as summarized above. EA at 9.

11) Protected Cultural Resources

Lands containing a known site that is eligible, or Historical Site may be eligible, or is listed on the National Register of Historic Places will contain a lease notice notifying the lessee of this occurrence; and required mitigation measures. EA at 9.

Two additional stipulations:

Adding to the many stipulations already required by Alternative 2 in the EA, the Forest Supervisor imposed two additional stipulations analyzed in Alternative 3 in his 1991 leasing decision. He explained that “[t]his Alternative calls for not objecting to leasing lands within the MAs *as long as the leases are issued with the stipulations identified as being required in the Forest Plan, and the stipulations identified as being necessary by the ID team as a result of this site-specific analysis.*” EA at 9 (emphasis added). He wrote: “Under Alternative 3, the following stipulations, in addition to the Stipulations/Notices identified in Alternative 2, will be applied to lands offered for lease in MAs 22 and 23 to protect site-specific resources (See Map in Appendix D).” Id.

1) No Surface Occupancy

Lands within the bighorn sheep winter range and lambing area in Lime Creek. Lands within the McNeal elk feedground. EA at 9.

2) Access Difficult or Impossible Notice

Lands identified during the site-specific analysis as being difficult or impossible to access will be identified and contain a notice to make the prospective lessee aware of the potential problems of getting to these leases. Two types of Notices will be used. One will notify the lessee that all of the parcel will be difficult or impossible to access and the other will notify that most of the parcel will be difficult or impossible to access. EA at 10.

Missing Controlled Surface Use Stipulation

As noted above, the Forest Supervisor announced in his 1991 Leasing EA/Decision he would not object to oil and gas leasing within MA 23 “*as long as the leases are issued with the stipulations identified as being required in the Forest Plan, and the stipulations identified as being necessary by the ID team as a result of this site-specific analysis.*” EA at 9 (emphasis added). Unfortunately, this fundamental condition to leasing was ignored. The Forest Plan specifically requires that a Controlled Surface Use (CSU) stipulation be attached to leases located within DFC 12 (i.e. areas managed for backcountry big game hunting, dispersed recreation and wildlife security areas). See BTNF LRMP at 245. MA 23 contains 24,700 acres managed as DFC 12. Id. at 307. The location of DFC 12 in MA 23 is shown in the DEIS in Figure 1-4. Yet, for some reason,

this stipulation was not attached to the leases PXP now holds, contrary to both the Forest Plan and the 1991 Leasing EA/Decision. The substance of this stipulation was repeatedly referenced in the text of the 1991 Leasing EA/Decision, but was not listed on the chart of stipulations. See Leasing EA at 7-9. Specifically, this CSU requirement for DFC 12 was referenced on page 4 of the EA under “Elements of the Environment and Issues Considered” #3 (a); on page 5 under “Site Management Objectives” #2; and on page 12 on the chart entitled “Comparison of Alternatives” as one of the many resource protections incorporated into the alternatives.

Had the Forest Plan and the Leasing EA/Decision been properly followed, a CSU stipulation would be attached to leases within DFC 12. This CSU stipulation would have included language approved by the Forest Service and BLM for such purposes: “Surface occupancy or use will be restricted or prohibited unless the operator and surface management agency arrive at an acceptable plan for mitigation of anticipated impacts to wildlife.” This is common language found in CSU stipulations often attached to oil and gas leases on public land. As the Forest Plan states, this CSU stipulation “requires mitigation activities for the effects of roading, exploration, and development on wildlife.” BTNF LRMP at 245. The plan explains that “[a]ctivities will be directed first at onsite effects, then at effects within the contiguous herd unit, and finally at effects within other herd units.” Id.

Despite the oversight in not attaching the stipulation, the intent and effect of the 1991 Leasing EA/Decision and Forest Plan guidance for DFC 12 remain in place. In order to be consistent with the Forest Plan and Leasing EA/Decision, the Forest Service can and must impose—as a condition of approval—the equivalent requirement that the CSU stipulation would have addressed. As the DEIS recognizes, management of the DFC 12 area is of particular importance: “Energy development may be restricted by season, and access to development sites may be controlled. Exploration and development practices that minimize road building, noise and other game disturbance will be encouraged.” DEIS at 1-21 (quoting language from BTNF LRMP at 242.) Although we believe that the failure to attach this stipulation is an error, the Forest Service has broad authority to apply conditions of approval as part of any project authorization sufficient to remedy this oversight. As the first three wells are slated to be drilled in DFC 12, this is especially important.

Conclusion

The Supervisor made certain that prospective bidders were aware of the above-described stipulations and of the operational constraints and added costs associated with their implementation by noting, “Alternative 3 provides the most site specific protection to all resources and *best informs the lessee of the restrictions which will affect their operation.*” EA at 11 (emphasis added.)

Importantly, the stipulations cited in these comments, while significant, are not the only protective measures the Forest Service envisioned for future oil and gas development in MA 23. Although the DEIS incorrectly assumes that stipulations attached

as lease issuance constitute the only restrictions on surface use, this is absolutely not the case.⁵ DEIS at B-13. In fact, the Supervisor was unequivocal that, “*Additional site-specific conditions would be imposed*, consistent with lease requirements, as conditions of approval for Applications for Permit to Drill.” EA at 9 (emphasis added).

That myriad protective lease stipulations were either not applied or simply not considered in the DEIS is a glaring defect. With respect to oil and gas leasing, the most basic or core provisions the Forest Service establishes for the protection of surface resources are enumerated in the lease stipulations.⁶ To develop a range of alternatives without the inclusion of these important and binding stipulations as a starting point, taints the entire analysis and violates the public trust. In addition to the following substantive deficiencies in the DEIS, this error alone is significant enough to warrant a supplemental draft in which the Forest Service applies these stipulations to the development of a true conservation alternative.

THE ANALYSIS IN THE DEIS IS DEFICIENT.

The Forest Service improperly defined the purpose and need for the project.

Because the stated purpose and need for a federal action determines the range of alternatives, it is essential that the Forest Service clearly articulates the project’s purpose and need from the agency’s perspective rather than simply adopting PXP’s objectives for the project as its own. See DEIS at 2-1 (stating that “[a]lternatives were formulated based on the purpose of and need for the action....”); 40 C.F.R. § 1502.13. As courts have cautioned, “One obvious way for an agency to slip past the structures of NEPA is to contrive a purpose so slender as to define competing ‘reasonable alternatives’ out of consideration (and even out of existence.)” *Davis v. Mineta*, 302 F.3d 1104, 1119 (10th Cir. 2002) (quoting *Simmons v. United States Army Corps of Eng’rs*, 120 F.3d 664, 669 (7th Cir. 1997)).

The purpose of the proposed action is defined solely from PXP’s perspective: “The purpose of the proposed federal action is to allow PXP to exercise the rights granted under the federal leases within the project area.” DEIS at 1-7. Allowing the project to move forward in some form may be the Forest Service’s final decision if it finds the project does not violate other applicable laws, and as designed is consistent with the management prescriptions in the Forest Plan, but it is inappropriate at this pre-decisional stage to characterize the purpose of the action as “allowing” PXP to develop its leases. The whole point of the NEPA process is to analyze whether and to what extent PXP’s

⁵ The DEIS defines a federal oil and gas lease as “a legal document that gives the lease holder the right to explore for and develop any oil and gas that might be present under the area designated in the *lease while complying with any surface use conditions which may have been included at the time the lease was issued.*” DEIS at B-13. Conditions of approval addressing timing and surface occupancy are routinely imposed at the drilling stage. Moreover, restrictions on surface occupancy or operations can be imposed in order to meet the mandates of non-discretionary statutes.

⁶ As mentioned above, these only provide a starting point because the Forest Service has the ability to impose additional conditions of approval (COAs) at the APD stage, and is bound to uphold other laws and regulations that may be applicable at the time a company seeks to drill.

project as currently designed can be legally authorized. It is far from certain that it can be approved in its current state given the sensitive resources at stake and the highly restrictive stipulations that were largely disregarded, but that nevertheless apply, to PXP's leases.

The goals of a private party proponent are, to a limited extent, relevant in determining a project's purpose and need, but "more importantly, an agency should always consider the views of Congress, expressed, to the extent that an agency can determine them, in the agency's statutory authorization to act, as well as in other Congressional directives." Citizens Against Burlington, Inc. v. Busey, 938 F.2d 190, 196 (D.C. Cir. 1991). As just one example, Congress was unwavering in its message when it passed NEPA: federal agencies are entrusted to act as trustees of the environment for present and future generations." 42 U.S.C. § 4331(b). Had the Forest Service considered this broader responsibility and its authority as surface manager (as outlined specifically in many protective lease stipulations and other applicable federal laws) the purpose and need statement may have included language about the need to simultaneously protect other sensitive resources or at the very least would not have stated project authorization was the entire purpose.

The purpose and need statement sets the stage for the range of alternatives the Forest Service selects. By choosing a statement that defines the project from the narrow perspective of the project proponent—and in fact suggests (incredibly) the purpose is to "allow" the development—the Forest Service foreclosed a range of diverse alternatives including those that would have been more restrictive of the project as proposed and more protective of the sensitive and irreplaceable national forest lands at stake.

The Forest Service failed to consider a reasonable range of alternatives.

NEPA mandates that the Forest Service provide a detailed statement regarding the alternatives to a proposed action. 42 U.S.C. § 4332(2)(C)(iii). Its implementing regulations also require the Forest Service to "[r]igorously explore and objectively evaluate all reasonable alternatives." 40 CFR § 1502.14. In fact, a thorough and objective analysis of alternatives is so essential to reasoned and informed decision making that discussion of alternatives is considered the "heart of the environmental impact statement." Id. at § 1502.14(a).

The DEIS considered only three action alternatives: 1) PXP's proposed action; 2) the Forest Service's preferred alternative, which places some mitigation measures on the proposed action; and 3) an alternative that considered helicopter access for Phase I only. The legally required "no action" alternative is included, as is an alternative that addresses voluntary lease donation or sale of the leases PXP holds.⁷ Although there are some minor

⁷ We appreciate the Forest Service including Alternative E—the buy-out alternative—in the DEIS. We recognize the agency doesn't have the authority to choose this alternative without PXP's voluntary concession, but we believe its inclusion is important given the broad public support for this alternative, and in light of the passage in 2009 of the Wyoming Range Legacy Act, which would protect the project area from future leasing.

differences in the action alternatives with respect to Phase 1 of the project, the action alternatives differ hardly at all in Phase 2. PXP's basic proposal: 136 gas wells drilled in fourteen years, from 17 well pads, requiring nearly 30 miles of new or upgraded road is exactly the same proposal analyzed in all of the action alternatives. That the action alternatives are nearly indistinguishable at the stage when the project is slated to have the most serious impacts on other resources is a clear and patently obvious violation of NEPA that we urge the Forest Service to remedy by developing a true conservation alternative that at a minimum fully implements and enforces all applicable lease stipulations.

The elimination of two of the alternatives was based on a flawed interpretation of the agencies' regulatory authority.

The DEIS briefly considered sixteen alternatives that were eliminated from further study. DEIS at 2-3. In addition to PXP's original proposal to construct three separate pads for each Phase 1 well, and an alternative that would have required helicopter access for drilling wells in both Phase 1 and 2⁸, seven of the alternatives only considered different access points into the basin;⁹ two considered various methods of transporting produced liquids during Phase 1; and two considered other processes PXP might employ in its operations (using surface water instead of groundwater and using a freeze/thaw evaporation process for treatment of produced water). Again, none of these alternatives conceived of—let alone analyzed—a project that differed in any way from the basic proposal to drill 136 gas wells drilled in fourteen years, from 17 well pads.

Of the three remaining alternatives that would have required some movement of PXP's well pad locations, the DEIS cites two reasons for rejecting the alternatives. The first reason is technical infeasibility. In considering Alternative X3, the DEIS states that, "it would not be feasible to move the proposed well pad . . . and still effectively evaluate the Phase 1 exploratory wells using directional drilling." DEIS at 2-4. And, with respect to Alternative X13, "it would not be feasible to move affected Phase 1 and 2 well pads more than 2 miles to the south and still evaluate and develop the MDP area using directional drilling." DEIS at 2-13.

The DEIS points to no scientific reference, industry report or prospect map to support the notion that moving the proposed well pads would be "infeasible" or ineffective to evaluate the basin's natural gas potential. The DEIS states that moving the exploratory well pad is problematic because "[t]he initial target for an exploratory well is specific and can't be moved very far while still effectively evaluating the target." DEIS at

⁸ Arguably, rationale for elimination of Alternative X12 from detailed study (premised on the fact that helicopter drilling in both Phase 1 and 2 "would not be consistent with Forest Plan goals and objectives") could also be used to discount all of the current action alternatives. For this reason, a true conservation alternative that adequately adheres to the Forest Plan and other stipulations is necessary. See DEIS at 2-11.

⁹ An alternative similar to that of Alternative X10, which would provide access to the Basin from the Upper Hoback Road or alternate locations, should have been considered for Phase 1 and 2 access. As our comments will explain in more detail below, access via Merna from the south—the only access point considered in any detail—is incredibly problematic for lynx and amphibians and crosses steep and unstable soils protected by NSO-stipulations.

2-4. Moving well pads in the MDP area also presents a problem because, as the DEIS states, “The well pad spacing proposed in the MDP, approximately one well pad per square mile, reflects the maximum reach (deviation) of 1 mile that can reasonably be achieved for wells of the anticipated depth (12,500 ft).” DEIS at 2-13.

Kirby Hedrick, retired Executive Vice President of Worldwide Exploration and Production for Phillips Petroleum Company, noted that a full disclosure of the target formation and prospect maps illustrating the subsurface are necessary in order to validate the claims in the DEIS. Pers. comm. 2/27/11. This information was not included in the DEIS. He explained that, “In general, companies prefer to drill exploratory wells as vertical holes—particularly if they are drilling an anticline. A highly deviated well can hit a single target (say the Lance [Formation]) but is going to be off target at other depths. Having said that, it is possible to drill a highly deviated well to a point above the targets and then come back vertical for the remainder of the well.” *Id.* He noted that unlike a true wildcat well, “PXP does have a good well control point.” *Id.* It is his understanding that, “There was a gas discovery well drilled by Shell . . . in the 70’s that flowed gas from the Lance. [I]f that is their only target, I would think that it would be possible (but expensive) to drill as [Alternative X3] proposed.” *Id.*

While the statements in the DEIS may be true—although again, the DEIS offers no evidence or citations to support these claims—the Forest Service seems to assume that other locations less favorable in PXP’s opinion cannot and should not be considered. Because of the extremely sensitive surface resources at stake, as well as the unique lease stipulations that were applied to protect these very resources, the Forest Service has failed to justify why alternatives weren’t considered that would have required movement of well pads more than 200 meters. If movement is truly not feasible from a technical standpoint, the Forest Service should require PXP to disclose the prospect maps for independent verification. Kirby Hedrick, pers. comm. 3/1/11.

As we have noted in prior comments, federal oil and gas leases “do[] not give the lessee [i.e. PXP] anything approaching the full ownership of a fee patentee, nor do[] [they] convey an unencumbered estate in the minerals.” *Boesche v. Udall*, 373 U.S. 472, 478 (1963). Because federal oil and gas leases come with numerous encumbering limitations—particularly these on the Bridger-Teton National Forest—the Forest Service is well within its authority to condition the location of the well pads, and certainly within its authority to consider other well pad locations as possibilities in its draft analysis.

The second reason the DEIS presents for eliminating these well relocation alternatives from further analysis is that they would not comply with federal regulations that address the surface use rights of holders of oil and gas leases as described in 43 C.F.R. § 3101.1-2.¹⁰ *Id.* at 2-4. The Forest Service’s interpretation of this language is that

¹⁰ In our comments in 2007, we refuted this point, which was made in the draft EIS for the Eagle Prospect proposal, but because the very same erroneous legal interpretation has been carried over to this draft EIS, we offer a similar critique. We would also state for the record, that it has been rumored that some scoping comments for this draft EIS (as well as comments submitted when PXP proposed just 1-3 wells) have been lost due to turnover in BTNF and ARCADIS personnel and/or as a result of less than careful management.

any requirement to move operations more than 200 meters (or “outside the legal subdivision of the lease”) would constitute a “denial of the surface occupancy rights for that legal subdivision.” DEIS at 2-4 to 2-5. Because these alternatives would have required movement of proposed operation more than 200 meters, the Forest Service rejected the alternatives.

The Forest Service misconstrues the regulation, which provides:

A lessee shall have the right to use so much of the leased land 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, non-discretionary statutes; and such reasonable measures as may be required by the authorized officer to minimize impacts to other resource values, land uses or users not 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, measures shall be deemed consistent with lease rights granted provided they do not: require *At a minimum* relocation of proposed operations by more than 200 meters; require that operations be sited off the leasehold; or prohibit new surface disturbing operations for a period in excess of 60 days in any lease year.

43 C.F.R. § 3101.1-2 (emphasis added). Thus, the regulation specifies that reasonable mitigation measures may include relocation of facilities, so long as such measures are consistent with lease rights granted, and then specifies that relocation of operations by as much as 200 meters is presumptively reasonable. The regulation is clear that this represents a *minimum* prescription for reasonable measures to remain consistent with lease rights granted. It does not rule out the application of more extensive mitigation measures. In fact, the Federal Register preamble to this regulation states unequivocally that “the authority of the Bureau to prescribe ‘reasonable,’ but more stringent, protection measures is not affected by the final rulemaking.” Oil and Gas Leasing, Geothermal Resources Leasing, 53 Fed. Reg. 17,340, 17,341 (May 16, 1988).

By misconstruing this regulation, the Forest Service justifies eliminating other alternatives from further consideration. Contrary to the Forest Service’s reasoning, the regulation does not preclude moving the proposed operations more than 200 meters. The regulation simply establishes the *minimum* mitigation measures that will be presumptively deemed consistent with lease rights granted; it does not identify the maximum mitigation authority of the Forest Service. Put differently, the regulation establishes a floor, not a ceiling.

We would ask the Forest Service to refute or confirm this and make available a full list of parties who provided substantive comments on this draft and earlier iterations of the project proposal to engender public trust in the process.

In concluding that these alternatives would unreasonably constrain PXP's lease rights, amounting to an unconstitutional "taking," the DEIS authors conveniently neglected to consider a key provision of the rule: "*subject to the stipulations attached to the lease.*" 43 C.F.R. § 3101.1-2. As we have already noted, PXP's leases are encumbered by numerous stipulations that severely limit or restrict virtually every right conveyed by the standard lease form. Even if the leases were completely devoid of stipulations, which is certainly not the case here, the Forest Service would still possess the authority to condition development by moving well pads if required to protect surface resources.¹¹ Because there is no rationale that would justify the imposition of this unnecessary and improper constraint on its authority, these "takings" statements, which are obviously biased to favor the project proponent, should be removed from the DEIS.

A relatively recent Interior Board of Land Appeals (IBLA) decision, *Yates Petroleum Company*, 176 IBLA 144, (Sept. 30, 2008), addressed this very question. The lessee appealed a decision by BLM that imposed, as a condition of approval (COA), a protective buffer around sage grouse habitat that exceeded 200 meters. The company argued that the COA was unlawful based on its mistaken understanding of 43 C.F.R. § 3101.1-2. The IBLA disagreed:

Yates posits an interpretation of the rule...that limits BLM's authority to impose siting and timing parameters in COAs requiring relocation of proposed operations by no more than 200 meters or prohibiting surface disturbance for a period not to exceed 60 days. *But Yates' constrained interpretation of a "reasonable measure" is at odds with the plain language of the regulation, which describes what measures "at a minimum" are deemed consistent with lease rights, and does not purport to prohibit as unreasonable per se measures that are more stringent.* The Preamble to the regulation is just as clear: "[T]he authority of the Bureau to prescribe 'reasonable,' but more stringent, protection measures is not affected by the final rulemaking." Yates' proffered interpretation of 43 C.F.R. § 3101.1-2 has failed to demonstrate that the sage grouse COA is inconsistent with the regulations or with rights under its leases.

Id. at 8. This decision is attached as Exhibit 12.

This regulation is also not the final word on the authority both the BLM and the Forest Service have to condition the location of operations. BLM's standard lease form (Form 3100-11), which was adopted the same year as 43 C.F.R. § 3101.1-2, must be considered alongside the regulation to determine the rights retained by the federal lessor. One section of the lease form is particularly relevant:

Lease Terms § 6: Lessee must conduct operations in a manner than minimizes adverse impacts to the land, air, water, to cultural, biological,

¹¹ As our comments address in more detail below with respect to Canada lynx, and as 43 CFR § 3101.1-2 acknowledges, the Forest Service also has the authority to impose restrictions in order to comply with "specific non-discretionary statutes" like the Endangered Species Act.

visual, and other resources. Lessee must take reasonable measures deemed necessary by lessor to accomplish the intent of this section. To the extent consistent with lease rights granted, such measures may include, but are not limited to, modification to siting or design of facilities, timing or operations, and specification of interim and final reclamation measures.

Prior to disturbing the surface of the leased lands, lessee shall contact lessor to be apprised of procedures to be followed and modifications of reclamation measures that may be necessary. Areas to be disturbed may require inventories or special studies to determine the extent of the impacts to other resources. Lessee may be required to complete minor inventories or short term special studies under guidelines provided by the lessor.¹²

See BLM Lease Form 3100-11 (Exhibit 13). This section of the standard lease form is also specifically included in the 1991 Leasing EA at 20.

Although the DEIS failed to recognize the authority the Forest Service has to require movement of pads and roads, an internal Forest Service and BLM document clearly acknowledges this authority. See Uniform Format for Oil and Gas Lease Stipulations, Final Recommendations Prepared for Rocky Mountain Regional Coordinating Committee, March 1989. (Exhibit 14).

Stipulations may be necessary if the authorization to control the activity on the lease does not already exist under laws, regulations or orders. It is important to recognize that the authorized officer has the authority to modify the siting and design of facilities, control the rate of development and timing of activities as well as require other mitigation under sections 2 and 6 of the standard lease terms (BLM Form 3100-11) and 43 C.F.R. § 3101.1-2.

Id. at 1.

Thus, the Forest Service's attempt to divest itself entirely of authority to condition development, including moving the location of drilling operations to protect other surface resources, is unsupported even by its own internal documents. By wedding itself, as it does, to a misguided interpretation of a federal rule, the Forest Service improperly and unlawfully constrained its ability to manage and protect surface resources. Indeed, irrespective of the presence or absence of lease stipulations, the Forest Service clearly possesses the legal authority to impose reasonable restrictions that go beyond the 200 meter/60 day minimums contained in the 43 C.F.R. § 3101.1-2 rule if necessary to address environmental concerns, to meet Forest Plan standards and guidelines, or to comply with non-discretionary statutes.

¹² This provides specific authority to the Forest Service to require groundwater characterization and baseline water quality surveys, as well as air quality monitoring, improved air quality modeling and any baseline wildlife studies that may be necessary.

For the reasons stated above, the interpretation of 43 C.F.R. § 3101.1-2 offered in the DEIS is: 1) legally incorrect and thus not appropriate for inclusion in the draft EIS; and 2) places unnecessary and inappropriate restrictions on the Forest Service's ability to regulate surface use. We ask that this interpretation be stricken from the document.

The Forest Service should develop a true conservation alternative.

The consequences of failing to incorporate and enforce legally binding stipulations that bolster the Forest Service's authority to condition development and protect surface resources (as well as reliance on a flawed interpretation of other regulations and lease terms) resulted in a preferred alternative that falls far short of a true conservation alternative. The Forest Service should develop an alternative that sets the bar high—as the numerous protective lease stipulations envisioned—so that impacts on this world-class forest are better mitigated. Failure to do so would be a disservice to the sensitive resources on the Bridger-Teton, and to the public who were given assurances at the leasing stage that if development occurred, it would happen with the most protective mitigation measures and only with the most fervent oversight.

We offer the following suggestions we believe would be important to consider in the creation of any conservation alternative. At a minimum, such an alternative must: 1) enforce lease stipulations; 2) comply with applicable Forest Plan standards and guidelines; 3) be consistent with the 1991 Leasing EA/Decision; and 4) address in a meaningful way the environmental concerns identified during the NEPA process. There are undoubtedly other ideas that will be offered through the comments of other groups, individuals, and agencies and we ask the Forest Service to consider those ideas as well.

- 1) Requiring a detailed and thorough examination of alternative access points, including but not limited to accessing the project area from the Upper Hoback Road or other location to the north. As described in more detail below, the access from the south poses significant threats to Canada lynx, amphibians and unstable soils.
- 2) Denying four well pad locations: 64-25, 63-17, 63-20 and 63-16. As described in more detail below, these are located in some of the most critical lynx habitat in the entire Yellowstone ecosystem.
- 3) Moving any well pads or facilities outside of landslide areas entirely and moving them outside of migration corridors, big-game stopover habitat and sufficiently back from all water bodies. The goal should be no loss of wetland or riparian habitat as a result of any authorized surface disturbance.
- 4) Moving well pads outside of areas with overlapping values: e.g. areas in DFC 12 that are also roadless, are managed for retention of visual quality or those on ridgelines.
- 5) Limiting the number of roads and to the extent possible keeping them low-grade. Making sure road locations fall outside of technical NSO and landslide areas; are not sited in migration corridors or stopover points for big game or Canada lynx, are adequately setback from riparian and wetland areas as well as streams and

- contain a 2500' foot NSO buffer.
- 6) Moving some facilities off-lease, such as: compressor stations, camps and temporary housing (during drilling); centralized tank batteries; water treatment facilities including injection wells and impoundments and other treatment or processing facilities.
 - 7) Limiting traffic by requiring carpooling during development, and limiting general access during production by requiring remote monitoring. During winter months traffic should be highly restricted to the absolute minimum and use of snow machines should be required.
 - 8) Requiring pre-development groundwater characterization study and baseline groundwater study designed from utilizing the characterization results. Requiring continuous groundwater monitoring during both Phase 1 and Phase 2.
 - 9) Requiring water-based drilling muds only and "green" fracking fluids.
 - 10) Requiring disclosure in the DEIS of all fracking fluid mixtures, their constituents and percentages within the mixtures—for exploratory wells and Phase 2 wells.
 - 11) Requiring pitless operations and no impoundments.
 - 12) Imposing a prohibition on flaring due to forest fire risk.
 - 13) Retaining the requirement of a liquids gathering system for Phase 2 (we recognize the Forest Service is already contemplating this in Alternative C).
 - 14) Requiring baseline near-field ambient air quality monitoring and monitoring throughout the life of the project.
 - 15) Requiring adequate air quality modeling to address the severe deficiencies as noted in our comments below.
 - 16) Requiring baseline studies for wildlife species and wildlife monitoring throughout the life of the project.
 - 17) Establishing a wildlife matrix in which thresholds/triggers and consequences (if thresholds are exceeded) are defined in the ROD.
 - 18) Establishing a similar matrix for air and water. If thresholds are exceeded, there will be consequences defined in the ROD.
 - 19) Seasonal timing stipulations for big game should remain in place during all phases of the project—not just the drilling phase. No exemptions, modification, waivers should be allowed.
 - 20) Developing a phased development scenario, where no new well pads are authorized until no impacts from previous development have been proven. No expansion of development until interim reclamation of the initial areas has been initiated; well pad locations are sited in areas offering the least impact to wildlife.
 - 21) Only one drill rig operating at any one time.
 - 22) Limiting the number of well pads and greater use of directional drilling as needed with more wells per pad; require contouring of pads to reduce footprint.
 - 23) Tier IV (or equivalent) drill rig engines.
 - 24) Analyzing an alternative(s) that differ in scope from the current alternatives that all share the same basic elements and timing—e.g. 136 wells from 17 pads over 14 years.
 - 25) Analyzing impacts from full field development, but only authorizing the first three wells.
 - 26) A specific and enforceable inspection/monitoring plan should be fully disclosed

- and made part of any ROD, with funding for implementation identified.
- 27) Given the remote basin, unstable soils and heavy snow pack much of the year, PXP should be required to have a helicopter on hand to quickly address any emergencies (spills, blow outs, etc.) should roads prove inaccessible.
 - 28) Specific reclamation requirements that focus on restoring original conditions and functional habitat and economic analysis regarding what would constitute a sufficient reclamation bond for both reclamation costs and worst-case scenario accident liability.
 - 29) Methods to reduce noise impacts.

Examples and lessons that can be learned from Wyoming’s Pinedale Anticline to help develop a true conservation alternative

Many in the oil and gas industry and in the Department of Interior consider the Pinedale Anticline Project Area (PAPA) SEIS and Record of Decision (ROD) to be one of the more advanced drilling plans in the West to address operational, design and mitigation needs to protect air, water quality and wildlife impacts. This ROD is nearly three years old now, and most would admit it has some problems, but it can still serve as a useful example to the Forest Service of the basic features that should be included in a true conservation alternative to address predicted impacts from the PXP project.

We believe the following components of the PAPA ROD should be utilized:

1) Concentrated, phased development

A major feature is the operational design of the drilling plan to concentrate drilling in restricted geographical areas and put other areas in the project site off-limits to drilling. Once drilling is completed in an area, only then can expansion to a new area begin. For example, in the northern portion of the Anticline, drilling is required to start in the south and progress northwards over time. In combination with this, the operators have agreed to suspend drilling activity for 5 years on the “flanks” of the Anticline.¹³ The strategy is designed to minimize the wildlife and habitat disturbance impact, allowing opportunity for use of adjacent traditional habitat. As part of this plan, availability for drilling in the flanks does not open up until a “comparable acreage in the core area (not needed for production operations) has been returned to functioning habitat through the completion of all development operations and successful reclamation of all portions of the well pads within the comparable area.” ROD at 6, 20. Additionally, the ROD envisions that once a pad is developed, operators will stay and drill out all wells for that pad, before moving on, referred to as a “once on the pad; stay on the pad” concept. *Id.* at 20. This is another aspect of concentrated development.

¹³ In this instance, operator agreement to phased development would not be required due to the existence of the South Rim Unit Agreement, a legal document binding on PXP and its operators giving the federal land management agencies extensive control over both the rate and location of development activities.

- 2) Timely installation of a liquids gathering system (LGS)
The Anticline SEIS showed that LGS would dramatically reduce truck traffic on site, which would benefit wildlife by minimizing human disturbance, as well as reduce emissions from particulate and vehicle exhaust fumes. The PAPA ROD requires installation of the LGS by a certain deadline. Deadline for installation of an LGS on the Hoback project is not defined, but should be required within one year of commencement of Phase 2 operations. Id. at 28.
- 3) Industry funding for air quality ambient monitoring
The PAPA ROD requires that funding by the operators will support the establishment of new monitors, if needed, in the project area. This is obviously an important element to assure air quality standards are being met. Id. at 27.
- 4) Industry funding for a groundwater characterization study and development of a subsequent Groundwater/Aquifer Pollution Prevention, Mitigation and Monitoring Plan
Even though the Anticline had some groundwater monitoring taking place on the project site, regulators recognized that these locations (industrial wells already drilled) did not necessarily represent the best sites to assess overall groundwater condition and contamination, nor to detect future contamination at an early stage. The characterization study is used to determine the underlying groundwater structure, flow and interface so as to place monitors that will provide the best and earliest detection of problems. Id. at 29.
- 5) Industry funding for annual wildlife studies and monitoring of population levels and habitat use
This monitoring commitment is integral to the BLM's commitment to adaptive management and "provide[s] certainty to the affected agencies and the public that impacts to wildlife will be addressed before consequences become too severe or irreversible by monitoring changes and responding early." Id. at B-4.
- 6) Inclusion of a "Wildlife Monitoring and Mitigation Matrix" which identifies monitoring requirements and sets thresholds for changes in wildlife populations or behaviors that will trigger mitigations, including change in industry operations.
This is an important accountability tool, which has been implemented with mixed results on the Anticline, but with improvements, can provide important and timely corrective action to protect wildlife in the project area. Appendix B of ROD.
- 7) Industry funded agency oversight funds
Recognizing the increased need for state and federal personnel to monitor, regulate and inspect the gas field operations and commitments, the PAPA ROD established a fund that supports agency staffing for compliance monitoring, and analytical staff. ROD at 29. "It may also be used to provide funds to government agencies to pay personnel to complete, oversee, mitigate and monitor PAPA activities." Id. at 17.

8) Citizen advisory board

The Pinedale Anticline Working Group (PAWG) is a FACA-authorized advisory board that is tasked with advising the BLM Pinedale Field Office Manager with issues related to monitoring and mitigation. The PAWG also serves as a communication bridge between the public and the agency. The makeup of this stakeholder group is balanced to represent a diversity of interests and is administered through the agency, not the operators (although there is at least one industry representative.) Although the history of the PAWG since the early 2000s has been mired in much turmoil, this has been a problem of execution and administration issues, which are not insurmountable. Id. at 19, 20; see also 2010 PAWG Charter (Exhibit 15).

Conversely, there are some aspects of the PAPA ROD and its implementation that we strongly discourage from consideration:

1) Off-site Mitigation Funds

A fund was developed for projects that would be used “for both on-site and off-site mitigation and project-related activities in the PAPA vicinity including additional air quality monitoring, additional wildlife, livestock, vegetation and reclamation research, analysis, monitoring and mitigation.” ROD at 17. While we have already stated our support for such funds for monitoring and agency oversight needs, the off-site mitigation element of this fund has not produced the mitigation results anticipated, even after millions of dollars were spent on many off-site projects. In all, between the Jonah field wildlife mitigation funds, and those applied to wildlife-related projects on the Anticline, \$22 million has been spent in the Upper Green since 2005 as wildlife mitigation.¹⁴ Yet due to a failure to connect this funding directly to the most pressing wildlife herd/population needs (i.e. loss of crucial winter range for mule deer), these funds have failed to slow or reverse this downward decline, and the Mesa herd now suffers a 60% decrease since 2000. Reliance on off-site mitigation to compensate for on-site wildlife project impacts has a proven track record of failure. Also, the Wyoming Game and Fish Department’s policy on mitigation for oil and gas development lists this option as one of last resort, only after design, operational, avoidance and reductions of impacts are first attempted on site.¹⁵

2) Failure to specify clear consequences and corrective actions that will be taken if wildlife thresholds or other regulatory limits (air, water quality) are exceeded.

Although we praise the PAPA Wildlife Matrix in concept above, its implementation and accountability for quick and decisive action to address and

¹⁴ Funding figures derived from financial reports of the Jonah Interagency Mitigation and Reclamation Office (JIO) and Pinedale Anticline Project Office (PAPO) Board of Directors Meeting materials, December 9, 2010 and Executive Committee Meeting materials, August 5, 2010, available from the Bureau of Land Management Pinedale Field Office, JIO/PAPO.

¹⁵ WGFD’s Recommendations for Development of Oil and Gas Resources Within Important Wildlife Habitats at 4. This document can be referenced at:
<http://gf.state.wy.us/downloads/doc/O&G%20Recommendations%20April%202010%20with%20changes%20identified.pdf>

correct impact trends has been disappointing. The public needs to know what tangible operational consequences and corrective actions will be required to address impacts outlined in the matrix with assurance that the agency will require these when thresholds are exceeded. These actions should include change or cessation of operations until impacts are effectively addressed.

The Forest Service failed to take a “hard look” at the project’s likely impacts to wildlife, air, water, soils, roadless characteristics, forest users, social and economic resources and visual quality/scenic resources. It also failed to adequately address inspection, enforcement, reclamation and bonding.

As envisioned by Congress, one of NEPA’s goals is to “prevent or eliminate damage to the environment’ . . . by focusing government and public attention on the environmental effects of proposed agency action.” Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 371 (1989) (quoting 42 U.S.C. § 4321). “By so focusing agency attention, NEPA ensures that the agency will not act on incomplete information, only to regret its decision after it is too late.” Marsh, 490 U.S. at 371. As such, NEPA requires the Forest Service to take a “hard look” at a project’s environmental impacts. Kleppe v. Sierra Club, 427 U.S. 390, 410 (1976). In this case, that means giving thorough consideration to the direct, indirect and cumulative impacts of the project to the suite of resources found on the Bridger-Teton, including wildlife, air, water, soils, roadless characteristics, forest users and scenic resources. 40 C.F.R. §§ 1502.16, 1508.8. The Forest Service failed to do that here.

Wildlife

Canada lynx

The DES fails to include a complete and accurate assessment of the affected environment with respect to Canada lynx.

Canada lynx are native and current residents of the Bridger-Teton National Forest. They are also one of the most severely imperiled mammals in the continental United States. The U.S. Fish and Wildlife Service listed the lynx as threatened under the Endangered Species Act on March 24, 2000. 65 Fed. Reg. 16052 (March 24, 2000); 50 C.F.R. part 17. The Fish and Wildlife Service identified the Northern Rocky Mountains/Cascades lynx population as “distinct” from other populations in the United States. 65 Fed. Reg. at 16054, 16057, 16060, 16071-16082. The Northern Rocky Mountains/Cascades area, which includes Wyoming is “the most likely stronghold for lynx populations in the contiguous U.S.” Id. The majority of verified occurrences of lynx in the U.S. and confirmed resident populations occur in this geographic area. Id. at 16057, 16072, 16082. On February 25, 2009 the USFWS designated critical habitat for Canada lynx, including nearly the entire Bridger-Teton National Forest, and all of the project area. 74 Fed. Reg. 8816 (Feb. 25, 2009).

The BTNF’s Forest Plan and the 1991 Leasing EA/Decision for Management

Areas 22 and 23 were finalized prior to the listing of the lynx as threatened and prior to the designation of its critical habitat. As a result, neither document contemplated the need to safeguard lynx habitat from potential threats from oil and gas development.¹⁶ The Forest Service's decision in 1994-95 to authorize leasing of the parcels PXP now holds and seeks to develop also predates lynx listing and its critical habitat designation.

Although the Forest Service cannot be faulted for not anticipating the threats full field oil and gas development would pose to lynx in the future, it has the utmost responsibility to address the situation today. Unfortunately, the Forest Service has not adequately acknowledged the seriousness of the threat to this lynx population or its critical habitat in the draft EIS. We urge it to remedy this situation by providing a more comprehensive analysis and developing a far more protective conservation alternative that could be assessed by the U.S. Fish and Wildlife Service during consultation.

The Forest Service's requirement to take a "hard look" at the potential impacts to lynx as a result of the proposed project includes the mandate to provide a complete and accurate assessment of the affected environment. See 40 C.F.R. § 1502.15. Moreover, the Forest Service must "insure the professional integrity, including the scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24.

The cursory page and a half devoted to the topic of lynx in the affected environment section of this DEIS fails to encompass all relevant and necessary information about one of the most serious issues affecting the authorization of PXP's proposal. Without more comprehensive information, it is impossible for the Forest Service to make an accurate assessment of the likely impacts to lynx and its habitat.

The DEIS acknowledges portions of the project area are "prime lynx habitat" and explains that these portions are not only "vital to the survival of lynx in Wyoming," but also comprise "the highest quality [lynx] habitat within the state." DEIS at 3-84. There are two reasons for this: 1) the density of snowshoe hare (the main prey source for lynx) is "unprecedented" and the "highest ever observed in the greater Yellowstone area" and 2) the area around Hoback Rim, a travel corridor, is "vital linkage habitat" providing connectivity to other suitable habitats. Id.

We appreciate the acknowledgement of the importance of the habitat in and adjacent to the very area PXP seeks to develop. That the lynx habitat in and around the project area is without question the most important in the entire greater Yellowstone ecosystem is crucial information. However, these statements hardly constitute background information or analysis sufficient to meet NEPA's requirements, nor do they address the specific concerns Wyoming Game and Fish Department, respected independent lynx biologists and the public have continually raised regarding the threat new oil and gas development in this particular area of the forest poses to lynx.

¹⁶ The 1990 BTNF plan was amended in 2007 to reflect that lynx are now managed according to the *Northern Rockies Lynx Management Direction*, based on recommendations set forth in the *Canada Lynx Conservation Assessment and Strategy*.

For many years the Wyoming Game and Fish Department has offered strong, cautionary statements regarding the threat oil and gas development poses to this species in the Wyoming Range.¹⁷ In 2005, in response to the decision to offer oil and gas leases on 44,720 acres just south of the project area, the WGFD cautioned that “[a]dditional loss of lynx habitat and construction of new roads in the area as a result of oil and gas activity may well be the final threshold for the continued existence of this species in the Wyoming Range.” WGFD letter to Bridger-Teton National Forest at 4, 5/26/05 (emphasis added)(Exhibit 16).

PXP’s proposal epitomizes the types of threats—new road building, snow plowing through the winter, direct loss of lynx habitat and indirect adverse effects of intense human disturbance—the WGFD was concerned may ultimately jeopardize the very existence of lynx in the Wyoming Range. This is not a situation in which biologists might debate what level of effect a project could have on a species. This is a project proposal that if authorized may wipe out entirely an already fragile, remnant population segment of a federally protected species. As the Forest Service should be aware, the Endangered Species Act prevents the agency from authorizing projects that could result in such an outcome.

Then, in 2007, when PXP’s proposal was limited to just three wells, WGFD warned that a “cautious approach” is necessary because even “minor impacts could potentially eliminate lynx in the Wyoming Range.” WGFD’s 1/18/07 scoping comments on Eagle Prospect Exploratory Wells Project at 7, 8 (Exhibit 17). Again, these were concerns the WGFD raised at the prospect of PXP developing just three wells. PXP’s current proposal for full field development requires the most thorough and detailed analysis in addition to extraordinary mitigation measures included in a conservation alternative in order to even attempt to ensure the species is not eliminated from the Bridger-Teton, and violations of the Endangered Species Act do not occur. The current DEIS analysis and Alternative C fall substantially short of this standard.

The WGFD again found fault with the Forest Service’s draft EIS for PXP’s Eagle Prospect (1-3 wells) drilling proposal. In comments on the draft EIS for these three wells, the Department raised serious concerns, identified numerous “deficiencies” and suggested ways in which the Forest Service could improve its analysis and thus “provide adequate lynx conservation” if the project was authorized. WGFD’s 4/30/07 comments on the Draft EIS for Eagle Prospect Exploratory Wells Project at 4 (Exhibit 18). As noted above, although the MDP DEIS provides some basic information about the importance of the project area as prime habitat, it does not even begin to address the specific requests made by WGFD nearly four years ago when the project was a fraction of the size it is today.

¹⁷ Any comments or correspondence from WGFD to the Forest Service about Canada lynx should be part of the administrative record. Please confirm which letters and comments are included in the record at this time so that the Department or other entities can provide these pertinent and still relevant documents for consideration.

The WGFD asked the Forest Service to do four things in order to best conserve lynx. None of these actions, with the exception of some small mitigation measures added to Alternative C, has been accomplished. The WGFD's requests (verbatim) included:

- 1) Analyses for this project need to include vegetation maps for each LAU based on scientific definitions for suitable lynx foraging habitat as a basis for determining project impacts. These maps should be provided for public review.
- 2) LAUs should be adjusted to reflect home range sizes of lynx in Wyoming. The large areas included in the Upper Hoback North and South LAU cannot be justified given our current state of knowledge. We encourage the Forest Service to consult with the Lynx Scientific Team to design and analyze LAUs in the Wyoming Range based on current available information.
- 3) An alternative should be developed aimed specifically at conserving habitat for lynx and other wildlife species of concern in the project area based on quantitative cumulative effects analyses, including the possibility of full field development.
- 4) Mitigation measures need to be developed if this project proceeds including funding of a valid, scientifically-based lynx survey program, reduction or elimination of winter plowing and winter access to well sites by ground, placement of roads and pipelines to avoid fragmentation of lynx travel corridors and important foraging habitat, closing access road to public use during the project and reclamation of the access road after project completion.

Id. at 6.

Addressing each point in turn, it is clear the Forest Service has not responded to the recommendations of the state's biologists, nor has it met NEPA's requirement to provide a complete and accurate assessment of the affected environment. 40 C.F.R. § 1502.15. First, the Forest Service should clarify its LAU maps by identifying potential denning and foraging habitat (primarily snowshoe hare and red squirrel habitat), noting important topographic features important for lynx movement, and identifying areas of non-forest vegetation that may provide for alternative lynx habitat. Id. at 5. As the WGFD letter explains, the LAU maps the Forest Service used in the draft EIS for 1-3 wells in 2007 (notably the same deficient maps it is still using today for the 136-well proposal) only show "potentially suitable and unsuitable habitat by acres" and the DEIS "does not describe or define these terms in the text or the glossary, or refer to base maps on which these calculations were met." Id. The regulations implementing NEPA require that the Forest Service "shall identify any methodologies used and shall make explicit reference by footnote to the scientific and other sources relied upon for conclusions in the statement." 40 C.F.R. § 1502.24. The Forest Service has chosen time and again not to

provide the sources or methodology underlying its LAU maps. We ask again that the agency remedy this problem.¹⁸

In addition, as the WGF D correctly notes, the unusually large LAUs are not justifiable and should be adjusted to accurately reflect the average home range size of lynx in Wyoming. Under the LCAS, the Forest Service is instructed to delineate lynx analysis units—units of scale that aid in evaluating and monitoring effects of management actions on lynx habitat. There are three LAUs in the project area: Upper Hoback South, Upper Hoback North and Middle Beaver Creek. DEIS at Figure 3-8. As we noted in 2007, each of the three LAUs is either: 1) impermissibly large, rendering them meaningless for analysis purposes; or 2) already beyond the 30 percent threshold as described in the LCAS.

Two of the three LAUs analyzed in the DEIS are uncharacteristically large—nearly 80,000 acres. See DEIS at 3-85, Table 3-25 (illustrating that the Upper Hoback North LAU is 78,837 acres and the Upper Hoback South LAU is 78,119 acres). The LCAS states that LAUs should generally be between 16,000 and 25,000 acres, reflecting the average home range of a female lynx. LCAS at 7-3. Although some leeway is given for increasing the size of LAUs in areas in the southern portion of lynx range, where lynx home ranges are typically larger, it is unlikely that such enormous LAUs are justified. In Wyoming, the average annual home range of a collared female lynx was 90 square kilometers, or 22,239 acres. LCAS at 6-1 (citing Squires and Laurion 2000). This acreage is closer to the higher figure suggested by the LCAS (25,000 acres). Nowhere does the Forest Service explain why the LAUs implicated in this project area are greater than three times this size.

The concern with respect to such large LAUs is that these are the units upon which the Forest Service calculates whether the thresholds for suitable habitat as outlined in the LCAS are being met. See LCAS at 7-3 (“[i]f more than 30 percent of lynx habitat is currently in unsuitable condition, no further reduction of suitable conditions shall occur as a result of vegetation management activities by federal agencies.”) It becomes less likely that a project will exceed the 30 percent threshold if the baseline acreage is inflated.

Nate Berg, whose recent lynx research the Forest Service relies on in the DEIS, concurred with the need to remap the lynx habitat on the forest and refine the LAUs. He stated that the Bridger-Teton “would benefit from a refinement of the vegetation maps” and that there is a “dire need to re-map lynx habitat.” Pers. comm. 2/16/11. This remapping would exclude areas of conifer stands that are not providing habitat for lynx and lower elevation areas where cougars are more prevalent. *Id.*

Another concern the WGF D pointed out (and that we also raised in 2007) and

¹⁸ Apparently the vegetation data used to inform the MDP DEIS is outdated (some 15 years old) and there is more recent vegetation data from 2007 that for some reason is not being utilized. The Forest Service should use this data—or conduct new surveys if necessary—to ensure the LAU maps upon which it is using to justify future decisions affecting lynx are as accurate as possible.

which remains a concern today is whether the 30% threshold for unsuitable habitat has already been exceeded in one or more of the LAUs. If that is the case, “no further reduction of suitable [habitat] conditions shall occur.” WGFD’s 4/30/07 comments on the Draft EIS for Eagle Prospect Exploratory Wells Project at 5 (citing the Lynx Conservation Assessment and Strategy at 77).

In 2007, we sought the help of a GIS specialist who mapped unforested areas and past clear cuts as “unsuitable lynx habitat.” We learned that despite the Forest Service’s conclusions in the Eagle Prospect DEIS that the project would not cause the 30 percent LCAS threshold to be exceeded, habitat alteration in the Middle Beaver LAU and the Upper Hoback South LAU appeared to have contributed to the exceedence of the 30 percent unsuitable habitat threshold. Although this threshold is not discussed at all in the DEIS, Table 3-25 illustrates that 65% of the habitat in the Upper Hoback South LAU is unsuitable as is 43% of the habitat in the Middle Beaver Creek. The Forest Service needs to address this issue directly.

The third point WGFD raises is the need for an alternative in the DEIS that is designed to conserve lynx habitat. Although the Forest Service has made two changes specific to lynx that are included in Alternative C—moving well pads a minimum of 100 feet away from forested areas and creating a cut-off for the access road—neither measure alone or together is sufficient to safeguard the sensitive lynx habitat in this area.¹⁹ Both measures fall short of effectively protecting habitat and each could be improved substantially.

Nate Berg advised the Forest Service: “[F]orested habitats in the project area should be avoided at all costs.” Email correspondence from Nate Berg to Michelle McCammon, 9/26/08. (Exhibit 19). Perhaps in response, the Forest Service included as part of Alternative C, the requirement that PXP locate well pads a minimum of 100-feet away from forested areas. DEIS at 2-64. While we support efforts to locate pads away from forested areas, we encourage the Forest Service to more thoroughly investigate and consult with lynx biologists about what size buffers are likely to be most effective.

We are concerned, too, that although this buffer is a “minimum” of what it could require, elsewhere in the DEIS, the Forest Service goes to great lengths to limit its own authority, saying it could not require PXP to move proposed well pads more than 200 meters (approximately 656 feet). See e.g. DEIS at 2-5 and 2-13. Although this understanding is erroneous, and is addressed elsewhere in our comments, we should assume that the Forest Service was not contemplating movement of pads more than 656 feet from forested areas. The DEIS cites no scientific research or opinion to support the notion that a buffer less than 656 feet would be beneficial. There is no information at all regarding the needed size of the buffer to ensure the desired protective outcome. Is 300-feet sufficient? Would a quarter mile be better? Without this information it is not possible to ascertain the efficacy of this mitigation measure. Moreover, because snowshoe hare

¹⁹ The FS is also proposing not to upgrade the access road as much as it could during Phase I, but because there is no prohibition for upgrading the road during Phase 2, we are assessing Alternative C’s impacts from a “worst case scenario” framework.

also use willow/riparian habitat (and thus these areas are lynx foraging habitat) the Forest Service should consider siting pads outside of or away from these areas as well.²⁰

Even more important than determining (and requiring) appropriately sized buffers around forested and riparian/willow areas, the Forest Service should consider denying the authorization of well pads located in the highest quality lynx habitat, namely the area around the Hoback Rim and Bondurant Corridor. Nate Berg advised the Forest Service that four well pads were especially problematic. Email correspondence from Nate Berg to Michelle McCammon, 9/26/08 (Exhibit 19). “[W]ell pads 64-25, 63-17, 63-20 and 63-16 are located in or near important habitat in the Bondurant Corridor. I would eliminate these well pads or move them farther away from the Rim and corridor so they don’t affect lynx habitat in the corridor.” Id.

Notably, this is the very suggestion the U.S. Fish and Wildlife Service offered in February 2006 during the scoping period for the Eagle Prospect EIS. “[T]he Forest Service should use their authority to deny drilling activities in areas where impacts to wildlife are such that stipulations or mitigation can not replace the habitat that may be lost.” Brian Kelly, Wyoming Field Office of USFWS to Greg Clark, Feb. 13, 2006 at 9 (Exhibit 20). The Forest Service can and should deny drilling activities in the highest quality lynx habitat. PXP should be required to re-submit plans that move well pads far enough from the Hoback Rim so that lynx habitat is not degraded.

Like the 100-foot buffer, the road cut-off is an attempt to mitigate adverse impacts to lynx. We appreciate the Forest Service’s recognition that facilitating road access for heavy truck traffic along the Hoback Rim is highly problematic and would undoubtedly adversely affect lynx. That said, PXP’s access would remain basically the same (from the south via the Rim) despite the cut-off. The Hoback Rim area is the most sensitive and important lynx habitat in the project area. Nate Berg raised with the Forest Service specific concerns about using FDR 10143 (and FDR 30748) as PXP’s access to the basin.

Of particular concern to me from a lynx perspective is the use of FS Road 10143 as an access road. I think this could really negatively influence lynx use in that area. FS road 10143 cuts through prime lynx habitat. The best of the best It doesn’t get any better in the Wyoming Range than where FS Road 10143 is. I would definitely not use that road. John Squires’ lynx had kittens in that area and used it heavily. EWR has documented lynx using that area on two occasions in two different years. I honestly believe that is a bad access road for oil/gas and would be detrimental to lynx use in that important area.

Also the access road that drops off the Hoback Rim to access the well sites is prime hare/lynx habitat. It would bisect the Bondurant Corridor. At present that road is more like a lightly used jeep trail. This could be

²⁰ See email correspondence from Nate Berg to Michelle McCammon, 8/22/08. “Interestingly, we are also finding that hares are using sagebrush/conifer edge and riparian willow communities on the Hoback Rim.” Id.

detrimental to lynx. It would be much better to access the project area from private lands along the Hoback River to the North.

Email correspondence from Nate Berg to Michelle McCammon, 9/26/08 (Exhibit 19).

Thus, the road cut-off mitigation measure is little more than a nod to the fact that this is a terrible place to locate an industrial road that will receive a tremendous amount of heavy truck traffic. It does not succeed in mitigating the impacts. The majority of FDR 10143 is still the access point (i.e. the “best of the best” of lynx habitat) and access via FDR 30748 is not modified at all. The problem is obvious: It is nearly impossible to mitigate the harm to lynx habitat and the fragile population if access to the basin is authorized along and over the Hoback Rim. The Forest Service should consider an alternative access road from the north.

The Forest Service has the responsibility and the legal authority not to authorize projects or aspects of projects (such as specific well pad locations or road access) that could likely jeopardize the existence of a species from the lands the public has entrusted it to manage. The DEIS suggests the Forest Service is not aware of its broad surface managing authority to condition develop (i.e. to deny well pad locations in sensitive habitats or to change the location of access roads) or to enforce restrictions found in lease stipulations. We urge the Forest Service to consider the recommendations of lynx biologists in crafting a true conservation alternative that would deny development in sections of the project area that are considered the very core habitat necessary for lynx conservation.

The fourth and final recommendation from the WGFD is that mitigation measures need to be developed. The Department made five suggestions: 1) funding of a valid, scientifically-based lynx survey program; 2) reduction or elimination of winter plowing and winter ground access; 3) placing roads and pipelines to avoid fragmentation of travel corridors and important foraging habitat; 4) closing access roads to the public; and 5) reclamation of the road after project completion. WGFD’s 4/30/07 comments on the Draft EIS for Eagle Prospect Exploratory Wells Project at 4 (Exhibit 18).

Although the Forest Service has considered mitigation measures to safeguard lynx and its habitat, there are significant improvements that still need to be made. While we believe more research (specifically a study designed to survey lynx—not just its prey) would be beneficial, it is clear from the data already available today that certain areas at minimum should be avoided at all costs: The area of the Hoback Rim and the Bondurant Corridor in particular. An alternate access route from the north and placement of well pads outside of the best lynx habitat in the project area are obvious measures that the Forest Service should require. Alternate access would also solve the problem that snowplowing in lynx habitat presents. Access from the north would take place on a road that is already plowed in the winter and outside core lynx habitat.

In conclusion, the WGFD more than four years ago raised issues that have yet to be resolved today regarding lynx habitat in the project area. The importance of the area in

and around the Hoback Rim and Bondurant Corridor for the continued survival of lynx in the greater Yellowstone ecosystem cannot be overstated. This particular corner of the Bridger-Teton National Forest is essential to lynx survival. The high snowshoe hare density is unprecedented. Coupled with the existence of a bottleneck migration corridor over the Hoback Rim, this particular area is ground zero for lynx conservation in the region, as confirmed by Nate Berg.

I feel confident in saying and will do so without any reservations, the Hoback Rim and Wyoming Range contain the best habitat in the GYE. If lynx are ever recovered in the GYE the Hoback Rim and Wyoming Range will have to be the keystone component in such a recovery. There just simply isn't any habitat in the GYE that compares to the Hoback Rim and Wyoming Range.

See email correspondence from Nate Berg to Michelle McCammon, 8/22/08 (Exhibit 19). Compounding the sensitivity of the project's location, is the fact that the population itself is only just barely teetering on the brink of existence. Perhaps as few as seven lynx are believed to exist in the entire greater Yellowstone area. See Oil and Gas Leasing in the Wyoming Range FEIS at 3-78.

In addition to the deficiencies noted above that should have been considered in the affected environment section of the DEIS, the following are topics that were not, but should have been addressed. We ask the Forest Service to include these topics for thorough consideration in a supplemental draft before making any decision that would authorize this project.

- 1) Home range size for lynx in Wyoming;
- 2) Daily movement distances;
- 3) Distances traversed in exploratory movements;
- 4) Risks to lynx and its habitat from:
 - a. conversion or alteration of native plant communities,
 - b. forest roads,
 - c. trapping,
 - d. incidental/illegal shooting,
 - e. competition and predation,
 - f. oil and gas leasing and development;
- 5) Snow compaction of roads and trails, including recent published research by Jennifer Burghardt Dowd: Coyote Diet and Movement in Relation to Winter Recreation in Northwest Wyoming, which was conducted on the Bridger-Teton National Forest;
- 6) Summer use of roads and trails through denning habitat;
- 7) Human disturbance thresholds (data from ski areas and other developed areas);
- 8) Acknowledgement that adherence to lynx management direction does not always prevent adverse effects to individual lynx;
- 9) Illustrations/maps of recent lynx locations;

- 10) Illustrations/maps of the Bondurant Corridor;
- 11) Discussion of number of lynx believed to inhabit entire greater Yellowstone area;
- 12) Snowshoe hare density and habitat needs;
- 13) Unique soils that support specific vegetation;
- 14) Fragmentation/patchiness of critical habitat and need to safeguard core or vital areas;
- 15) The especially vulnerable lynx population—and estimated size—in the greater Yellowstone area.

These topics should be familiar to the Forest Service as they were addressed in the recently released (January 2011) FEIS regarding Oil and Gas Leasing in the Wyoming Range. Some twenty pages were included in the affected environment section of that FEIS. It stands to reason that the Forest Service should include at least as much background information about lynx in an EIS that contemplates drilling as it did for a leasing decision. The current level of information and analysis in the MDP DEIS is lacking, and we ask that a more thorough analysis is included in a supplemental draft EIS to remedy these omissions.

Alternative C does not adequately protect lynx or lynx habitat and the conclusion that lynx will not be significantly affected by PXP’s proposal is in error.

It is perhaps the scarcity of information presented in the affected environment section of the MDP DEIS—or the disregard of what little, but important information is included in this section—that led the Forest Service to conclude that PXP’s proposal under Alternative C will not “significantly affect lynx habitat and their overall population stability within the Wyoming Range.” DEIS at 4-94. This statement is wholly unsupported given the documented exceptional and irreplaceable habitat in and around the project area, the fragile population at issue and the significant, habitat-transforming nature of the threat of full field oil and gas development.

The Forest Service states that development activities associated with Alternative B “are likely to negatively impact lynx in and around the project area.” DEIS at 4-86. This is because “the extremely high importance of lynx habitat within and around the project area, combined with the very small population size, make lynx in the Wyoming Range highly vulnerable to impacts from project activities.” *Id.* Given the minimal differences between Alternatives B and C, the conclusion that Alternative C would not significantly affect lynx or lynx habitat is clear error.

Notably, Alternative C has only one fewer acre of surface disturbance than Alternative B (13.4 acres in Alt. C compared to 14.4 acres in Alt. B). More important, the access road’s general location and four well pads nearest to the Rim are no different between the alternatives. The Forest Service places too much faith in the ability of the small stretch of the cut-off road to remedy all impacts to lynx. Besides the cut-off road, all other impacts from PXP’s project proposal—impacts that caused the Forest Service to concede that lynx would be significantly affected under Alternative B—are exactly the

same.

This conclusion that development slated to occur under Alternative C would have only “minor” effects and that the disturbance is not expected to significantly affect lynx habitat also clearly contradicts the opinions of highly regarded lynx biologists with whom the Forest Service consulted. DEIS at 4-94. In response to the question of the impacts of energy development to the lynx population in the greater Yellowstone area, John Squires stated, “[M]y scientific opinion is that increased energy development would be detrimental to lynx in the GYA.” Email correspondence from John Squires to Michelle McCammon, 9/05/08 (Exhibit 21). In undated notes from what appears to be a personal communication with John Squires that were included in the same file as the email correspondence (both acquired through a request to the Forest Service for records), he said, “Energy development won’t go away once it’s there. Conservative on how to manage—no way it wouldn’t affect.” *Id.* (emphasis added). During that same conversation, he noted that the potential for illegal shooting makes lynx vulnerable to oil and gas development and that they “would be detrimentally affected by this.” *Id.* Nate Berg, echoed Squires’ conclusion:

I have been studying lynx and snowshoe hares in the GYA since 2001. Through extensive searching I have found no place in the entire GYA that can compare to the over-all habitat quality for lynx such as the eastern slope of the Wyoming Range contains. The topography, snow pack, forest structure, hare densities (no place else has consistently high hare densities like the WY Range), and most importantly historic and current documentation of lynx make this portion of the WY range one of, if not the best, chunks of lynx habitat in the GYA. Thus I must conclude that my scientific opinion is that increased energy development in this area would be detrimental to lynx in the GYA.

Email correspondence from Nate Berg to Michelle McCammon, 9/05/08 (Exhibit 19)(emphasis added).

The Forest Service discussed the very real risks that could befall lynx under Alternative B, including:

- 1) Displacement of lynx in the project area, where construction, operation, maintenance, or monitoring activities occur in suitable habitat;
- 2) Modification of potentially suitable habitat in the Upper Hoback South and Middle Beaver LAUs;
- 3) Indirect impacts to the reproductive success and survivorship of Canada lynx through habitat alteration;
- 4) Increased risk of vehicle collisions and/or illegal or unintentional shooting and/or trapping as a result of increased public access;
- 5) Changes in snowpack (from winter plowing and activities) could reduce habitat effectiveness for the lynx by increasing predatory competition; and
- 6) Increased activity in the project and direct effects to habitat and travel corridors

may decrease suitability of lynx habitat in the project area.

DEIS at 4-85. The Forest Service surmises correctly that “[b]ecause of the relative importance of the lynx habitat that would be affected, this localized habitat modification could alter the overall suitability of lynx habitats, including denning and travel corridors, in the LAUs included in the project area.” *Id.* Moreover, authorizing road access along the South (Hoback) Rim, an “important linkage habitat,” could “significantly affect habitat connectivity within the Greater Yellowstone Area (GYA). This could further isolate the Wyoming Range Canada lynx sub-population and reduce productivity and genetic variability within the region.” *Id.* at 4-85 and 4-86.

These statements are consistent with our understanding of the importance of lynx habitat in and around the project area, they echo the statements of highly regarded lynx biologists and the WGFD, and they reflect statements the Forest Service made in the Oil and Gas Leasing in the Wyoming Range FEIS (January 2011). The Forest Service, however, seems to believe the mitigation measures that would be required by Alternative C are so sweeping that they would minimize or eliminate the very long list of threats to lynx that it states will accompany development under Alternative B. There is no evidence—and very little discussion whatsoever—to support this conclusion.

Moreover, we disagree with the statement that under Alternative C “most guidelines and objectives under the Northern Rockies Lynx Amendment would be met....” DEIS at 4-94. First, the Forest Service concedes one of the most important objectives would not be met. *Id.* Objective HU O1 advises that to maintain the natural competitive advantage lynx demonstrate over other predators in deep snow, agencies should discourage the expansion of snow-compacting activities in lynx habitat. Alternative C does not differ from Alternative B in this regard. Neither prohibits the plowing of miles and miles of roads that are currently not plowed during the winter months. This is an inherent threat, and something the DEIS simply brushes aside in its assessment of effects to lynx.

Next, of the other objectives, it is not at all clear how the Forest Service reached the conclusion that these would be met. It is our opinion that most, if not all of these, would not be met. The DEIS fails entirely to provide the rationale for its conclusion. DEIS at 4-94. The Forest Service should remedy this error. We offer the following comments in response to each objective, standard or guideline and request the Forest Service’s response to these comments.

Objective ALL 01: Maintain or restore lynx habitat connectivity in and between LAUs and linkage areas.

As discussed above, and as mentioned in the DEIS at 3-84 and 4-85, the southern and southeastern portion of the national forest section of the project area contains a known migration corridor (known as the Bondurant Corridor) that biologists have documented as critical for the survival of this remnant lynx population. Far from maintaining this linkage area, the Forest Service has chosen for each of the development

alternatives, an access route that bisects (to a greater or lesser degree) the very area identified as crucial for lynx connectivity and movement. That Alternative C makes this poor decision not as egregious as the route contemplated in Alternative B, does not lessen the effects such that impacts to lynx will not be significant. Similarly, the Forest Service has not contemplated an alternative in which the four well pad locations closest to the Hoback Rim are moved.

Standard ALL SI: New or expanded permanent development . . . must maintain habitat connectivity in an LAU or linkage area.

Again, Alternative C does not maintain habitat connectivity. There is reasonable access from other locations outside of lynx habitat that were not even considered. The Forest Service should consider alternative access routes and the movement of well pads to areas outside of the migration corridor.

Objective HU O5: Manage human activities, such as special uses; mineral, oil, and gas exploration and development; and placement of utility corridors, to reduce impacts on lynx and lynx habitat.

Although Alternative C contemplates measures that would reduce impacts on lynx and its habitat, it fails to consider other reasonable options that would avoid the direct impacts in the first place.

Guideline HU G4: For mineral and energy development sites and facilities, remote monitoring should be encouraged to reduce snow compaction associated with travel to and from the wells.

The Forest Service is not requiring remote monitoring in Alternative C and is allowing snow compaction to occur. For these reasons, it defies logic to conclude that Alternative C meets this guideline.

Guideline HU G5: For mineral and energy development sites and facilities that are closed, a reclamation plan that restores lynx habitat should be developed.

There is no discussion in the DEIS regarding reclamation of lynx habitat. Given the estimate that any one well may have a 30-year lifespan—making road access necessary for 45 years or more in some cases—reclaiming the disturbance to lynx habitat could not begin for nearly a half century. It is our concern, that by that time the access road and well pads in the corridor would begin the process of reclamation, it is doubtful there would still be a lynx population to safeguard. Regardless, the DEIS fails entirely to discuss reclamation plans with respect to lynx.

Guideline HU G7: New permanent roads should not be built on ridge-tops and saddles, or in spaces identified as important for lynx connectivity.

Alternative C does not comply with this standard. An upgraded and permanent

road will be located on the Rim and through areas identified as important for lynx connectivity. Just because Alternative C does this to a lesser degree than Alternative B does not mean this guideline is met. It is disingenuous to suggest otherwise.

The DEIS at 4-94 downplays the effect of the new access road, saying that because the old access road down the South Rim would be closed, there would be “no net increase in the number of roads through the South Rim linkage area.” As Nate Berg correctly notes, “At present that road is more like a lightly used Jeep trail.” Email correspondence from Nate Berg to Michelle McCammon, 9/26/09. The Forest Service cannot in good faith equate the closing of a faint two-track as an offset for a brand new, high level road that will be accessed frequently by the kind of industrial truck traffic that results from oil and gas development.

Guideline HU G8: Cutting brush along low-speed, low-traffic volume roads should be done to the minimum level necessary to provide for public safety.

This is not specifically addressed in the DEIS, although we recognize the Forest Service proposes to delay major road upgrades under Alternative C until Phase 2 of the project.

Guideline HU G12: Winter access for non-recreation special uses and mineral and energy exploration and development should be limited to designated routes or designated over-the-snow routes.

At present, there are no designated routes into the Upper Hoback Basin in the winter; roads are not plowed during the winter months. Year round access will be a significant change to this area and thus we do not believe this guideline will be met given the contemplated southerly route over the Rim.

Even with strict adherence to the standards and guidelines aimed to protect lynx, not all impacts can be avoided. For this reason, where there is unique habitat that will be impacted by a project or where a project’s impacts on lynx are relatively unknown (e.g. oil and gas development’s effects on lynx), the agency is advised to “err on the side of maintaining and restoring habitat for lynx and their prey” rather than authorizing development based on a mechanical adherence to modeling exercises. Bill Ruediger et al., LCAS, at 7-1 (2d ed. 2000).

The LCAS, the document upon which much of the Northern Rockies Lynx Management Direction is based, states that its

measures are provided to assist federal agencies in seeking opportunities to benefit lynx and to help avoid negative impacts through the thoughtful planning of activities. Plans that incorporate them, and projects that implement them, are generally not expected to have adverse effects on lynx, and implementation of these measures across the range of the lynx is expected to lead to conservation of the species.

However, because it is impossible to provide standards and guidelines that will address all possible actions, in all locations across the broad range of the lynx, it is imperative that project specific analysis and design be completed, for all actions that have the potential to affect lynx. Circumstances unique to individual projects or actions and their locations may still result in adverse effects on lynx. In these cases additional or modified mitigating measures may be necessary to avoid or minimize adverse effects.

LCAS at 7-1 (emphasis added).

There are numerous reasons why this project is “unique,” such that “additional or modified mitigating measures” are required. *Id.* As documented by lynx biologists, this area of the Bridger-Teton is the best habitat in the ecosystem. The only access road the Forest Service has considered in any detail represents habitat that is, “the best of the best.” Email correspondence from Nate Berg to Michelle McCammon, 9/26/08 (Exhibit 19). The WGFD in past comments (and notably when the proposal was a fraction of the size it is today) has concurred with this assessment and has described this area and its significance to lynx using superlatives. “The most significant breeding population of Canada lynx in Wyoming has historically occupied habitats in Townships 34, 35 and 36N, Range 114. We also identify this habitat as most important for potential recovery of the species in Wyoming.” WGFD’s Eagle Prospect scoping comments at 7-8, 1/18/07 (emphasis added) (Exhibit 17). Further, the WGFD said it was “very concerned that this proposed development will fragment and degrade some of Wyoming’s most important lynx habitat.” *Id.* In this case, because of the sensitivity of the habitat, the struggling population and the full field development threat, more than a routine application of the LCAS measures is warranted. The Forest Service should incorporate all relevant information into its analysis and consider an alternative that maintains lynx habitat.

The Forest Service failed to provide an adequate cumulative impacts analysis relative to lynx.

The same deficiencies we identified with the cumulative impacts analysis for lynx in the 2007 Eagle Prospect DEIS remain today. The analysis in the MDP DEIS is entirely inadequate and a violation of NEPA’s “hard look” requirement. First, the lynx cumulative impacts analysis is combined with a whole host of other wildlife species; it is not treated in a separate section. See DEIS at 4-104 to 4-106. For instance, lynx are lumped together with big game species (although notably, mule deer are never specifically mentioned) *Id.*

Second, the bulk of this “analysis” is merely a listing of recent, ongoing and foreseeable projects that may affect wildlife species. *Id.* at 4-105. Nowhere does the Forest Service describe what types of effects each of these projects may pose. This approach falls short of NEPA’s requirement to thoughtfully analyze the cumulative effects of a project so as to ensure informed decisionmaking. Even if the Forest Service had described the most basic impacts from these projects—which it didn’t—given its

lumping approach, it would not have explained the impacts on a species-by-species basis. To assume that the cumulative impacts from livestock grazing and oil and gas development to vegetation treatment projects will affect a feline predator in the same way and to the same extent as elk is a gross simplification clearly illustrating the failings of the DEIS in this instance.

There is no specific discussion or even one specific mention of lynx in the cumulative impact section (Section 4.4.7.3) for Alternative C—Preferred Alternative. DEIS at 4-104 to 4-106. There is simply a statement that “Alternative C would not disturb or disrupt wildlife species to a degree that would have an impact on population trends and have more than a minor cumulative impact.” DEIS at 4-105. We dispute this statement as it pertains to lynx as supported by the information we’ve provided in these comments. We believe the project as designed will not only have an impact on the fragile lynx population on the forest, but could be, as the WGFD cautioned that further development could be, “the final threshold for the continued existence of this species in the Wyoming Range.” Letter from WGFD to Bridger-Teton National Forest at 4, 5/26/05 (Exhibit 16).

In order to comply with NEPA and its implementing regulations, the Forest Service must supplement the DEIS to include all relevant information. After it does so, through a Biological Assessment and with the counsel of the U.S. Fish and Wildlife Service, the Forest Service should determine whether this project may be authorized at all given the very real potential that as designed, even under the mitigated Alternative C, it is “likely to jeopardize the continued existence” of this fragile population and “result in the destruction or adverse modification” of critical habitat. 16 U.S.C. § 1536(a)(2). We encourage the Forest Service to supplement the draft with a more thorough consideration of lynx research and to develop an alternative that would prevent the destruction or adverse modification of the highest quality lynx habitat (in and around the Rim and Bondurant Corridor). Until it does so, its NEPA obligations—and its future obligations under the Endangered Species Act—will not be met.

Big game species: Elk, moose, mule deer and pronghorn

Bill Alldredge, Ph.D, wildlife biologist and Professor Emeritus, has submitted independent comments regarding the numerous deficiencies in the DEIS with respect to big game species. We concur with Mr. Alldredge’s conclusion that the DEIS is deficient in that it: 1) fails to provide adequate baseline information; 2) fails to consider current, relevant scientific literature; 3) fails to take a “hard look” at direct, indirect and cumulative impacts on big game animals and their habitats; 4) fails to present adequate plans for monitoring and mitigation; and 5) fails to adequately develop an alternative that best conserves big game habitat and populations in response to PXP’s development proposal. We incorporate his comments, (“Alldredge comments”), which are attached as Exhibit 22, in their entirety by this reference. We have also attached Mr. Alldredge’s curriculum vitae as Exhibit 23.

Of particular importance are Mr. Alldredge’s following points:

- 1) Drilling operations must not commence until after July 1 and cease entirely by November 15. No exemptions allowed. Alldredge comments at 1-3.
- 2) The Forest Service must disclose and analyze the level of disturbance from traffic and well maintenance during the production phase of operations. Id. at 3.
- 3) The current 500-ft NSO buffer for moose habitat is rendered ineffective given the proposed development within the buffers (DEIS Figure 3-9) and the stated willingness of the Forest Service to make exceptions. Id. at 4.
- 4) The relevant scientific literature suggests a more robust NSO buffer for moose habitat is warranted, such as 500 meters. Id. at 4.
- 5) No development should be authorized until baseline studies are conducted for moose. Id. at 5.
- 6) Relevant data for mule deer and pronghorn is absent from the DEIS and as a result the importance of the Noble Basin for migration and stop over habitat is not considered. Id. at 6.
- 7) Well pads, roads and supporting facilities should not be located in stopover or high-use, migration corridor habitats. Id.
- 8) The DEIS has not adequately addressed habitat fragmentation. Id. at 8-9.
- 9) The justification in the DEIS that displacement of animals from suitable habitat will not have significant impacts is not supported by relevant data and contradicts fundamental tenets of population ecology.²¹ Id. at 9-10.
- 10) Impacts to pronghorn are not adequately assessed. Id. at 11.
- 11) The cumulative impacts assessment should be more thoroughly compiled and analyzed.²² Id.
- 12) Timing limitations should be extended through the production phase so that human activity is curtailed to benefit wildlife. Id. at 12.

²¹ In response to the argument that “wildlife [will] relocate to adjacent, unaffected habitats, so there really is no impact,” the WGFD explains,

This presumption contradicts the fundamental population axiom of population ecology and wildlife management that has been known and confirmed since the time of Aldo Leopold....Wildlife populations occupy whatever vacant, suitable habitat exists. Conversely, the areas not used are not suitable for one reason or another. When activities associated with energy development displace animals from otherwise suitable habitat, the animals are either forced into marginal habitats or they compete with animals that already occupy the unaffected habitats. *Consequences of such displacement and competition are lower survival, lower reproductive success, lower recruitment, and ultimately lower carrying capacity and reduced populations.*

Wyoming Game and Fish Department, “Recommendations for Development of Oil and Gas Resources within Important Wildlife Habitats,” Version 6.0, April 2010 at 11-12 (Exhibit 24). The full report can be found at:

<http://gf.state.wy.us/downloads/doc/O&G%20Recommendations%20April%202010%20with%20changes%20identified.pdf>.

²² In its listing of ongoing activities, the DEIS states, “Due to timing stipulations and restrictions that are put in place by federal agencies to protect big game . . . many of the above activities have likely had minimal impact on wildlife.” DEIS at 4-105. Considering the 60% decline in the Sublette mule deer herd as a result of oil and gas development on its winter range from some of the very projects listed on this page of the DEIS, this blatantly uniformed and erroneous statement should be stricken from the DEIS.

- 13) Locating ground disturbing activities (well pads, roads, facilities locations) outside of critical wildlife habitat to the greatest extent possible should be the first priority. Id.
- 14) Pre-development studies are needed for moose, and attention to relevant data on mule deer and pronghorn is necessary before any development is authorized. Id. at 13.

To supplement to Mr. Alldredge's comments, we would add that while the DEIS acknowledges that elk from two herd units (Piney and Hoback) utilize the project area, and use the McNeel feedground as the prominent feedground in the area, the DEIS fails to note the nearby location and implications of the Franz feedground to the Piney elk herd. The Wyoming Game and Fish Department notes that elk attendance at the McNeel feedground tends to fluctuate: "This fluctuation is primarily associated with winter conditions and elk interchange with the Franz feedground located approximately 10 miles southeast within the Piney Herd Unit."²³ The WGFD summarizes:

The Hoback Herd Unit is 'leaky' in regards to elk moving in and out of the herd on a seasonal basis. Therefore population estimates remain very difficult and computer simulations are unreliable. Fluctuations of 100+ animals between annual winter counts are common without any rational explanation for the changes. Based on harvest data from elk tagged at Franz feedground, located in the Piney Herd Unit, approximately half these elk move into the southern portion of Area 87 and Area 86 (Hoback herd unit) during summer and fall.²⁴

Recent WGFD parturition research of elk using the Franz feedground also emphasizes this utilization of habitat within the project area. In 2009, the agency tagged five pregnant elk from the Franz feedground with vaginal implant transmitters (VITs) and GPS collars to assess the accuracy of currently-delineated elk parturition areas.²⁵ The VIT results will be used to re-delineate current WGFD parturition areas, but the collared data alone show an interesting pattern of movement from some of these elk in and through the project area from the east, and a map of that is attached as Exhibit 25.²⁶ These data, although limited, show elk migration from the east and through the southeastern portion of the project area, not in connection with the McNeel feedground. The elk migration map in the DEIS does not appear to incorporate this new information about elk usage. See DEIS Figure 3-9 at 3-82. We recommend that with the other revisions requested here, that this information, as well as any new parturition delineation data developed by WGFD, be considered in a revised DEIS.

To supplement to Mr. Alldredge's discussion regarding the failure of the DEIS to adequately analyze impacts to elk and other big game species with respect to

²³ 2010, Wyoming Game and Fish Department, Job Completion Report, Elk, Pinedale Region at 25 at <http://gf.state.wy.us/wildlife/biggamejcr2009/Pinedale%20-%20Elk.pdf>.

²⁴ Id. at 29.

²⁵ Id. at 55.

²⁶ Id. at 58.

displacement from well pads and roads, we note the Bureau of Land Management conclusions about such impacts to elk in the Fortification Creek area of Wyoming:

Vegetation and topography are not the predominant factors in determining Fortification Creek Area elk movements. *Human activities associated with mineral activities are having the greatest influence on elk habitat selection.* The elk have adjusted to the current level of development, by favoring the WSA and crucial ranges, but how much more development they can tolerate is unknown. *Elk are exhibiting an avoidance of existing wells by at least 1.7 mi; and are avoiding roads by at least 0.5 miles but realistically cannot avoid roads any further with the existing road network.* Elk are expected to continue to avoid wells and roads for 20 years, the duration of the Coalbed Natural Gas activities. *Road location, mileage, and traffic levels are paramount in determining elk habitat effectiveness.*²⁷

After current data are acknowledged (in the case of deer, pronghorn and after new data are gathered to establish baseline information in the case of moose especially, but also for elk), well pads and roads should be sited in areas of least impact to these species. The Forest Service should focus on mitigating impacts *onsite* as is required in the Forest Plan for MA 23 within areas of DFC 12.²⁸ The Forest Plan states:

New oil and gas leases will be issued with Timing Limitation and Controlled Surface Use stipulations. The latter requires mitigation activities for the effects of roading, exploration, and development on wildlife. Activities will be to be [sic] directed first at onsite effects, then at effects within the contiguous herd unit, and finally at effects within other herd units.

BTNF LRMP at 245. Thus, the Forest Service has explicit management direction regarding mitigation it can and should impose to minimize adverse impacts to big game herds as a result of oil and gas development. The DEIS completely ignores this management direction.

Our final point concerns the year round disturbance to big game animals from the generation of compressor stations, which will operate all year. These could be a significant source of wintertime disturbance and this is not addressed in the DEIS. We ask the Forest Service to address these questions: How much year-round noise (dBA) will the compressors make? How far will each be audible, especially in winter/spring? Is year-round operational noise/activity aversion anticipated to affect migration corridor use, calving activity or feedground attendance at either McNeel or Franz?

²⁷ US Bureau of Land Management, 2007, Buffalo Field Office, Environmental Report: Coalbed Natural Gas Development Effects on the Fortification Creek Area Elk Herd, at 25 at http://www.blm.gov/pgdata/etc/medialib/blm/wy/information/NEPA/bfodocs/fortification_creek/elk_anal_sis.Par.72190.File.dat/Report.pdf.

²⁸ The exploratory well pad is located in DFC 12.

In light of the unique and highly protective stipulations attached to the leases PXP holds and the clear management direction of DFC 12 in MA 23, the Forest Service was remiss in not developing an alternative that better mitigates impacts to big game species. Avoidance of the impacts to the most sensitive habitats—e.g. riparian areas for moose, feed ground areas and winter range for elk, and migration and stopover areas for deer and pronghorn—should have been one of the Forest Service’s first priorities. Instead, protective stipulations were disregarded, and significant and relevant data were not included in the DEIS. The consequence is that Alternative C is a far less protective alternative than the Forest Service could have and should have required. We ask the Forest Service to remedy this in a supplemental DEIS.

Sagebrush obligate bird species

Sophie Osborn, M.S. is a professional wildlife biologist and the wildlife program director for the Wyoming Outdoor Council. She has submitted independent comments regarding the numerous deficiencies in the DEIS with respect to sagebrush obligate bird species. We concur with Ms. Osborn’s conclusion that the DEIS does not adequately address the potential impacts of PXP’s project on these species and incorporate her comments, (“Osborn comments”), which are attached as Exhibit 26, in their entirety by this reference. A professional biography of Ms. Osborn is attached as Exhibit 27.

We highlight the following important points from Ms. Osborn’s comments:

- 1) Given the widespread conversion and deterioration of sagebrush habitats and the decline of shrubland and grassland bird populations, intact sagebrush habitats, like those found on the Bridger-Teton, may serve as important refugia for sagebrush obligate songbirds. Osborn comments at 1-2.
- 2) Because energy development in Wyoming and across the west has primarily occurred within sagebrush-dominated landscapes, the Forest Service should consider this in its cumulative impacts analysis. Id. at 3.
- 3) Energy development threatens sagebrush obligates in several ways: increased nest predation, limited food resources, habitat fragmentation and anthropogenic disturbances. Id. at 2-3.
- 4) The road density analysis in the DEIS is disingenuous in that it largely ignores different road types, their associated traffic levels and their concomitant levels of impact. Id.
- 5) Contrary to statements in the DEIS at 4-92, PXP’s proposal has the potential to cause an increase in the number of ravens, a common predator of songbird and greater sage-grouse nests. Id. at 4.
- 6) The DEIS fails to consider indirect impacts that may reduce habitat effectiveness such as increased road densities, the construction of anthropogenic structures, increased traffic and disturbance, increased predations and reduced resource availability on migratory birds in general and sagebrush obligates in particular. Id.
- 7) The DEIS wrongly concludes that the project would not adversely affect Brewer’s sparrow because “other suitable...habitats [exist] in the vicinity of the project area.” DEIS at 4-93. This is the same flawed logic that the WGFD refutes

- regarding big game habitat. See footnote 13 above. As Ms. Osborn states, the DEIS’s “cavalier dismissal of these potential impacts and its unsupported reassurances that displaced sparrows could just go elsewhere . . . do not constitute a meaningful analysis. . . .” Osborn comments at 5.
- 8) The DEIS fails to address impacts from noise on migratory birds and sagebrush obligates. Id. at 5.
 - 9) The DEIS fails entirely to address potential impacts to sage sparrows. Id.
 - 10) A more careful analysis is warranted for Level II sagebrush species. Id. at 6.
 - 11) The DEIS should have provided a more comprehensive and defensible analysis of the potential impacts to sage-grouse leks and nesting hens. Id. at 6-7.
 - 12) The cumulative effects analysis fails to specify the potential impacts future “habitat enhancements” might have on sagebrush obligates. Id. at 7.
 - 13) The cumulative effects analysis ignores indirect effects. Id. 7-8.
 - 14) The Forest Service should consider current scientific literature about mature sagebrush ecosystems and reference the attached comments of Dr. Carl Wambolt regarding the DEIS for the Pinedale Resource Management Plan. Exhibit 28. Id. at 8.

Amphibians

Debra Patla, M.S. is a professional biologist and the project coordinator for the Greater Yellowstone Network Amphibian Monitoring Project. She has submitted independent comments regarding the inadequacy of the DEIS to consider relevant scientific literature with respect to amphibians, and its failure to acknowledge and analyze impacts to amphibian species that could result from PXP’s drilling proposal. We concur with Ms. Patla’s conclusions and incorporate her comments, (“Patla comments”), which are attached as Exhibit 29, in their entirety by this reference. Ms. Patla’s curriculum vitae is attached as Exhibit 30.

We mention the following important points from Ms. Patla’s comments:

- 1) The DEIS fails to mention or consider the northern leopard frog in its analysis even though it has the potential to inhabit the project area. Patla comments at 1. The western population of this species was petitioned for listing under the Endangered Species Act in 2009 and is undergoing a status review by U.S. Fish and Wildlife Service today. Id.
- 2) The DEIS only considered wet features subject to direct disturbance (e.g. road crossings), and ignored significant risks to water bodies adjacent to or in close proximity to roads and proposed facilities. Id. at 3.
- 3) The FDR 10359 and proposed lynx cut-off road (FDR 10362) closely border streams and use of FDR 10359 in particular is likely to be a source of considerable damage to amphibian habitat. Id. at 3, 11.
- 4) Surveys should have been conducted within a 100-meter buffer around ponds or wetland features to reveal “small wetlands (marshes, wet meadows, ephemeral pools) that are absent on topographic and National Wetland Inventory (NWI) maps. These are important habitats for amphibians.” Id. at 3.

- 5) The DEIS fails to disclose how many water bodies were disqualified as “wetlands” by subjecting them to ARCADIS’ restrictive criteria. Id. Similarly, the terms “wetlands” and “riparian” are often used interchangeably and incorrectly. Id. at 4.
- 6) The Forest Service should have required a minimum of two site visits for amphibian inventories—not just one and should have advised ARCADIS or other technicians that these surveys should be conducted prior to 9:00 a.m. Id.
- 7) The DEIS relied on outdated information and failed to cite readily available, relevant data on amphibians. Id. at 5.
- 8) The information with respect to boreal toads is especially outdated or incorrect. Id. at 5-7.
- 9) The mitigation measures cited in the DEIS are vague and likely ineffective for the reasons provided at pages 8-9 of Ms. Patla’s comments.
- 10) The current 200-foot NSO buffer is insufficient. A buffer of at least 30 to 100 meters is recommended. Id.
- 11) The Forest Service should hire an independent and credible environmental toxicologist to assist with oversight and monitoring to ensure pollutants are not being dispersed into water bodies. Id. at 11.

Yellowstone and Colorado River cutthroat trout

The DEIS concludes that Alternative C “may impact individuals, but is not likely to cause a trend to federal listing or loss of viability” for both the Yellowstone and Colorado River cutthroat trout species. DEIS at E-40, E-42. It relies on Forest Plan standards that are designed to protect fish habitat and populations to support this conclusion:

For fish habitat providing a fishery at or near its potential, fish populations should be maintained at existing levels. For habitat below its potential, habitat should be improved or maintained to at least 90 percent of its natural potential. At least 90 percent of the natural bank stability should be maintained for streams that support a fishery, particularly Threatened, Endangered, and Sensitive species and all trout species. Streambank vegetation should be maintained to 80 percent of its natural potential.

DEIS at E-39.

We are skeptical of the conclusion in the DEIS that trout will not be adversely affected by PXP’s proposed development based on reliance on standards that, notably, are currently not even being met. For example, the DEIS admits that Muddy Creek has a “low” geomorphic integrity rating. DEIS at 3-25. For reasons not known to us, the DEIS chose to exclude information that was provided in the Eagle Prospect DEIS that based on 2006 surveys, Muddy Creek had 42 percent of its left bank and 48 percent of its right bank in unstable condition. Eagle Prospect DEIS at 3-19. The rating for Muddy Creek—a drainage that supports Yellowstone cutthroat trout—“is based on the locations of existing roads and streambank disturbances resulting from grazing activities.” MDP DEIS at 3-25.

The DEIS states, “Roads present a large and chronic sediment source and can have adverse effects on watershed function.” *Id.* at 3-26. The potential effects of PXP’s proposal to upgrade or construct nearly 30 miles of new roads on native trout fisheries is not adequately analyzed in the DEIS. While the Forest Service may be able to minimize some impacts, road construction and removal of vegetation leading to increased erosion and sedimentation will undoubtedly have an adverse impact on sensitive fisheries in the project area.

In addition to the threat of increased sedimentation, the DEIS is forthright in its admission that, “[o]il and gas development may result in the release of toxic chemicals into the watershed.” DEIS at E-40, E-42. The DEIS claims that “spills and leaks would be prevented and managed according to the SPCC plan for the site.” *Id.* However, nowhere in the DEIS is the SPCC (i.e. the “Spill Prevention Control and Countermeasure Plan”) disclosed. In fact, the DEIS suggests that it is not even in existence at this time, using the future tense when it states:

The Operator shall have a Spill Prevention Control and Countermeasure Plan (SPCC) on location during all drilling and well completion operations. The plan will be provided to the Forest Service and BLM, and a copy will be kept at the Operator’s project office, Big Piney Ranger District, and Pinedale Field Office.

DEIS at D-10. Given the importance and grave public concern about water contamination’s threats not only to native trout populations, but also to human health and safety, the SPCC should be published and available for public review and comment before any project authorization occurs.

The DEIS also uses the same flawed logic to downplay impacts to fish as it used in its discussion of impacts to big game and sagebrush obligate bird species. Justifying its conclusion that disturbance to riparian habitat would be “minimal when compared with the amount of available riparian habitat that occurs in the project area,” the Forest Service seems to think fish will just find other places to go if their current habitat is degraded. DEIS at E-41-E42. As we have explained above, the Wyoming Game and Fish Department has rejected this notion as contradicting a fundamental axiom of population ecology and wildlife management. See footnote 21, above. The impacts analysis needs to be revised to correct this flawed understanding and conclusion.

The DEIS also fails to consider the significance of the Beaver Creek watershed to Colorado River cutthroat trout (CRCT). South Beaver Creek provides habitat for a core conservation population of Colorado River cutthroats and as the DEIS notes, unspecified WGFD surveys “indicate a decline” in this species “throughout the Beaver Creek watershed.”²⁹ DEIS at 3-96. It is unclear how the DEIS can cite current standards and guidelines to predict that no significant impact will befall these important populations in the face of new anthropogenic threats (e.g. sedimentation, pollution, etc.), when it is clear

²⁹ These WGFD surveys—or the findings from the surveys, in which the decline is specifically quantified—should have been disclosed in the DEIS.

that CRCT are struggling today given current conditions. With the population already in decline in this watershed, the DEIS should analyze what best management practices (in addition to the ones already being employed with questionable success) might be required of PXP such as further setbacks or buffers and/or avoidance of road construction in the most sensitive habitats, to ensure the continued long term persistence of CRCT.

Additionally, the DEIS cites in several places that water for drilling might be obtained through diversions of the Middle Beaver Creek drainage or even the Hoback River drainage. DEIS at 2-35, 4-46. The potential for this to impact fisheries is not discussed in the DEIS and is dismissed in the Biological Evaluation (Appendix E), which states: “Surface water diversion, if needed to supplement water volume requirements, would not occur in stream reaches that are known to support this species.” DEIS at E-41. This last statement makes no sense because the only two streams proposed for diversions actually do support cutthroat trout.

Finally, a document that is not referenced at all in the DEIS, but which should have been considered, is the Conservation Agreement for Colorado River Cutthroat Trout (*Oncorhynchus clarkii pleuriticus*) in the States of Colorado, Utah and Wyoming, June 2006 (Exhibit 31). The Wyoming Game and Fish Department is a signatory on this agreement as is Wyoming State BLM and Region 4 of the U.S. Forest Service. The agreed upon goal of the document is: “To assure the long-term viability of CRCT throughout their historic range. Areas that currently support CRCT will be maintained, while other areas will be managed for increased abundance.” Conservation Agreement at 3. Far from assuring long term viability, the DEIS mentions, but then simply dismisses the fact that core CRCT populations—ones that have been identified as 99% pure from a genetic standpoint—are declining in the project area before any ground disturbance from PXP’s industrial development has even occurred. The Forest Service failed to recognize its responsibilities under the Conservation Agreement. To remedy this, it should develop as part of a conservation alternative, sufficient mitigation measures (including, if necessary, the movement or prohibition of ground disturbing activities that could further degrade CRCT habitat) in order to ensure long-term viability of CRCT.

Air quality

Jana B. Milford, Ph.D., J.D. is the Director of the Environmental Engineering Program and a Professor of Mechanical Engineering at the University of Colorado in Boulder. At our request, she has submitted independent comments regarding the inadequacy of the DEIS to consider relevant scientific data with respect to hazardous air pollutants, and to disclose and analyze threats from ozone. She also points out that the analysis of near-field impacts on short-term nitrogen dioxide concentration is flawed, as is the cumulative impact assessment for air quality metrics. Last, Ms. Milford notes that the DEIS incorrectly claims that implementation of Alternative C will have no effect on visibility. We concur with Ms. Milford’s conclusions and incorporate her comments, (“Milford comments”), which are attached as Exhibit 32, in their entirety by this reference. Ms. Milford’s curriculum vitae is attached as Exhibit 33.

We highlight the following important points:

- 1) The hazardous air pollutants (HAPs) assessment is deficient.
 - a. The Reference Exposure Level (REL) for the maximum modeled short-term formaldehyde concentration was incorrectly stated. Had the Forest Service used the correct REL, the model would have revealed a 50% exceedance. Milford comments at 1.
 - b. Only six HAPs were modeled, which is only a small subset of the 93 known to be emitted from oil and gas operations. Of the 93, EPA has identified eight that pose the greatest threat. Of these eight, the Forest Service only chose to model two. Id. at 1-2
 - c. The DEIS failed to address the risks associated with total formaldehyde (both from primary and secondary production). Id. at 2.
 - d. The DEIS failed to analyze cumulative impacts of HAPs. Id.
- 2) The DEIS is severely deficient in its analysis of ozone.
 - a. The DEIS admits that the modeling used to support the conclusion that the project will not violate the National Ambient Air Quality Standard (NAAQS) for ozone is not reliable with respect to wintertime ozone. Id. at 4 (citing DEIS at 4-18). The Forest Service relied on a model that it knows systematically under predicts wintertime ozone concentrations. Id.
 - b. The future year predictions are not based on conservatively estimated design values. The Forest Service should have used 2008 as a base year, rather than 2006, so as not to underestimate project and cumulative emissions impacts. Id. at 5.
 - c. The relative response factors (RRFs) were calculated from an inadequate number of daily results. Id. at 5. The Forest Service did not follow EPA guidance to ensure proper modeling and results. Id.
 - d. Despite glaring deficiencies in the model, the results still showed .5 ppb for Alternative B and .3 ppb for Alternative C as modeled predicted increases from the project alone. Id. at 6. This “must be regarded as very significant.” Id.
- 3) The analysis of near-field impacts on short-term nitrogen dioxide concentration is flawed.
 - a. Table 4-6 shows near-field maximum modeled concentrations from Phase 2 of the proposed project would sharply exceed the short-term Nitrogen Dioxide standard under both Alternatives B and C. Id. at 7. If drill rig emissions under Alternative C were cut by 80-90%, the standard would just be met. Id. The results of this model are “unacceptably close to the standard, especially given the flaws, limitations and uncertainties of the modeling.” Id.
 - b. The model should have followed EPA’s guidance and used five years of meteorological data to estimate Nitrogen Oxide concentrations for comparison with the one-hour standard. Id. at 8.
 - c. Modeled compliance with the NAAQS is only shown by assuming 80-90% control of Nitrogen Oxide emissions from drill rigs. Id. Because the DEIS fails to specify how these emission reductions would be achieved,

- any compliance is speculative. Id.
- 4) Impacts to visibility are significant and inadequately addressed.
 - a. The modeling indicates that project-only impacts under Alternative C to the Shoal Creek WSA and the Gros Ventre wilderness area could exceed .5 dv up to 41-42 days per year, with impacts over 1.0 dv 14-15 days per year and that project only impacts on visibility in Bondurant could exceed 1.0 dv on as many as 58 days a year. Id. at 9.
 - b. Despite the figures in the modeling that illustrate predicted non-compliance, the DEIS speculates that compliance will be demonstrated at some unspecified time in the future. “This is clearly inadequate. Mitigation requirements to address impacts on visibility must be specified up front with their adequacy demonstrated, before the project is approved.” Id.
 - 5) The Reasonably Foreseeable Development (RFD) scenario failed to include major proposed projects in the modeling domain. Id.

Predicted visibility impacts to both Class II and Class I airsheds are significant and the DEIS fails to provide a sufficient analysis of mitigation effectiveness.

The DEIS’ air modeling for Alternative C, Phase 2 visibility impacts to Class I and II airsheds predicted an increase in the number of days of visibility impairment from project only emissions to the Class II Gros Ventre Wilderness and the Shoal Creek wilderness study area. Additionally, the cumulative effect of these project emissions when combined with other regional sources, increased the number of visibility impairment days over the 1.0 dv threshold for the Class I airsheds of the Fitzpatrick Wilderness (31 to 33 days), Grand Teton National Park (10 to 13 days), the Teton and Washakie Wildernesses (increase of one day each). See DEIS Table 4- 20 at 4-19. This latter trend is explained:

The impacts from the proposed action at Class I areas are minimal by comparison to regional impacts, but when proposed action impacts were added to the regional emissions, the cumulative effect caused an increase to the number of days over thresholds. There are a number of days each year that individually, project emissions or regional emissions, alone would not exceed thresholds, but when added together exceed thresholds.

DEIS at 4-17. It is significant then, that both Alternatives B and C Phase 2 emissions would impair visibility in Class II areas and through additive effects, impair visibility in important Class I airsheds in the region, including Grand Teton National Park.

To address this visibility impairment impact, as well as to address the failure to meet the modeled near field NO_x exceedance for 1-hour NAAQS, the DEIS proposes to include in the preferred alternative additional controls on drill rig engines during Phase 2 that would constitute an 80% NO_x emission control efficiency, on top of the Tier II engine efficiency modeled. This is a theoretical control, but no actual technology or even EPA Tier equivalency is formally required, nor modeled. At best, it is a vague promise to

the affected public that somehow, additional NOx reductions will be made for drill rigs in the future. In Ms. Milford's comments, she concurred, stating: "This is clearly inadequate. Mitigation requirements to address impacts on visibility must be specified up front with their adequacy demonstrated, before the project is approved." Milford comments at 8.

This vague commitment is described in the DEIS:

As discussed in Section 4.3.2.3, prior to implementation of Phase 2 of the MDP, a future demonstration will be required to show visibility impacts from Alternative C project emissions to the sensitive Class II areas are predicted at 0 days above 1.0 dv. The future demonstration will include credit for drill rig controls or mitigations that will be implemented that were not included in the original visibility modeling analysis.

DEIS at 4-40. This "future demonstration" fails to provide for public transparency and accountability. There is no guarantee that the public will be notified of the demonstration, have an opportunity to review the results and projected impacts, nor is it clear that the public will have an opportunity to submit comments. This demonstration should be conducted as part of a revised or supplemental DEIS, so that the public has a full opportunity to be informed of the impacts of each alternative.

At a minimum, specific, real-world technologies should be modeled to assure the public that the proposed control options will be effective. Whether selective catalytic reduction (SCR), natural gas engines or some other technology is applied to the drill rigs, the public must know today that PXP's operations will not violate air quality standards. Recognizing the need for industry to have flexibility for future technological advances, another way to demonstrate compliance would be to require Tier IV or the equivalent emissions reductions on drill rig engines, and model this efficiency level. Additionally, this modeling is needed because choice of technology could increase the emission rates of HAPs. For example, natural gas burning drill rig engines emit significantly more formaldehyde HAPs than drill rigs outfitted with SCRs.

Ozone modeling uncertainties are not adequately addressed or mitigated.

The inadequacy of the DEIS ozone modeling is thoroughly addressed in the attached comments by Ms. Milford. Of gravest concern to the affected local public is the inability of accepted models to predict the occurrence of wintertime ozone. The DEIS acknowledges this, stating: "It should be noted that the model significantly underestimates wintertime O3 concentrations and does not provide reliable estimates of project impacts or NAAQS compliance during wintertime episodes." DEIS at 4-32. Further, the DEIS notes that the project area is in an area (Sublette County) proposed for non-attainment for the O3 NAAQS, and due to a likely regulatory reduction in the standard by the EPA soon, that non-attainment standard will probably remain in effect "with or without the proposed action." DEIS at 4-33.

Given the inability to accurately predict wintertime ozone levels in the project area, the DEIS should utilize the recent research conducted by the Wyoming Department of Environmental Quality (WDEQ) Air Quality Division (AQD) to assess factors which contribute to the formation of wintertime ozone in Wyoming, including meteorological indicators, topography, snow cover, sunlight and other factors, and assess whether the project area may present such conditions which are conducive to the formation of wintertime ozone. The WDEQ and the University of Wyoming have spent several seasons researching this wintertime ozone formation phenomenon, to the degree that the AQD has been extremely accurate in predicting high ozone events in the Pinedale area and issuing health advisories in advance this winter. This knowledge should be presented to the public, even if just in a qualitative narrative.

In January, the EPA submitted comments on the Gasco Uinta Basin Natural Gas Development Project Draft EIS in Utah. See Letter to Juan Palma, Utah BLM State Director from James Martin, Region 8 EPA Administer, January 7, 2011 (Exhibit 34). It raised significant concerns about the failure of that DEIS to analyze air quality and water quality. With respect to air quality, it cited wintertime ozone as a topic not adequately addressed. The EPA stated:

[F]urther information should be provided in the EIS to fully consider the potential impacts to wintertime ozone from the proposed action. Although current modeling capabilities do not allow for prediction of wintertime ozone concentrations, the wintertime ozone issues should be addressed qualitatively in light of the significant predicted project impacts with the knowledge gained from the modeling, monitoring and potential mitigation scenarios.

Id. at 3. As described above, the DEIS for PXP's MDP suffers from the same deficiencies in its analysis of ozone. And even though the model itself is imperfect for predicting wintertime ozone, the Forest Service chose incorrect input data. As Ms. Milford described, the ozone model failed to use conservative estimates for its design values (using 2008 as a base year rather than 2006) and the relative response factors (RRFs) were calculated from an inadequate number of daily results. Milford comments at 5-6. Even given these errors, the model predicted "very significant" increases in ozone from the project alone, given in an area facing non-attainment designation. Milford comments at 7. As with the DEIS addressing the project in Utah—a DEIS that received an EPA rating of "inadequate" meaning revision or supplementation was required—we believe the DEIS for PXP's MDP suffers from the same flaws and requires a similar remedy.

We would note too that many residents near the project area attest to the nature of the Upper Hoback Basin as a "closed basin airshed" and speak about the frequency of winter inversions, which may especially predispose the area and its residents to high wintertime ozone events, if other factors are present. Table 3-1 presents temperature, snow depth and precipitation data for the Bondurant weather station, but the DEIS fails to include any wind direction and speed data in this same section for the area. DEIS at 3-7. Such additional data may be useful for this assessment.

Need for an Ambient Air Quality Monitor in the Project Area

A review of the history of ozone modeling, monitoring and unaccountable agency commitments in the Pinedale area, demonstrates the importance of real-time monitoring in the PXP project area. When the first Pinedale Anticline project record of decision (ROD) was signed in 2000, the BLM committed to the public that project NOx emissions would be capped at approximately 700 tons per year (tpy).³⁰ Through failure to track these emissions and monitor actual air quality in the area, these limits were far exceeded by 2005, when a supplemental EIS was initiated.³¹ Analysis in 2006 showed that actual NOx emissions for 2005 totaled nearly 4,000 tpy, or 5.7 times the promised limit. See BLM, 2006, first draft SEIS in Air Quality Analysis, TDS, Appendix F, Table F.1.38. The actual amount was 3,988.9 tpy. Id.

A series of air quality monitors were established in and near the project area starting in 2005. After major spikes in ozone levels in 2008, local residents lobbied the WDEQ to install a monitor closer to the population in the town of Pinedale, so as to provide more reliable measures of impacts to residents. That monitor became effective in 2009. This winter, with the recent ozone spikes, residents are able to better understand risks to their health due to this monitor in Pinedale. Importantly, the monitor in Pinedale shows different levels from the other two monitors to the north and south.

The same level of accountability and respect must be afforded the public in the Upper Hoback/Bondurant area. Regardless of air quality predictions and assurances made in the DEIS about ozone levels, the record is clear. Models are simply not always reliable for predicting wintertime ozone—even when properly implemented. See Milford comments at 3-7 regarding the errors in the ozone modeling for the PXP project. Even this winter's ozone spikes were not anticipated. The last major spikes occurred in 2008 before the second Pinedale ROD was finalized and additional emission controls and measures were required. Those measures, which many believed would better control ozone, have now been in effect for more than two years, and yet we are still seeing some of the highest ozone levels yet recorded in the county, peaking as high as 153 ppb for 1-hour averages, and 116 ppb for the 8-hour average—an exceedance significantly higher than the 75 ppb NAAQS for ozone, and notably much higher than the worst recorded day

³⁰ Pinedale Anticline 2000 ROD at 16.

If activity and corresponding emission assumptions and/or impacts exceed those identified in the Pinedale Anticline EIS (376.59 tons/year of NOx emission from compressors or 693.50 tons/year NOx emissions from the combination of construction/drilling, well production, and compression), the BLM, in cooperation and consultation with Wyoming Department of Environmental Quality-Air Quality Division (WDEQ-AQD), EPA Region VIII, USDA-Forest Service, and other affected agencies, will undertake additional cumulative air quality environmental review as required by CEQ regulations 40 CFR §1502.9(c)(1)(ii).

Id.

³¹ The BLM has determined that NOx emissions from all sources in the PAPA currently exceed the 693.50 tons per year (tpy) analysis threshold specified in the PAPA ROD (BLM, 2000b). PAPA FSEIS, 2008 at 1-4.

in Salt Lake City in 2010 (91 ppb). See *Ozone Levels Spike in Sublette County*, Casper Star Tribune, March 3, 2011 (Exhibit 35).

Additionally, it appears to us that ozone develops or moves from the Jonah and Anticline fields far to the north. It is now registering at the new Wyoming Range monitor, which was installed in December 2010. Although supposedly installed to assess in-coming ozone from out of the valley, this monitor has shown ozone spikes in the last weeks that mirror the higher spikes in the southern portion of the valley, nearer to the fields, and include actual exceedance(s) of the 8-hour NAAQS. The location of this monitor makes it insufficient to monitor the ambient air of the Upper Hoback Basin/Bondurant area. It is placed high above the majority of the project area, south of the South Rim, instead of lower in the Bondurant Basin to the north. For these reasons, an actual ambient air quality monitoring station should be placed in the Hoback/Bondurant area to provide real-time air quality measures to local residents. The uncertainty of modeling, agency commitments and regulatory controls show the necessity of nearby monitoring.

The DEIS failed to provide enough information to evaluate compliance with Wyoming DEQ's interim policy for Chapter 6, Section 2.

Although WDEQ-AQD has the regulatory authority for air quality in Wyoming, the Forest Service also has responsibilities as the federal land manager under the Clean Air Act. The Forest Service cannot authorize activities that do not conform to all applicable local, state, tribal, and federal air quality laws, statutes, regulations, standards, and implementation plans. This conformance assurance has not been demonstrated in the DEIS regarding the above-mentioned policy.

The WDEQ's Chapter 6, Section 2 Interim Policy addresses the need to reduce NOx and VOC emissions – the key ozone precursors, in recommended non-attainment areas (Sublette County.) In effect since the summer of 2008, the policy offers three ways for a company proposing new emission sources to demonstrate that its emissions will not contribute to or maintain nonattainment. Nearly all companies operating in Sublette County have chosen option (b), which requires a cap and reduction of these emissions in certain ratios. The DEIS states that PXP has also indicated this option, which would require an offset of NOx emissions at a 1:1.1 ratio and an offset for VOCs at a 1:1.5 ratio. This means that during Phase 2, PXP would be required to show that it has reduced NOx emissions elsewhere in Sublette County by 848 tons annually and VOCs by 315 tons annually.³²

Offsetting such a large amount of emissions in a county where many of the easier fixes or upgrades have already happened, poses a significant hurdle for PXP. For the last two years, most oil and gas companies operating in Sublette County have been creating these offsets and then banking their offset credits for their own future planned growth. Although the figures above represent the highest years, there will be 15 years of such

³² These figures are based on the highest emission year, using Table E.1.2 "Overall Summary of Annual Emissions" in Appendix E and multiplying by the required ratios.

offsets required by PXP, escalating in size. The Forest Service needs to require PXP to demonstrate that it has the ability and a plan to meet this state requirement. This information then must be shared with the public to evaluate the full impacts of the proposed action, especially if the project could further contribute to regional non-attainment of NAAQS.

PXP’s donation to Greater Yellowstone/Teton Clean Cities Coalition is not mitigation.

The DEIS contains a section under “Energy Conservation Measures” that is not a mitigation for the project, but simply a donation to a nonprofit organization that works to further energy conservation. Although this donation, which at the proposed sustaining sponsor level is \$2,500+, is a laudable action, the DEIS should not consider it actual project mitigation. Although PXP “envision[s] a shuttle service for local residents and project employees that uses clean-burning biofuels” the GYTCCC board would have the ultimate decision making authority about spending the funds. DEIS at 2-68. Again, general support for an organization that works in a two-state region to reduce vehicle emissions is a laudable action, but does not actually constitute mitigation for transportation impacts created by the project, since no actual impacts are quantified and the funds may not even be used in the project area or as envisioned by PXP.

Water resources

Weston Wilson, M.S. is an environmental engineer and retired EPA employee. At our request, he has submitted independent comments regarding the inadequacy of the DEIS to consider relevant scientific data regarding water pollution that could result from oil and gas operations in the Hoback Basin. Mr. Wilson recommends the Forest Service issue a supplemental Draft EIS to include results of a groundwater characterization study, the specific design of the 136 proposed production wells, the design of waste water treatment and disposal wells, and the disclosure the chemicals used in the hydraulic fracturing operations. He also urges the Forest Service to require numerous safety precautions prior to authorizing the project. We concur with Mr. Wilson’s conclusions and incorporate his comments, (“Wilson comments”), which are attached as Exhibit 36, in their entirety by this reference. A description of Mr. Wilson’s education and work experience is attached as Exhibit 37.

We highlight the following important points:

- 1) The Forest Service should require “green completion” technology that uses enclosed tanks to contain all drilling fluids and limit the time period when fracking fluids can be retained in any pit. Wilson comments at 7.
 - a. The Forest Service and BLM should require specific mitigation measures to amend the proposed modified drilling method included in Alternative C. These measures are enumerated in Mr. Wilson’s comments. Id. at 8-9.

- b. The Forest Service and BLM should define in the DEIS when separation of produced water is required and how long that fluid can remain in a pit. And the BLM or Forest Service Authorizing Official should not be granted unlimited authority to route produced waters to the cuttings pit. Such production water could be routed to the cutting pit but only until such time as the operator begins producing natural gas. These production fluids should be removed from the pit within 24 hours to prevent VOC from evaporating and escaping into the ecosystem. Id.
- 2) The Forest Service should require the use of “green” or less toxic fracking fluids. Id. at 7.
- a. The use of less toxic, or “green fracturing compounds” should be evaluated in a supplemental DEIS. Regardless of the modified drilling program that is imposed by the Forest Service, there will still be the likelihood of industrial accidents. Accidents that involve the release of chemical additives in their undiluted form pose a significant risk to the ecosystem. Industrial accidents include failure to install back flow valves, and numerous operator errors such as failure to shut off valves, improper construction of tanks and pit liners, and highway collisions involving fracking chemical transport.
- 3) The Forest Service should require groundwater characterization.
- a. Groundwater in the area has not been adequately studied nor defined. The Forest Service should require the installation of groundwater monitoring test wells at least two years prior to drilling. Two years of testing is needed to establish the natural variances in water chemistry that exist prior to industrial drilling activities. Locating nine test wells, three each around the three proposed test wells during Phase 1 would be a practical location for these initially installed groundwater monitoring wells. Id. at 16.
- 4) The Forest Service should require three groundwater monitoring wells near each of the proposed 17 well pads, one up-gradient and two monitoring wells down-gradient in the uppermost useable aquifers, i.e. both the unconsolidated alluvium or the Wasatch Formation if both are present. Id. at 10.
- a. To establish the baseline water quality in the groundwater and to assess PXP’s potential impacts to groundwater quality, the Forest Service’s modified drilling plan should include an adaptive management ground water monitoring program. Id. at 12.
 - b. The current adaptive management ground water plan does not include dedicated ground water monitoring wells. PXP should install professionally designed and completed monitoring wells that are screened in a single aquifer and are operated with minimal maintenance to assure quality of results. Such wells can be drilled with small, track-mounted equipment, thus eliminating the need for roads to these locations. These wells should be within 2000 feet of each well pad. Id.

- c. In order to understand the origin of any undesirable chemicals found in a monitoring well, the Forest Service and BLM should consider requiring PXP add a unique tracer to the fracking fluids or identify the unique isotopic signature of the fracking fluids that will be used. Id.
- 5) The Forest Service and BLM should require evaluation and essential corrections within one-half mile radius, known as the “area of review” for each production well so that any improperly abandoned wells within the area of review are properly plugged and sealed. In addition, the agencies should require mechanical integrity testing of each production well by the use of cement bond logs and electrical resistivity logs to assure proper cementing procedures and require annulus pressure testing to assure well construction prevents vertical migration of gases and fluids. Id. at 13.
 - a. The Wyoming Oil and Gas Conservation Commission requires that the production tubing must be sealed to 150-feet below the nearest domestic well, which is intended to provide aquifer protection. A better procedure is to cement through the uppermost aquifer and approximately 150-feet into the zone below the aquifer to assure that fluids do not rise in a production well and migrate laterally along an un-cemented portion of the well. The Forest Service and BLM should consider this more protective measure. Id. at 14.
 - b. The Forest Service should amend the modified drilling program to include any new EPA regulations regarding the Class II Underground Injection Control (UIC) Program. Id. at 14-15.
 - 6) In order to ensure emergency vehicle access during well failure or fire, the Forest Service should relocate all proposed roads away from active landslide zones and obligate the company to have emergency access by helicopter. Id. at 16.
 - 7) PXP stated in its three Applications for Permit to Drill (APDs) submitted to the BLM that the company plans to use a blow out preventer (BOP) designed to hold 10,000 pounds per square inch, yet these APDs indicate that the down hole pressure could exceed that pressure.³³ BLM and the Forest Service need to evaluate and consider a requirement to increase the design criteria for each well’s BOP up to 20,000 psi to overcome this risk and to further reduce the potential for emergency response in the Noble Basin area. Id. at 16.
 - 8) Aspects of the proposal not addressed in the DEIS include:
 - a. Specific well design showing where the useable aquifers and USDWs are located and how these production wells will be constructed to protect these ground water resources;
 - b. Discussion of the central waste water treatment facility and deep well disposal by injection that may be used to handle produced waters;
 - c. Analysis of potential environmental impacts of disposal of produced water using injection wells or other alternative methods of disposal;

³³ See APDs submitted by PXP for Eagle #1-8 (Exhibit 38); Eagle #2-8 (Exhibit 39); and Eagle #3-8 (Exhibit 40).

- d. Disclosure of the chemical composition of the fracking formulas to be used; and
- e. The process for obtaining a Class 2 Underground Injection Well (UIC) permit pursuant to the Safe Drinking Water Act from the Wyoming Oil and Gas Commission should have been integrated with this NEPA review. Id. at 17.

We urge the Forest Service to review Mr. Wilson’s comments—and all of the expert comments incorporated by reference in our comments—with careful attention to detail, as the suggestions will help develop a true conservation alternative.

Groundwater characterization and adequate baseline testing should be required.

Of utmost concern is the fact that the project area sits above a Stream Flow Source Area for the Eastern Snake River Plain Sole Source Aquifer (SSA). DEIS at 3-35. "Water resource mapping of the Overthrust Belt immediately west of the project area suggests that groundwater flow within portions of the project area may significantly contribute to surface flow, and thus, to groundwater within the Eastern Snake River Plain SSA." Id. The EPA designates SSAs as “zones which supply at least 50 percent of the drinking water consumed in an area overlying the aquifer.” Id. Attached as Exhibit 41 is a Depth to Initial Groundwater map for Sublette County that shows the groundwater in the project area is classified as “shallow” and thus vulnerable.

Of particular importance is the fact that “[t]he Stream Flow Source Area includes surface waters that provide recharge to the aquifer.” Id. The Upper Hoback Basin is the headwaters of a major river and as such, much of the area is riparian and wetland habitat. Thus, any pollution resulting from PXP’s operations—even spills on the surface—could infiltrate the groundwater and the sole source aquifer, putting nearby residents at risk. The DEIS fails to analyze and mitigate for this real possibility.

As mentioned in the air quality section of our comments, the EPA reviewed the Gasco Uinta Basin Natural Gas Development Project Draft EIS in Utah. See Letter to Juan Palma, Utah BLM State Director from James Martin, Region 8 EPA Administer, January 7, 2011 (Exhibit 34). The EPA raised significant concerns about the failure of that DEIS to analyze water quality and specifically the BLM’s failure to adequately characterize the groundwater resources:

Groundwater resources in the project area have not been adequately characterized in the Draft EIS to enable an assessment of the potential for impact to groundwater quality. [I]n order to accurately assess the potential impacts of the proposed project, the EIS must provide substantially more detail in characterizing groundwater resources, including the depth of all USDWs in the project area, and providing the quality of these aquifers in terms of total dissolved solids for each specific zone.

Id. at 3-4. As stated above, the EPA gave the DEIS an “inadequate” rating, which

required the BLM to revise it. We believe this DEIS suffers from the same deficiencies but to an even greater extent because the Upper Hoback—unlike the area in Utah—is a recharge area for a sole source aquifer.

The DEIS failed to consider the likely and serious consequences a gas field operation could have to this sensitive and irreplaceable groundwater resource. Reliance on cursory mitigation measures in Appendix D to conclude that “no measurable impacts to water quality related to well drilling would be anticipated” without an acknowledgement of current data about common and proven failures of these measures (as supplied in Mr. Wilson’s comments) is inadequate and requires supplementation. DEIS at 4-52.

The DEIS mentions that site-specific groundwater data for the project area and vicinity are limited. DEIS at 3-36. “No water quality data were available from the immediate vicinity of the project area.” *Id.* at 3-40. Five water wells—some ten miles from the project area—were tested decades ago. *Id.* at 36. Four of these tests date from the 1970s and the most recent one is fourteen years old. *Id.* This is patently inadequate to meet NEPA’s “hard look” standard.

We recognize that the Sublette County Conservation District (SCCD) has been sampling surface water in the Upper Hoback and Beaver Creek for some time, and its data (along with some from ARCADIS) are presented in the DEIS. DEIS at 3-28. However, the sampling regime prepared for the DEIS only included the very basic parameters and didn’t include any hydrocarbon-based testing. Baseline water quality monitoring of surface and groundwater for the full suite of contaminants that would be attributable to oil and gas operations should be a requirement for this project. The SCCD does a much broader set of tests and samples 4 to 5 times a year (surface water) on the Anticline—including testing for specific hydrocarbons.³⁴ In addition to TPH, GRO, DRO and BTEX sampling for both ground and surface waters, the SCCD also conducts BTEX 8260B testing on groundwater wells. This test includes another 72 parameters in addition to the BTEX constituents.³⁵ The SCCD also does macro-invertebrate testing of surface waters near the Anticline.

These more extensive sampling studies and analyses should be required in any monitoring for the Upper Hoback, and should be included as part of a comprehensive baseline water quality analysis as well. This will be important in the future if hydrocarbon or other contamination is found in these waters. PXP representatives made it clear in a phone conference call meeting with a group of stakeholders Governor Freudenthal’s policy staff convened, that they will not be responsible for water pollution

³⁴ See Report: Sublette County Surface and Groundwater Monitoring 2000-2008 (Exhibit 42).

³⁵ See Groundwater Summary, Pinedale Anticline Working Group presentation, 2/3/2011; first two pages attached to the above SCCD report.

if it is “not attributable” to them. Attribution can be difficult to prove after the fact if a wide range of tests are not conducted and data are not collected in advance.³⁶

Groundwater characterization is an essential prerequisite for any drilling proposal in the Upper Hoback. An adequate and extensive baseline monitoring of groundwater and surface water program must be established and subject to public review. And the best, most advanced technological safeguards must be required. The DEIS should be revised to address these points.

Roads

The analysis of roads in the DEIS suffers from numerous deficiencies.

Under all of the action alternatives, access into the basin was considered only from the south, and a new and upgraded road network of nearly thirty miles is proposed. DEIS at 2-78. As explained in the sections addressing Canada lynx and amphibians, the southern access route is particularly unwise if conservation of threatened species and amphibian habitat is a priority. And as will be explained in more detail below, access from the south requires numerous road crossings of designated-NSO areas.

In addition to excluding reasonable alternate access routes from thorough consideration, the DEIS suffers from multiple inconsistencies with respect to road density standards. It also underestimates impacts the road building aspects of PXP’s proposal pose to soils, vegetation, water resources, wildlife and forest users. Finally, many of the proposed road locations violate NSO stipulations or Forest Plan direction. These are significant failings not only of the analysis within the DEIS, but also of the project as designed, and warrant a supplemental analysis in which a true conservation alternative is developed, complete with an analysis of alternate road access from the north and alternate road siting locations within the project area.

The analysis of road density standards is deficient.

There are inconsistencies and contradictory data in the DEIS and in the Roads Analysis Report (RAR). This report is mentioned at 3-116 of the DEIS as being part of the *Project File*. First, the current miles of road that exist in the project are not sufficiently documented or were documented in error. The Roads Report states, "There

³⁶ As an example of how pollution can be blamed on numerous causes after the fact if comprehensive baseline sampling has not been conducted, we quote the BLM as it speculated about causes of groundwater pollution in water wells on the Pinedale Anticline:

As of October 2007, benzene and other volatiles have been detected in an additional 84 wells, of which 14 showed exceedances of drinking water standards (maximum contaminant levels or MCL defined in the Safe Drinking Water Act). In some instances where detections are above the MCL, the contamination is believed to be related to drilling pit water siphoning back into the well and to backflow from transportation trucks. Check valves are now required on all new water supply wellheads. Other possible sources could include pipe dope, inadequately cleaned casing materials, cross contamination between pits for holding water for water well drilling and gas production well drilling, malicious contamination by persons hostile to gas production, and natural causes (such as leakage of organics from lower gas target strata)." PAPA FSEIS at 3-91 to 3-92, 2008

are approximately 15.9 miles of roads under FS jurisdiction in the project area." RAR at 2-7, 2-10. In the same report, however: "The existing FDRs in the analysis area total 16.2 miles." In the DEIS at 3-118: "There are approximately 14.1 miles of classified FDRs, within the project area...." But at 4-127, describing the no action alternative, "There would be no changes to the 16.5 miles of FDRs . . . that are currently located within the project area." Four different figures are mentioned between the two documents. There is no consistent figure upon which to base an impacts analysis.

Second, the road density analysis is contradictory. Three completely different statements appear in the DEIS indicating at various times that the density hasn't been calculated; the densities are not being exceeded or the densities have already been exceeded. This is utterly confusing and should be clarified. See DEIS at 4-127 (stating, "The current road densities within the project area have not been calculated by the FS because the project area only includes portions of the DFCs and the 1990 forest plan guidelines for road densities apply to the entire DFCs."); see also DEIS at 3-118 (stating, "Density of open roads is currently being met within the MAs.") and see DEIS at 4-131 (stating, "Road densities in the portions of MA 23 and 24 with the project area appear to exceed the 1990 forest plan guidance for the general level of transportation system within the affected DFCs."). Finally, the DEIS states at 3-91: "Currently, the road density in the project area is 1.55 miles of road per square mile, over 50 percent over the objective for [Desired Future Condition 10]."

Although correct in other tables in the DEIS, the table on 2-106 and 2-107 incorrectly states the road densities for DFCs 1B, 10 and 12. DFC 10 is not 1.25, but 1 mile per square mile. See BTNF LRMP at 239. DFC 12 is not .5, but .25 mile per square mile. *Id.* at 246. And DFC 1B is not .5, but 1.5 mile per square mile. *Id.* at 158. It is clear from this table, however, that road building in all of the action alternatives will exceed the standards by a wide margin. In DFC 1B, the road density standard could increase to as much as 2.6 miles per square mile in Alternative C. DEIS at 2-106 to 2-107. In DFC 10, the standard could result in a density between 1.3 and 1.8 miles per square mile. *Id.* And in DFC 12, the standard could be between 1.2 and 1.6 miles per square mile. *Id.* The Forest Service should first correct the mistakes in the DEIS, and then adequately consider whether authorizing PXP's proposal as currently designed is consistent with Forest Plan direction. It is apparent that with respect to road density, the Forest Service cannot justify its statement, "All alternatives are in compliance with the guidance contained in the Forest Plan and are consistent with existing regulatory requirements." DEIS at 4-126.

There is similar confusion within the Roads Analysis Report, which states: "Existing road densities meet forest plan guidance by MA." RAR at 2-10. Yet later in the same report, it states: "Existing density of 2.1 m/sq. mile is higher than forest plan guidance for DFC 1B." RAR at 2-34. And with respect to the project: "Open road density in the portion of MA23 within the project area would meet existing forest plan guidance for the general level of transportation system within affected DFCs." RAR at 2-28. We understand that the inconsistencies among these statements might stem from the use of an entire Management Area as the basis for the analysis. In other words, if the calculation of road density is estimated using the entire MA (most of which is roadless) intense roading

in one section won't exceed the overall standard. This tweaking of numbers, however, is not in keeping with the intent of the Forest Plan, which is to ensure standards are met to protect sensitive resources. The DEIS should accurately assess road density in the project area and in the DFC areas within the project area.

Third, the analysis in the DEIS that there will be a near zero net increase in roads as a result of decommissioning user-created roads in order to authorize the new or upgraded FDRs necessary for the project is disingenuous. There are 27.9 miles of user created roads currently in existence in the project area. DEIS at 4-127. The Forest Service is proposing to reclaim 14.2 miles of these under Alt. C Phase 2 to give it an "almost 1:1 ration of reclamation to new construction." DEIS at 4-131. An obvious initial question is why the Forest Service has failed to enforce its own management prescriptions, if 27.9 miles of illegal user-created roads now exist in what is technically an inventoried roadless area. Despite this unfortunate reality, which also calls into question the ability of the Forest Service—given its limited staffing and financial resources—to oversee PXP's project for potential future violations of Forest Plan standards and guidelines, we do not believe the Forest Service should treat these types of roads as equivalent to the kinds of roads that can accommodate heavy industrial truck traffic. User-created roads—often no more than faint jeep or ATV two-tracks—although undesirable, aren't subject to the kind of frequent traffic as forest development roads (FDRs). We agree with the need to decommission user-created roads, particularly in riparian areas or in areas of steep or unstable soils, but the net gain or loss of roads should be a calculation made between existing and future upgrades to or construction of FDRs. User created roads should not be a part of the density calculation.

Next, we ask the Forest Service to provide a table or sufficient narrative disclosure of the actual acreage per mile slated to be disturbed in constructing and upgrading (i.e. widening and recontouring) the roads PXP has said it will need to develop the full field. Although there are acreage figures listed for surface disturbance in parts of the DEIS (e.g. 2-105), the road information is provided in miles. Due to the rolling mountain topography of the Noble Basin, an informed estimate of the total acreage disturbed from road building needs to be conducted and disclosed. This should include not only the finished width of the roadbed, but any additional acreage disturbed along the road sides that is required to achieve the desired slope or angle.³⁷

Finally, neither the DEIS nor the Roads Analysis Report references road management objectives (RMO), which as we understand it, is one of the primary reasons to prepare an RAR. An RMO would explain the reasons why there are maintenance-level 3 roads in an inventoried roadless area, for example. The DEIS or the RAR should have addressed the objectives for this roadless area, as well as how the Jackson Hole Area Oil and Gas Lease Stipulation—with its specific mandate that oil and gas activities must be conducted with the "absolute minimum number" of roads—would be enforced.

³⁷ This same ground-truthing exercise should be conducted for any ground disturbing activity: well pad construction, truck turnaround areas and other facilities. Given the rolling terrain and unstable soils, an 8-acre, flat well pad for example likely will require the disturbance of a far greater area than simply 8 acres. This is not adequately addressed in the DEIS.

Project related roads and facilities are located in areas containing steep slopes and unstable soils in direct violation of the NSO stipulations attached to PXP's leases.

DEIS Figure 3-5, *Geologic Hazards and Geotechnical Concerns within the Project Area*, shows: 1) exploratory access roads; and 2) field development access roads intersecting areas characterized as: a) “marginally unstable soil type,” b) landslide areas, and c) areas subject to “USFS Technical NSO.”³⁸ For example, one can observe in Section 21 that the main exploratory access road crosses USFS Technical NSO and marginally unstable soil types; in Section 14, a field development access road crosses USFS Technical NSO and landslide areas; in Section 8, a portion of the proposed Eagle Well Pad lies in a landslide area and the access road to well 63-5B bisects over one-half mile of landslide area; and in Section 24, the access road to well 64-25 cuts through at least two landslide areas and marginally unstable soil types. Additional intrusions into NSO-protected areas are also shown on the map.

The environmental consequences portion of the DEIS confirms this, stating: “Portions of the proposed access road to the Phase I well pad and the proposed access road to the Eagle 64-11 and 64-15 well pads to be constructed in Phase 2 are of particular concern because they cross areas mapped as landslides and as soil types that are sensitive to erosion.” DEIS at 4-63. In addition, “Portions of six proposed well pads, one water well, and one water well treatment plant would initially affect potential landslide areas.” Id.

No effort is made in the DEIS to discuss the obvious legal and technical issues associated with the location of project-related facilities in areas subject to “no surface occupancy” (NSO) stipulations, which were attached to PXP’s leases—as required by the Forest Plan and 1991 Leasing EA—to protect soils, unstable slopes and other sensitive resources, nor are alternatives explored to avoid these sensitive resources.³⁹

As noted elsewhere in these comments, the federal oil and gas leases held by PXP contain stipulations that *prohibit surface occupancy and use* in certain areas. The actual language contained in the NSO lease stipulations attached to PXP’s leases provides as follows:

NO SURFACE OCCUPANCY STIPULATION

No surface occupancy or use is allowed on the lands described below (legal subdivision or other description):

1. On slopes in excess of 40 percent or on technically unsuitable soils.

³⁸ The maps attached to each of PXP’s leases display the precise locations of steep slopes, unstable soils, and landslide areas subject to the NSO stipulation. It appears to the unaided eye that those areas have been accurately transposed to Figure 3-5, but this should be confirmed.

³⁹ The DEIS’ failure to analyze alternate road locations is addressed elsewhere in these comments.

See Attached Map for location.

For the purpose of (reason):

1. Protecting steep slopes and unstable soils.

Any change to this stipulation will be made in accordance with the land use plan and/or the regulatory provisions for such change. (For guidance on the use of this stipulation, see BLM Manual 1624 and 3101 or FS Manual 1950 and 2820.)

As indicated by the clear and unambiguous language in each of the NSO stipulations attached to PXP's leases, activities prohibited by the NSO stipulations include *occupancy and use*. See Exhibits 4, 5, 6 & 7 for copies of PXP's leases. Since a road constitutes both occupancy of the surface and a use of the surface, the DEIS needs to explain the rationale, if any, for locating proposed roads (and other facilities) in areas ostensibly "off limits" to such features.

Despite the clear language contained in the NSO stipulations, we understand differences of opinion may exist among Forest Service personnel regarding the kinds of activities or uses that are prohibited in areas subject to this type of NSO stipulation. As the following discussion demonstrates, there is no disputing that construction of field and exploratory access roads displayed in Figure 3-5 are prohibited in areas subject to the NSO stipulations attached to PXP's leases.

The NSO stipulations appended to PXP's leases are required by the BTNF LRMP and by the 1991 Leasing EA. See, e.g. Forest Plan Goal 4.4 at 119; Forest Plan at 134, Lease Stipulation Standard; Forest Plan at Appendix B; Forest Plan DFC at 150; Forest Plan at 238, 245 (Minerals Prescription). As discussed in the Forest Plan, the potential consequences of the failure to enforce these NSO stipulations include soil erosion and stream sedimentation, lost aesthetic quality and disruption to other uses, among other impacts. Forest Plan at 81. Further, poorly constructed or improperly located roads may impact wildlife resources, soil values, and water quality. Id. at 80. The safety of vehicles using these roads is also questionable and could result in accidents or spills of dangerous materials.

Oil and gas development on the Bridger-Teton has been and remains today a controversial subject. During the drafting of the Forest Plan, members of the public expressed strong opposition to oil and gas development and skepticism about the Forest Service's ability to protect Forest resources from the impacts of oil and gas activities. In response to these concerns, the Regional Forester issued a series of action plans and clarification letters, including a Joint Action Plan for Oil and Gas Parcel Identification and Stipulations and Letter Enclosure Two, CLARIFICATION and INFORMATION. (Exhibit 43). Among other things, the Regional Forester explained that:

- A No-Surface-Occupancy Stipulation is a contract term in the lease, which *prevents* the developer from occupying the surface and *disturbing* surface resources. Clarification letter at 10 (emphasis added).
- About one-half of the Forest area outside congressionally designated Wilderness will carry No-Surface-Occupancy Stipulations if leased. Thus, based on Plan direction, *surface disturbance* from oil and gas exploration and development would *not be permitted* on about three quarters of the Forest unless stipulations were changed. *Id.* at 11(emphasis added).

The Regional Forest’s letter removes any doubt about the effect of the technical NSO stipulations, which include the type attached to PXP’s leases. Therefore, occupancy, use, and disturbance are all prohibited. Since a new road “occupies” the surface; is a “use” of the surface; and causes a “disturbance,” to the surface, new/reconstructed roads are *prohibited* in areas of the lease containing NSO stipulations.

The 1991 Leasing EA/Decision repeatedly references these NSOs as creating difficult access into these areas, stating: “Access into the Upper Hoback Area and the Bare Hole is impossible because of steep slopes, large unstable soils area, and administrative NSO along the Upper Hoback River. Exploration by helicopter would be possible, but the roads and pipelines necessary for production would not be possible.” Leasing EA at 5. The EA continues to highlight the limitations on access due to steep slopes and unstable soils by including a special lease notice of “Access Difficult or Impossible” in its Alternative 3. *Id.* at 6, 10. In light of the potentially significant resource damage that could occur if roads were permitted on steep slopes and sensitive soils, prohibiting occupancy, use and disturbance on this terrain is required by the Forest Plan, and now must be upheld here. Accordingly, the Forest Service should require PXP to revise its proposed Master Development Plan to re-route roads and other project-related facilities away from the areas protected by the NSO stipulations attached to its leases.

The DEIS routinely cites Appendix D and implementation of often unspecified mitigation measures to justify a potential decision to authorize surface disturbance in areas that, as explained above, unquestionably should be off limits—from a legal and technical/engineering standpoint. The Forest Service itself is not even confident in these mitigation measures, however. The DEIS admits, “The implementation of these measures would not necessarily ensure that the hazards associated with movement of the landslides in the project area could be eliminated.” DEIS at 4-63. For this reason, following implementation of these measures, the Forest Service envisions the need to require an “ongoing monitoring and maintenance plan (OMMP)...at the APD stage in order to assess the effectiveness of BMPs toward mitigating risk associated with landslides and steep slopes.” *Id.*

The OMMP was not included in the DEIS—and it is questionable whether it even exists at this time. This is a glaring error, as this *is* the APD stage for the Phase 1 well pad.⁴⁰ Moreover, the DEIS states that the OMMP (notably, the mitigation for the

⁴⁰ “Portions of the proposed access road to the Phase I well pad...are of particular concern because they cross areas mapped as landslides and as soil types that are sensitive to erosion.” DEIS at 4-63.

probably unsuccessful mitigation measures outlined in various standard BMPs in Appendix D) is itself not even failsafe. It would need to “include contingency measures in case undesirable conditions develop.” *Id.* This vague and unsupported promise to plan for and somehow remedy failures in the multiple levels of mitigation necessary for this project as currently designed, provides another compelling reason to adhere to existing Forest Plan and lease stipulation instruction *and avoid these areas in the first place.*

Impacts to the Grayback Ridge roadless area are not adequately analyzed or mitigated.

Roadless areas are special. Every year, as a result of proposals like this, there are fewer and fewer places in this country where people can venture beyond roads. Roadless areas have inherent value not only because they are increasingly rare and quickly diminishing, but also because of the powerful experiences people often have when they visit. Many of us value the Bridger-Teton for its ability to offer backcountry experiences where we can appreciate stunning, quiet, natural landscapes. Backcountry experiences in roadless or primitive areas can also provide pivotal moments in people’s lives. Whether it’s getting your first elk, waiting out a lightening storm, encountering a mountain lion, or route finding when you’ve lost your way, these experiences are memorable and often character building. Roadless areas also provide some of the best wildlife habitat and often, as is the case here, encompass headwaters of major rivers, providing clean drinking water for downstream communities.

Although the Upper Hoback is not without roads, these are not the dominant features of the landscape. The upgrade and new construction of miles and miles of industrial-level roads, along with the associated vegetation-removing development of hundreds of acres to make way for well pads, staging areas, truck turnarounds, man camps, and associated facilities will completely change the character of the basin.

The DEIS is clear that PXP’s proposal will “add new and reconstructed roads in the [Grayback Ridge] roadless area, and could add industrial features to the existing natural landscape.” DEIS at 4-122. These developments would affect the roadless character of the area “by reducing apparent naturalness in the vicinity of the roads, lessening the feeling of remoteness within the project area, and reducing the opportunities for solitude due to improved accessibility of the area.” *Id.* The document also admits that the “adverse effects would occur over a minimum 40-year period.” *Id.* at 4-123.

No alternative was considered in any detail that would have protected even some measure of the Upper Hoback Basin’s roadless characteristics. Alternative X13—moving operations out of the roadless area completely—was briefly considered, but not carried forward based on the Forest Service’s misunderstanding of the 200 meter/60 day rule. DEIS at 2-13. We understand that because of the large amount of roadless acreage in the project area, complete prohibition on development in the roadless area might not be feasible. However, the development of an alternative that reduces the amount of roads needed into the project area, or considered alternate access, is not only reasonable, but is required by the roadless rule. *See* 36 C.F.R. § 294.12(b)(7), which allows for road construction if necessary to access valid oil and gas lease parcels, but with stringent

conditions.

A road is needed in conjunction with the continuation, extension, or renewal of a mineral lease on lands that are under lease by the Secretary of the Interior as of January 12, 2001 or for a new lease issued immediately upon expiration of an existing lease. *Such road construction or reconstruction must be conducted in a manner that minimizes effects on surface resources, prevents unnecessary or unreasonable surface disturbance, and complies with all applicable lease requirements, land and resource management plan direction, regulations, and laws.* Roads constructed or reconstructed pursuant to this paragraph must be obliterated when no longer needed for the purposes of the lease or upon termination or expiration of the lease, whichever is sooner.

Id. (emphasis added)(Exhibit 44).

Although the roadless rule's application in Wyoming has been enjoined pursuant to a judgment of the Wyoming district court, that judgment is presently on appeal before the 10th Circuit Court of Appeals. We do not believe it is appropriate for the Forest Service to effectively pre-judge the outcome of that appeal by developing plans that violate the roadless rule in the State of Wyoming.

In addition to the roadless rule itself—a rule the 10th Circuit Court of Appeals may yet reinstate in Wyoming—the Jackson Hole Area Oil and Gas Lease Stipulation, which is described in detail above and attached to each of PXP's leases, mandates the company comply with the Forest Service requirement “to keep to an absolute minimum” the number of access roads. Exhibit 45.

Even without the roadless rule in place at this time, the Secretary of Agriculture has reserved to himself the decision-making authority regarding the construction and reconstruction of roads in inventoried roadless areas. See Secretary's Memorandum 1042-155 dated May 28, 2010 (Exhibit 46). This is a significant. It is the stated policy of the Department that road construction in inventoried roadless areas, while not prohibited outright, is serious enough to warrant oversight and authorization from its highest-ranking official. There is nothing in the DEIS that reflects the magnitude of the Forest Service's responsibility in this instance, or evidences an attempt to carefully consider an alternative that would have better safeguarded roadless characteristics. We urge the Forest Service to remedy this in a supplemental draft EIS.

Scenic Resources and Visual Quality

We agree with statements in the DEIS that the “scenic integrity of the landscape is high” and the “level of concern for the surrounding scenic landscape is high.” DEIS at 3-123. Nearly 75 percent of the project area falls within a visual quality objective of “partial retention.” See Table 3-35, DEIS at 3-124. Partial retention areas should be managed so that activities may be visually evident, but are *subordinate* to the characteristic landscape. Id. Nearly 15 percent of the project area encompasses areas the

Forest Service has committed to managing for “retention.” *Id.* This means that management activities are *not visually evident*. *Id.*

The DEIS acknowledges the primary views of the project area are from travel routes, dispersed recreation-use areas within the project area and residences located within or near the project area. DEIS at 3-124. Despite this, the Forest Service only fully analyzed view sheds from three “key observation points” (KOPs), all of which represent views from nearby residences. DEIS Figure 3-12; *see also* DEIS at 3-128 (stating that KOP 1 would be seen by a residence on the Upper Hoback River Road and KOPs 2 and 3 were selected for the Hoback Ranches subdivision.) Although 11 other viewshed analyses were prepared (10 additional along the Upper Hoback Road and 1 additional from Hoback Ranches subdivision), it seems there were no KOPs analyzed that would reflect the viewshed of the average recreational user—specifically the hunter—accessing the basin via the south and spending time in the basin especially during the fall.⁴¹ This appears to be a flaw. Choice of KOPs will influence the results of the analysis and it is not clear the Forest Service encompassed all relevant viewsheds.

Even with respect to the three KOPs the Forest Service chose, the DEIS acknowledges that one well pad (73-34) could be constructed in a “retention” area along the Upper Hoback River. DEIS at 4-146. Because drill rigs would be evident and visible for up to five operating seasons on this pad, this portion of PXP’s proposal would “conflict with the BTNF goals for Retention Visual Quality Objective.” *Id.* It is not clear how the DEIS can state that “[a]ll alternatives are in compliance with the guidance contained in the Forest Plan and are consistent with existing regulatory requirements,” when this is a notable violation of its own standard. DEIS at 4-149. Further, we question whether any surface disturbance should be sited within an area managed for the visual quality prescription of “retention.” The areas within DFC 2B, for example, are similarly managed for retention and the Forest Plan states that oil and gas leases offered in these areas will carry an NSO-stipulation. BTNF LRMP at 169.

We also question the conclusion that although PXP’s “facilities many constitute a visual intrusion for up to 30 years” in the partial retention areas, these facilities would either “not be visible or would be visibly subordinate in the characteristic landscape” as viewed from the KOPs. DEIS at 4-146. Again, the choice and location of KOPs has a direct effect on the conclusions made in the DEIS. Even assuming the KOPs are the best vantage points from which to analyze impacts, we simply find it hard to imagine that the transformation of this currently undeveloped basin into an industrial gas field will not be visible or will remain subordinate from any number of view points into or from within

⁴¹ The full viewshed analysis was not included in the DEIS, but resides the *Project File*. DEIS at 3-129. We did not have a chance to review this document. Based on our experience requesting other documents from the *Project File*, we didn’t believe we’d receive the analysis before the close of the comment period. When we requested other documents that the DEIS noted were in the *Project File*, the Forest Service treated this a formal FOIA request. The documents took three to four weeks to arrive. If documents are referenced in a DEIS, the Forest Service should anticipate that some members of the public will request them. As such, these documents should be readily available for timely distribution especially when there is a comment deadline the public must meet. That said, we certainly appreciate Kurt Davis’ and John Kuzloski’s efforts to distribute these documents.

the basin. We ask the Forest Service to consider other KOPs—including ones from which hunters specifically would commonly view or experience the basin—before making a final conclusion on this point.

Recreation, Social and Economic Resources

The DEIS underestimates the adverse impacts to forest users as a result of PXP's proposal.

The DEIS states, “Construction and drilling activities for a total of 17 well pads and ancillary facilities, such as roads and pipelines, would have an impact on recreationists using the area.” DEIS at 4-120.

Over the 30-year operational life of the project, the presence of natural gas wells, production equipment, and other facilities would change the character of the project area landscapes from natural and undeveloped to relatively altered and developed, at least in areas where these facilities would be visible. This change in the character of the project area could diminish the recreational experience for visitors near well pad locations.

DEIS at 4-121. Although there is acknowledgement that PXP's proposed development would *change the character* of the basin, the DEIS downplays the effects on recreationists—specifically stating that in most instances, hiking, horseback riding and hunting “would not be directly impacted other than *possible inconvenience*.” *Id.* The authors of the DEIS apparently are not backcountry forest users themselves, or they would realize how insulting this statement is. Possible inconvenience? Is that what the authors gleaned from the thousands of comments and letters the public has submitted over these many years? That hunters and others forest users would just be inconvenienced by the transformation of the Upper Hoback into an industrial gas field?

The DEIS should be supplemented to better acknowledge the consequences of a decision that threatens to displace generations of hunters from their traditional, familial hunting grounds in the Upper Hoback Basin. We include the testimony of two men from Rock Springs who testified at the public meeting in Pinedale to illustrate the powerful emotion and connection people feel about this place. Jace Jackman, a high school student and young hunter stated, “I brought a truck full of high school kids down and every single one of them has had a ‘first’ up in the mountains.” As he pointed to his friends and neighbors in the room, he described:

He shot his first elk up there this year. I shot my first deer up there. I've seen my first bear up there. I mean ... I know his grandkids all shot their ‘firsts’ up there. And I just think it's crazy they are going to try to take it from the youth. *It's just them taking from the kids and the future.*

Carl Bennett, a hunter and fellow Rock Springs resident stated:

My legacy is up in those mountains. My father told me when I was a young child that these mountains are my mountains. Take care of them as if they were mine. And I wouldn't allow any of this to happen if they were mine. *It's gonna destroy them.* I can't pass that on to my children. I won't go up there to that ridge and say, 'You see all this trash? This is all yours now.' That wasn't how it was given to me.

These gentlemen used words like “destroy” and “take,” which are more appropriate descriptors for the type of impact full field oil and gas development will have on the recreational opportunities and hunting traditions of families who use and love the Upper Hoback.⁴² “Possible inconvenience” is not even close to an accurate summation. Without an acknowledgement of the impacts, and a respect for the level of fidelity people feel for this place, the Forest Service cannot adequately assess, let alone effectively mitigate, the impacts to recreational users.

We also disagree with the conclusion that the recreation setting in the project area would only experience “a limited amount of impact under Alternative C.” DEIS at 4-118. Reliance on unspecified project design criteria in Appendix D is the best the DEIS can offer for justification of or support for this finding. This is wholly insufficient. That the last well pad and some non-system access road may be reclaimed some 45 years from now (one of the criteria the DEIS cites from Appendix D) is hardly a substitute for meaningful onsite mitigation measures that are largely absent from any of the action alternatives. See DEIS at 4-118. Phased development or limiting the surface disturbance (e.g. fewer miles of road or fewer number of well pads) are measures that might actually make a difference to recreational users today, but none of the action alternatives differ at all in this regard. We ask the Forest Service to consider ways to mitigate impacts to recreational users by considering an alternative that first avoids or mitigates the ground disturbing activities onsite.

The socio-economic impacts to recreational and hunting use of the project area are not adequately addressed.

Although this topic is addressed briefly in the “land use” and “social and economic resources” sections, neither analysis adequately highlights or quantifies the importance of this traditional use. The Upper Hoback Basin area is utilized extensively by hunters in the region, and has been used by many generations by families who return to traditional hunting camps each fall. Although the DEIS rightly recognizes that the commercial outfitting sector does not utilize the project area, this lack of commercial guiding competition is what makes this area so popular for non-commercial sportsmen and women. DEIS at 4-154.

The Wyoming Game and Fish Department regularly conducts economic analyses of the benefits of hunting and evaluates this through examination of individual hunt areas

⁴² Given the statement, “If hunters were to discharge their firearms near active project locations, project workers could be in danger of injury or death,” it is unclear whether the BTNF will exclude hunting access to parts of the basin. This should be clarified. DEIS at 4-121.

and by species. The DEIS failed to utilize this important source of information and as a result failed to quantify the economic value of the project area from hunting revenues. These data should have been presented in Section 3.4.6 (Social and Economic Resources) as a specific indicator of: “Socioeconomic effects from changes in recreation, hunting, wildlife and scenery viewing opportunities, ranching, lifestyle values or residential experiences.” DEIS at 3-130. No data were presented to quantitatively represent this important economic sector. To demonstrate the type of information that should be presented in the DEIS, we present the following estimate of the hunting generated economy from the proposed project site.

Estimated revenue generated from hunters in and around the project area in 2008:

| | |
|---|----------------|
| Elk hunt areas in project area: 86, 87, 92: | \$1,171,667.50 |
| Mule deer hunt areas in project area: 153, 154, 142: | \$673,852.72 |
| Pronghorn hunt area in the project area: 86 & 88: | \$108,966.12 |
| Moose hunt areas in the project area: 22 (all), portions of 25, 10, 24: | \$51,984.81 |
| Black bear hunt areas in and around the project area: 20, 17, 15: | \$27,272.70 |

Estimated total revenue from big and trophy game hunters - Fall 2008:

\$2,033,743.90⁴³

Estimated revenue from big game and trophy game hunters - Fall 2009:

\$2,094,756.20

As is evident from the figures above, retaining the intact wildlife habitat and actual wildlife of the project area is valuable and contributes over \$2 million annually to the local economy. This is substantial annual revenue. Even more important: It is a sustainable resource, which means it will continue to benefit the local economy for as long as we make decisions that safeguard the habitat.

The DEIS should have evaluated this sustainable and renewable hunting and recreational economic resource. That there is nothing in the current DEIS about these easily quantifiable figures is a serious oversight. We have learned from the Pinedale Anticline project that severe impacts to wildlife populations can occur over the course of intensive drilling and its associated road and facilities development. In the first 10 years of development on the Pinedale Anticline, the native mule deer population that winters on the Mesa declined by 60 percent. Notably, this same herd spends substantial time the rest of the year in the Upper Hoback. Further reductions in this herd and others as a result of probable direct, indirect and cumulative impacts from PXP’s project could impact the availability of big game for quotas in the hunt areas mentioned above and others, and thus

⁴³ WGFD 2009. Derived from Annual Report. Cheyenne, Wyoming, and also the maps included in the 2010 Wyoming Resident Hunt Applications book. Wyoming Game and Fish Department, Cheyenne, Wyoming. Note: Calculations consisted of numbers of hunters estimated by WGFD in the applicable species hunt areas or portions thereof on and surrounding the proposed gas field project area. Expenditures per hunter are from past years’ Resident and Nonresident Hunter Expenditures Surveys with Consumer Price Index multipliers of approximately 1.03 for each succeeding year as explained in the WGFD Annual Report for each big game species.

greatly reduce annual revenues.

The solution the DEIS proposes for loss of general hunting opportunities in the project area is to state that hunters can move elsewhere into adjacent areas. See DEIS at 4-154. “For any short-term displacement of an activity, there would be several substitute sites on nearby NFS lands.” *Id.* Not only does this callous statement fail to acknowledge the importance that specific, traditional places have to generations of hunters and their families, but it also does not recognize that this puts increased pressure on other areas and diminishes the quality of the hunt. More sportsmen and women will be crowded into a smaller area to pursue a diminishing number of animals. This will also put pressure on the commercial outfitting operations in the area, possibly reducing their revenues. The effects on recreational and land use opportunities, and the economic impacts of such loss need to be fully analyzed and quantified in a revised DEIS.

The DEIS failed to recognize the value of an undeveloped Bridger-Teton National Forest as an economic driver for the local, amenity-based economy.

Western Wyoming has experienced significant residential growth due to the amenity-driven benefits of open space, proximity to pristine wild lands, recreational opportunities, abundant wildlife and general quality of life. Although difficult to quantify, it is a recognized driver of the economy in areas adjacent to and near the project area, as evidenced by the growth of homes in the Hoback Ranches area and value of properties on the Upper Hoback River road. A simple review of real estate advertisements for properties in Hoback Ranches confirms this important economic sector.

A survey and data on this topic for the Bridger-Teton National Forest were collected in recent years during the Forest Plan revision process. It is our understanding that Tex Taylor from the University of Wyoming’s Applied Economics Department helped to design and collect data about amenity-based economic values of the Forest. This information (i.e. property values, growth and other economic impacts) should be fully updated, analyzed and included in a revised DEIS. Headwaters Economics based in Bozeman, Montana also has the ability to assess and analyze these types of data.

Inspection and Enforcement

A member of the audience in attendance at the public meeting in Bondurant who identified himself as a police officer, asked whether sufficient federal resources were available to handle inspection and enforcement activities required for the proposed development. The Forest Service’s response suggested that those responsibilities fell mainly on BLM. In fact, the Forest Service’s inspection and compliance responsibilities are extensive and are spelled out quite clearly in the agency’s oil and gas regulations at 36 C.F.R. §§ 228.112 to 228.114. With respect to the question above, 36 C.F.R. § 228.112(e) provides that:

Forest Service officers shall periodically inspect the area of operations to determine and document whether operations are being conducted in

compliance with the regulations in this subpart, the stipulations included in the lease at the direction of the Forest Service, the approved surface use plan of operations, the applicable Onshore Oil and Gas Order, and applicable Notices to Lessees, Transferees, and Operators.

Id. (Exhibit 47).

Although the rule uses the term “periodically” to describe the frequency of inspections, the BTNF Forest Plan contains specific requirements that address monitoring and inspection of mineral development activities, including a provision requiring inspections “[o]nce weekly during construction and development phase. Minimum of twice a year during operation phase.” BTNF LRMP at 333.

Other provisions in the Forest Service’s oil and gas rules cited above discuss imposition of penalties, procedures for the issuance of Notices of Noncompliance and initiating a proceeding for material noncompliance, and other related matters.

Should there be any further question about the Forest Service’s responsibilities with respect to its inspection, enforcement and compliance responsibilities with regard to PXP’s proposal, we refer you to the Regional Forester’s “Letter Enclosure Two - Clarification and Information” (Exhibit 43) “CLARIFICATION on Mitigation, Monitoring, and Budget Levels” wherein he states:

In essence, the commitment of the Regional Forester is that surface-disturbing activities will not occur on the Forest unless adequate funding for mitigation, monitoring, and evaluation is available in the years in which the activity is scheduled, prior years if “baseline” information is needed, and later years if long-term effects must be studied.

Regional Forester letter at 15. In another section of that same letter, the Regional Forester acknowledges a point he says is often raised, namely: “You never enforce oil and gas lease stipulations or you change them to benefit the industry. Why should we believe Forest managers of the Plan about your willingness to enforce restrictions on the agency?” Id. at 19. His response is worth highlighting and is arguably even more relevant today than it was twenty-one years ago, given the broken agency promises with which Wyoming people have become all too familiar. He said:

The law requires Forest Service employees to enforce Plan provisions. Plan provisions contain restrictions on new oil and gas leasing, exploration, development and production. Whether or not enforcement has been good in the past, the answer to the question is, ‘We hear you. We’re worried about our credibility even more than you are. We intend to perform.’

Id. The Forest Service should assure the public that it intends to make good on all of its promises over the years with respect to oil and gas development on the Bridger-Teton. It

will do this first and foremost by ensuring the DEIS contains all the legally required information—including acknowledging stipulations and other authorities it has to condition development, the most accurate and updated scientific information, and thoughtful and honest analyses of impacts and mitigation measures. It should also include in a revised DEIS and as part of a true conservation alternative and ROD, specific (and enforceable) monitoring and inspection steps it will take throughout the life of the project.

Reclamation and Bonding

Neither the DEIS nor Appendix D contains an estimate of the costs of reclamation. The absence of such an estimate is directly contrary to the requirements of the Forest Service’s own oil and gas regulations at 36 C.F.R. § 228.109, and constitutes a significant omission in the Forest Service’s analysis. The relevant section of the rule specifies that:

(a) General. *As part of the review of a proposed surface use plan of operations, the authorized Forest officer shall consider the estimated cost to the Forest Service to reclaim those areas that would be disturbed by operations and to restore any lands or surface waters adversely affected by the lease operations after the abandonment or cessation of operations on the lease.* If at any time prior to or during the conduct of operations, the authorized Forest officer determines the financial instrument held by the Bureau of Land Management is not adequate to ensure complete and timely reclamation and restoration, the authorized Forest officer shall give the operator the option of either increasing the financial instrument held by the Bureau of Land Management or filing a separate instrument with the Forest Service in the amount deemed adequate by the authorized Forest officer to ensure reclamation and restoration.

36 C.F.R. § 228.109(a)(emphasis added)(Exhibit 48).

The rule clearly indicates that the Forest Service “shall consider” the estimated cost of reclamation “as part of the review of a proposed surface use plan of operations.” Id. Yet the DEIS informs the public the analysis of reclamation costs will take place later, and will not be part of the transparent context of this NEPA review: “In consultation with the BLM, the FS will review the bond held by BLM to determine whether it is adequate to cover restoration of NFS lands, and also to determine the need for any additional bonding to cover all reclamation activities and repair any problems that might occur.” See Appendix D, at D-15, ¶ 54.

The Forest Service cannot legally defer the cost analysis required by 36 C.F.R. § 228.109 to some future date. And it cannot hide this important analysis from the public. The estimated cost of reclamation must be considered “as part of the review of a proposed surface use plan of operations,” not at some unspecified date in the future. No exceptions are allowed. The DEIS must include an estimate of the costs to reclaim

disturbed lands and to restore any lands or surface waters adversely affected by the operations, together with an assessment of the adequacy of the bond amount. This is a specific regulatory requirement that cannot be waived or ignored, one which mandates opportunities for public involvement accorded by NEPA.

PXP has secured a Nationwide Bond (43 C.F.R. § 3104(b)) in the amount of one hundred fifty thousand dollars (U.S. \$150,000.00).⁴⁴ As the name implies, this bond covers all of PXP's leases and operations nationwide, not just the Eagle Prospect and Noble Basin project. We note that Appendix D (D-7 to D-10) outlines twenty-four specific reclamation requirements, any combination of which could easily exceed the entire bond amount. Indeed, the estimated cost of properly plugging and abandoning 136 wells and reclaiming 17 well pads, a requirement specified in paragraph 14 on page D-8, would alone greatly exceed the nationwide bond amount.

To illustrate this point, "The cost to plug a well ranges from approximately \$2.50 to \$20 per foot depth of well." February 2011 Government Accountability Office Report: Oil and Gas Bonds, BLM Needs a Comprehensive Strategy to Better Manage Potential Oil and Gas Well Liability ("GAO Report") at 32 (Exhibit 49). For example then, just using an approximate average of \$10/foot for an 11,000-foot well, PXP would spend \$110,000 to plug one well. To plug the entire 136-well field would cost nearly \$15 million. And the cost could be double that if the actual expense to plug was closer to \$20/foot. In addition, reclamation of surface resources can range from \$200 to \$15,000 per acre. *Id.* Given the highly sensitive surface resources in the Upper Hoback, just 300 acres at \$15,000 per acre would cost \$4.5 million to reclaim. Even if this is on the high end, it is clear \$150,000 is an inconsequential figure—especially as it covers PXP's operations nationwide. The Forest Service should address the specific costs—especially in light of the headwater resources at stake—and require a sufficiently high bond. In considering the adequacy of PXP's bond amount, its liabilities in other states must also be factored in.

We ask that the Forest Service review the entire GAO Report, which explained that many BLM officials believe the outdated, minimum bonding amounts "are inadequate for managing potential liability. This is because these minimum amounts may not be sufficient to serve as incentive to encourage operators to comply with plugging and reclamation requirements and the cost to plug and reclaim a well site may far outweigh the value of the bond." *Id.* at 31-32. And in the case of severe liability—such as well blow outs and groundwater or surface water pollution—it is clear that these minimum bonds would not even approach the costs of remediation (assuming remediation is even possible in all cases). We have concerns that PXP is not committed to operating in the most careful and environmentally sensitive manner. *See Oil Company PXP Tried to Limit Safety Measures*, May 2, 2010, American Chronicle, California Political Desk (explaining that PXP opposed measures the federal government proposed

⁴⁴ This nationwide bond amount was set in 1951. *See* February 2011 GAO Report: Oil and Gas Bonds, BLM Needs a Comprehensive Strategy to Better Manage Potential Oil and Gas Well Liability ("GAO Report") at 11 (Exhibit 49). If adjusted to 2009 dollars, this amount would be \$1,060,364. *Id.* at 31. As explained above, even this adjusted figure would be wholly inadequate to cover reclamation costs.

that would have made drill rigs safer) (Exhibit 50). For this reason and for the sensitive resources at stake, we ask the Forest Service to take this issue very seriously.

Further adding to the costs of reclamation, but totally ignored in the DEIS, are the stipulations, terms and conditions set forth in: 1) the Jackson Hole Area Oil and Gas Lease Stipulation, and 2) the 1991 Leasing EA. As part of the analysis of reclamation costs, the Forest Service is required by rule to consider any additional measures that may need to be taken, but here has failed to do so. 36 C.F.R. § 228.109(b) provides:

(b) *Standards for estimating reclamation costs.* The authorized Forest officer shall consider the costs of the operator's proposed reclamation program and the need for additional measures to be taken when estimating the cost to the Forest Service to reclaim the disturbed area.

(emphasis added).

At a minimum, the “additional measures” that must be considered include the mandatory requirements contained in the Jackson Hole Area Oil and Gas Lease Stipulation as well as those set forth in the 1991 Leasing EA. As the Forest Service now knows, the Jackson Hole Area Oil and Gas Lease Stipulation sets a very high bar for reclamation: “The location, alignment and cross section of all roads constructed for the convenience of the lessee’s operations shall be such that after discontinuance of use, they can be obliterated and the area over which they traverse can be restored to its original condition.” JH Stip at ¶3. Thus the reclamation standard imposed by the Jackson Hole Area Oil and Gas Lease Stipulation is to restore to original condition. Yet Appendix D, the operator’s proposed reclamation plan, reflects (and is designed to achieve) a standard of reclamation much lower (and much less expensive) than the “original condition” standard required by the Jackson Hole Area Oil and Gas Lease Stipulation. It is clear, even to the most casual of readers, that Appendix D will not achieve the reclamation standards required by the Jackson Hole Area Oil and Gas Lease Stipulation. And the costs of restoring disturbed areas to the standard required by this stipulation (or for that matter, to any standard) have not been analyzed in the DEIS. To give just one example, the removal and disposal of hundreds of tons of aggregate placed on the roads during construction will likely exceed hundreds of thousands of dollars. There is no analysis of this in the DEIS.

The terms and conditions set forth in the 1991 Leasing EA impose additional reclamation responsibilities going well beyond those contained in the Jackson Hole Area Oil and Gas Lease Stipulation, and are certainly far more stringent than anything presented by the operator in Appendix D. Those requirements include, for example, “reestablishment or improvement of wildlife and fisheries habitat” and “measures to restore resource values, including recreation, scenic, watershed, wildlife and fisheries, to the extent practical.” Leasing EA at 9. None of these additional reclamation obligations contained in the 1991 Leasing EA are disclosed in the DEIS, but must be, along with an analysis and estimate of the cost to implement.

Lastly, and perhaps most importantly, the DEIS fails to consider the cost of reclaiming/restoring ground and surface waters contaminated or otherwise adversely affected by drilling operations, including areas outside/off the lease. Attached for your information is BLM Instruction Memorandum No. 2006-206: Federal Oil and Gas Lease Operations and Bonding. It provides, in part, that:

The Authorized Officer (AO) has the authority to require an increase to an existing statewide or nationwide bond, as well as an individual lease bond, to cover a specific liability on one or several Federal leases. Liabilities may include *produced water impoundment structures, wells with significant liabilities, surface production facilities, or other surface uses with significant reclamation liabilities*. This type of bond increase can be accomplished via a bond rider that is reserved solely for the liability specified, so that other demands on the statewide or nationwide bond could not draw on that increased amount of the bond.

The AO also has the authority to require bonding for reclamation of off-lease lands or surface waters that may be adversely affected by operations necessary on the leasehold. Examples of off-lease liability could include disposal pits, on-channel reservoirs or produced water impoundments constructed on private lands for use by one or more Federal leases. Bonding for these types of off-lease liabilities can be covered by a bond rider attached to a lease, a statewide or a nationwide oil and gas bond and should specify the specific off-lease liability to be covered. The AO must take into account the existence of any other bond covering these off-lease liabilities required by BLM for example, a 2805 right-of-way bond, the State or other jurisdiction, in order to prevent duplication of bond coverage.

Id. (Exhibit 51).

The DEIS indicates that PXP's operations will include numerous sump pits and impoundments for the containment of produced water, yet none of these features are considered in the context of setting an appropriate bond amount. It is clear that given the location of PXP's proposed drilling operation at the headwaters of a congressionally-designated Wild and Scenic River, in the center of an inventoried roadless area in the southern greater Yellowstone ecosystem that supports a full array of wildlife species and offers prized backcountry hunting and recreational opportunities, and in a place that sits upon a stream flow source area for a sole source aquifer, *that the stakes don't get any higher*. PXP's operations threaten to destroy these resources. It is difficult to put a price on resources most of us deem priceless—but it is the Forest Service's duty to try. It has failed to do so in this DEIS and we ask that you protect the public (and our health and safety) by addressing reclamation and bonding sufficiently and in a transparent manner.

Lease Restrictions and Wildlife Values Mapping – A Tool for Developing a Conservation Alternative

In this final section we present several maps to the Forest Service to illustrate many of the lease stipulations and wildlife issues discussed in these comments. These maps will hopefully help identify factors to consider if new well pad locations are identified as part of a true conservation alternative in a supplemental DEIS. All maps referenced below are attached at the very end of the Set of Exhibits.

Map 1: PXP Master Development Plan Area and Surrounding Landscape

This map is provided simply to show the MDP location in reference to the region in Wyoming.

Map 2: PXP Master Development Plan: No Surface Occupancy and Well Pad Placement Restrictions Due to JH Stipulation and Lynx

This map depicts some of the most serious restrictions to well pad placements within the project area.

- a) The first major layer (green) shows technical no surface occupancy (NSO) lease stipulations for slopes greater than 40 percent, unsuitable or unstable soils and landslide areas.
- b) The next layer (blue) shows the administrative NSO stipulation for segments of the Upper Hoback River deemed eligible for wild and scenic river classification.⁴⁵
- c) Next, the striped sections along some roads represent one of the requirements of the Jackson Hole Area Oil and Gas Lease Stipulation, namely wells are prohibited within 1,250' of public roads. This creates a 2,500' buffer along these roads.⁴⁶ Proposed well pads that appear to fall within this prohibited zone are marked with the dark circle/X. There appear to be five of these improperly sited pads.
- d) Finally, given the significant concerns raised by independent lynx biologists and the Wyoming Game and Fish Department about the proposal's impacts to Canada lynx, we identify the four well pads that are located in the most important habitat for this species. These well pads are marked with a red circle/X. These pad locations should be moved. We would note that one of these appears to fall into an NSO area as well, while another also falls within the Jackson Hole Area Oil and Gas Lease Stipulation road buffer zone.

⁴⁵ Both categories of NSO shape files were obtained from the Bridger-Teton National Forest through a Freedom of Information Act (FOIA) request filed by the Greater Yellowstone Coalition.

⁴⁶ Shape files for the road configuration were obtained from the BTNF as representative of its forest system roads, and appears to match the same road system identified in the 1991 Leasing EA.

This map demonstrates how legal lease stipulations and critical habitat for Canada lynx⁴⁷ should restrain the placement of well pads for the proposed project at the outset. More than 50 percent of the project area is unavailable for the siting of well pads. Although this may appear stringent, NSO stipulations were clearly identified in the 1991 Leasing EA/Decision, and that analysis repeatedly emphasized the nature of this area as “difficult or impossible” to access. All of these NSO stipulations were attached to the leases when they were sold in 1994, and the complete Leasing EA/Decision was referenced in an attached stipulation. Moreover, every lease is granted “subject to” non-discretionary statutes like the Endangered Species Act. 43 C.F.R. § 3101.1-2. The white areas within the MDP area are “unrestricted by lease stipulations,” but as will be described in more detail below, other restrictions should apply in order to protect other important wildlife values.

Map 2a: Same as Map 2 with 500-foot Wetland/Riparian Buffer

The Wyoming Game and Fish Department (WGFD) has recommended a 500-foot NSO buffer around riparian areas to protect important moose habitat, since nearly the entire project area falls within crucial moose winter range, as well as calving habitat. This buffer is a component of Alternative C. DEIS Figure 3-9 and Figure 3-7. Although described in some places as a buffer around both riparian areas and wetlands, the referenced Figures seem to only show this buffer around riparian areas. See DEIS ES-24. Map 2a shows this 500-foot buffer around both wetlands and riparian areas.⁴⁸ It differs from the DEIS locations somewhat, probably due to the additional information utilized from field surveys for the DEIS, and screening levels. Map 2a did not screen out small patches.

As noted in the technical comments submitted by Mr. Alldredge, the 500-foot riparian buffer for protection of moose habitat is not supported by scientific study. His recommendation, based on the scientific literature, is a 500-meter buffer. Nevertheless, we include the lesser WGFD buffer as another level of protection/NSO that should be considered to safeguard moose. Most of the areas identified in this riparian buffer already fall within areas restricted by the lease stipulations illustrated in Map 2.

Map 3: PXP Master Development Plan: Moose, Elk, Pronghorn and Mule Deer Habitat and Areas of Restricted Well Pad Placement.

This map overlays Map 2. The gold area represents the combined NSO and Jackson Hole Area Oil and Gas Lease Stipulation road buffer stipulations from Map 2. Thus, all of the white (on national forest land) represents areas still possibly open for well pad placement. On top of this, we have layered the wildlife habitat data available from WGFD for four big game species that use the project area.

⁴⁷ The Wyoming Game and Fish Department wildlife database for important lynx habitat shows a much greater amount of land area, and a broader spread of that area, than the concentrated areas we have highlighted within our comments.

⁴⁸ Obtained through the US Fish and Wildlife Service National Wetlands Inventory database.

These data are far more extensive than any mapped in the DEIS, but they still have limitations. As noted earlier in our comments, there appears to be migration through and use of the project area by the Piney Elk Herd Unit that utilizes the Franz elk feedground to the east. This information is not represented here. Please see Exhibit 26 that illustrates elk use of and movement into the project area from the east. Also, the pronghorn migration data here do not represent the latest collared pronghorn research available from the Pinedale Anticline Project Office (PAPO). We were unable to obtain that information. Additionally, and in contrast to the mule deer data that shows a wide high-use migratory segment, the migration pathway lines for elk, moose and pronghorn on this map do not represent the actual breadth of the migration habitat use. Despite these limitations, the map is nevertheless helpful for identifying high and lower value wildlife habitat.

Various wildlife values are represented through different types of hatch marks and lines, and in combination by increasing darkness, indicate areas of overlapping values, and thus higher-value habitat, potentially. It is then important to identify how these lines combine on white portions of the project area to determine where, possibly, well pads could be located that will have the least impact to wildlife. This is not a frivolous exercise. The Jackson Hole Area Oil and Gas Lease Stipulation, aside from road buffers, makes very clear that oil and gas development in this area must “offer the least possible disturbance to wildlife.” (Exhibit 45). The Leasing EA/Decision elaborates further in its stipulation chart stating: “Operations may be limited within key habitat components during periods of use by wildlife....Surface disturbing activities and facilities may be moved or centralized to minimize the impacts to wildlife.” Leasing EA/Decision at 8.

White areas on the map represent still potentially available well pad locations in the MDP area. These include: the north/northeast portion of the national forest lease area; along the western side above the Upper Hoback River and Noble Basin itself; and spots in the central part of the MDP area and east/central. High wildlife values appear to concentrate greatly in the north, south of the McNeel feedground and in combination with the high-use mule deer migration segment there, appears to rule out those north/northeastern white areas. The Upper Hoback River corridor and Noble Basin areas appear to not have much wildlife value overlap, but this is due to the nature of the migratory path lines drawn there. This general area appears to have high value for elk migrations and pronghorn as well. In combination with some important mule deer stop-over sites, this region of the MDP area appears to not be appropriate for development either.

This leaves open some small white areas in the central portion of the MDP area, where only moose crucial winter range and elk and moose calving areas overlap. Since these wildlife values are time limited to winter and spring, it may be possible that the seasonal restrictions from November 15 to June 30 will provide the necessary protections to allow for some limited oil and gas activity. Areas further to the south, near the Hoback Rim require protection for lynx and lynx habitat, and should be safeguarded at all costs.

Summary

The maps enclosed are provided to illustrate the numerous restrictions already in existence regarding placement of project wells pads, facilities and roads; and to present a greater amount of wildlife data than what was analyzed in the DEIS. If a true conservation alternative will be considered in a supplemental DEIS, then this type of mapping exercise is necessary to identify possible locations that provide some opportunity for natural gas development, while still protecting resources as required by lease stipulations, non-discretionary statutes and Forest Plan requirements. It is evident from these maps that the wildlife values of the Upper Hoback are extremely high and that as a result of lease constraints, it will be very difficult access the MDP area and difficult to site well pads and natural gas facilities there.

CONCLUSION

Our comments speak to the incredible values of the Upper Hoback, and the deep appreciation and affinity people have for this part of the Bridger-Teton National Forest. Because the nature and scope of PXP's proposal is inherently at odds with these values and puts them at tremendous risk, we have significant concerns about its proposal as currently designed. We ask the Forest Service to revise the DEIS and to develop a true conservation alternative that will safeguard to the greatest extent possible, the many sensitive resources at stake. The Upper Hoback—and the public whose land it is—deserve nothing less. Thank you for considering our comments.

Sincerely,

Lisa McGee, Staff Attorney
Wyoming Outdoor Council
937 Sandcherry Way
Jackson, WY 83001

Dan Heilig, Staff Attorney
Western Resource Advocates
262 Lincoln Street
Lander, WY 82520

Stephanie Kessler
The Wilderness Society
304 Main Street
Lander, WY 82520

And on behalf of:

Lloyd Dorsey
Greater Yellowstone Coalition
P.O. Box 4857
Jackson, WY 83001

Louise Lasley
Jackson Hole Conservation Alliance
P.O. 2728
Jackson, WY 83001

Peter Nelson
Defenders of Wildlife
1130 17th Street, N.W.
Washington, D.C. 20036

Erik Molvar
Biodiversity Conservation Alliance
P.O. Box 1512
Laramie, WY 82073

Liz Howell
Wyoming Wilderness Association
P.O. Box 6588
Sheridan, WY 82801