September 22, 2008

Director (210)
Attention: Brenda Williams
P.O. Box 66538
Washington, D.C. 20035

Sent via U.S. Post, Certified Mail with Return Receipt Requested

Re: Protest of the Vernal Field Office Proposed Resource Management Plan and Final Environmental Impact Statement, released August 2008

To Ms. Williams:

Please accept this timely protest of the Bureau of Land Management's Vernal Field Office Proposed Resource Management Plan and Final Environmental Impact Statement (PRMP). This protest is submitted by the following protestants:

Southern Utah Wilderness Alliance (SUWA)
425 East 100 South
Salt Lake City, Utah 84111
(801) 486-3161

The Wilderness Society (TWS)
1660 Wynkoop St., Suite 850
Denver, Colorado 80202
(303) 650-5818

Sierra Club – Utah Chapter
2159 South 700 East, Suite 210
Salt Lake City, Utah 84106
(801) 467-9297

Center for Native Ecosystems
1536 Wynkoop St., Suite 303
Denver, Colorado 80202
(303) 546-0214

Public Employees for Environmental Responsibility (PEER) – Southwest Chapter
738 N. 5th Ave., Suite 210
Tucson, Arizona 85705
(520) 906-2159

SUWA and TWS have a long-standing interest in the management of Bureau of Land Management (BLM) lands in Utah and often participate in the decision-making process for project proposals and actions that could potentially affect lands included in the Utah Wilderness Coalition's wilderness proposal—America's Red Rock Wilderness Act (ARRWA). SUWA members and staff enjoy a myriad of recreation on BLM-managed public lands, including hiking, biking, nature-viewing, photography, and the quiet contemplation in the solitude offered by wild places. SUWA and TWS have and will continue to participate in the planning process for the Vernal PRMP. SUWA and TWS submitted separate comments on the Draft RMP in 2005 and collaborated on the Supplemental EIS comments in 2008. *See, e.g.,* SUWA's comments to the Vernal Draft RMP (attached as Exhibits A through C[1]). The additional co-protestants also have interests in BLM's management of the Uintah Basin and/or have also participated in the planning process for the Vernal PRMP.

We are protesting several different issues and aspects of the PRMP; these issues are listed below along with the location of these discussions in this document. Our discussion of each of these issues concisely states why we believe the State Director's decisions are wrong and the corresponding portions of the PRMP at issue.

[1] The attachments and exhibits originally submitted with SUWA's or TWS's comments to the Draft and Supplemental RMP are not attached here as hard copies, but are included on the accompanying CD.

Attached Exhibits
(Maps included with hard copy, the remainder is included on the accompanying disk)

A. SUWA Comments on Vernal Draft RMP
B. TWS Comments on Vernal Draft RMP
C. SUWA & TWS Comments on Vernal Supplemental Draft RMP
D. Map of Route Designation Impacts on Potential ACECs
E. Map of Route Designation Impacts on Lands with Wilderness Characteristics
F. Map of Oil and Gas Designations on Lands with Wilderness Characteristics
G. Map of Oil and Gas Designations on Potential ACECs
H. Jarbidge Resource Management Plan AMS
I. Jarbidge Resource Management Plan ACEC Report
J. Jarbidge Resource Management Plan Maps
K. Letter from BLM to The Wilderness Society dated February 12, 2004
L. Braun Sage Grouse Study
M. Selection from EPA comments on Oil Shale/Tar Sands PEIS
N. Selection from West Tavaputs Plateau EIS
O. Kreckel, Ken "Directional Drilling"
P. Nicholls email to Megan Williams
Q. Megan Williams *curricula vitae*
R. TMDL List
S. Map of VRM Classification Impacts on Potential ACECs
T. TWS Expert Draft Comments on Air Quality – Stamper
U. TWS Expert Draft Comments on Cultural Resources – Allison
V. TWS Expert Draft Comments on Socioeconomic Impacts – Power
W. TWS Expert Draft Comments on Wildlife – Wagner
X. TWS Expert Draft Comments on Geology – Merschat
Y. EPA Comment on Chapita – Stagecoach Wells Project

I. Applicable Legal Standards

The following is a brief synopsis of the legal standards which apply to the claims brought forward in this protest. Detailed descriptions of individual violations follow and will refer to and/or rely upon the information set out below.

A. National Environmental Policy Act

The National Environmental Policy Act (NEPA), 42 U.S.C. § 4321 *et seq*., requires, among other things, agencies to conduct environmental analysis of the direct, indirect, and cumulative impacts of proposed actions, as well as mitigation measures, consider a range of reasonable alternatives (including an alternative that minimizes environmental impacts), and solicit and respond to public comments.

1. Reasonable Range of Alternatives Must Be Considered

The range of alternatives is "the heart of the environmental impact statement." 40 C.F.R. § 1502.14. NEPA requires BLM to "rigorously explore and objectively evaluate" a range of alternatives to proposed federal actions. *See* 40 C.F.R. §§ 1502.14(a), 1508.25(c). "An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action." *Nw. Envtl. Defense Center v. Bonneville Power Admin*., 117 F.3d 1520, 1538 (9th Cir. 1997). An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. *See, e.g., Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein). For this PRMP, the consideration of more environmentally protective alternatives is also consistent with the Federal Land Policy and Management Act's (FLPMA) requirement that BLM "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. §1732(d)(2)(a).

NEPA requires that an actual "range" of alternatives is considered, such that the Act will "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant's proposed project)." *Col. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999), citing Simmons v. U.S. Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997). This requirement prevents the environmental impact statement (EIS) from becoming "a foreordained formality." *City of New York v. Dep't of Transp.*, 715 F.2d 732, 743 (2nd Cir. 1983). *See also Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002).

Further, in defining what is a "reasonable" range of alternatives, NEPA requires consideration of alternatives "that are practical or feasible" and not just "whether the proponent or applicant likes or is itself capable of carrying out a particular alternative"; in

fact, "[a]n alternative that is outside the legal jurisdiction of the lead agency must still be analyzed in the EIS if it is reasonable." Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, *Questions 2A and 2B*, *available at* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm; 40 C.F.R. §§ 1502.14, 1506.2(d).

2. Hard Look Must Be Appropriate to Proposed Action and Include Direct, Indirect, and Cumulative Impacts

NEPA dictates that BLM take a "hard look" at the environmental consequences of a proposed action and the requisite environmental analysis "must be appropriate to the action in question." *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). In order to take the "hard look" required by NEPA, BLM is required to assess impacts and effects that include: "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, *whether direct, indirect, or cumulative*." 40 C.F.R. § 1508.8. (emphasis added). NEPA regulations define "cumulative impact" as:

> the impact on the environment which results from the *incremental impact of the action when added to other past, present, and reasonably foreseeable future actions* regardless of what agency (Federal or non-Federal) or person undertakes such other actions. *Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time*.

40 C.F.R. § 1508.7 (emphasis added).

To satisfy NEPA's hard look requirement, the cumulative impacts assessment must do two things. First, BLM must catalogue the past, present, and reasonably foreseeable projects in the area that might impact the environment. *Muckleshoot Indian Tribe v. U.S. Forest Service*, 177 F.3d 800, 809–10 (9th Cir. 1999). Second, BLM must analyze these impacts in light of the proposed action. *Id.* If BLM determines that certain actions are not relevant to the cumulative impacts analysis, it must "demonstrat[e] the scientific basis for this assertion." *Sierra Club v. Bosworth*, 199 F.Supp.2d 971, 983 (N.D. Ca. 2002). A failure to include a cumulative impact analysis of actions within a larger region will render NEPA analysis insufficient. *See, e.g., Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1078 (9th Cir. 2002) (analysis of root fungus on cedar timber sales was necessary for an entire area).

3. Baseline Information Must Be Sufficient to Permit Analysis of Impacts

Importantly, 40 C.F.R. § 1502.15 requires agencies to "describe the environment of the areas to be affected or created by the alternatives under consideration." Establishment of

baseline conditions is a requirement of NEPA. In *Half Moon Bay Fisherman's Marketing Ass'n v. Carlucci*, 857 F.2d 505, 510 (9th Cir. 1988), the Ninth Circuit states that "without establishing . . . baseline conditions . . . there is simply no way to determine what effect [an action] will have on the environment, and consequently, no way to comply with NEPA." The court further held that "[t]he concept of a baseline against which to compare predictions of the effects of the proposed action and reasonable alternatives is critical to the NEPA process."

4. Mitigation Measures Must Be Described with Specificity and Must Include Commitments for Action

NEPA requires that BLM discuss mitigation measures in an EIS. 40 C.F.R. §§ 1502.14, 1502.16. Also, under NEPA, BLM's Finding of No Significant Impact (FONSI) is lawful only if "BLM has made a convincing case that no significant impact will result there from or that any such impact will be reduced to insignificance by the adoption of appropriate mitigation measures." *Defenders of Wildlife*, 152 IBLA 1, 6 (2000) (citations omitted). In general, in order to show that mitigation will reduce environmental impacts to an insignificant level, BLM must discuss the mitigation measures "in sufficient detail to ensure that environmental consequences have been fairly evaluated." *Communities, Inc. v. Busey*, 956 F.2d 619, 626 (6th Cir. 1992). Simply identifying mitigation measures, without analyzing the effectiveness of the measures, violates NEPA. Agencies must "analyze the mitigation measures in detail [and] explain how effective the measures would be . . . A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA." *Nw. Indian Cemetery Protective Ass'n v. Peterson*, 764 F.2d 581, 588 (9th Cir. 1985), *rev'd on other grounds*, 485 U.S. 439 (1988). NEPA also directs that the "possibility of mitigation" should not be relied upon as a means to avoid further environmental analysis. Council on Environmental Quality, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, *available at* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm; *Davis v. Mineta*, 302 F.3d at 1125.

Further, general statements that BLM will conduct monitoring are also not an appropriate form of mitigation. Simply monitoring for expected damage does not actually reduce or alleviate any impacts.

5. BLM Must Assess Alternatives Using Quality Data and Scientifically Acceptable Methods of Analysis, Which Are Disclosed to the Public for Comment

BLM cannot evaluate consequences to the environment, determine avoidable or excessive degradation, and assess how best to designate and protect Areas of Critical Environmental Concern (ACECs) without adequate data and analysis. NEPA's hard look at environmental consequences must be based on "accurate scientific information" of "high quality." 40 C.F.R. § 1500.1(b). Essentially, NEPA "ensures that the agency, in reaching its decision, will have available and will carefully consider detailed information concerning significant environmental impacts." *Robertson v. Methow Valley Citizens*

Council, 490 U.S. at 349. The Data Quality Act and BLM's interpreting guidance expand on this obligation, requiring that influential scientific information use "best available science and supporting studies conducted in accordance with sound and objective scientific practices." Treasury and General Government Appropriations Act for Fiscal Year 2001, Pub.L. No. 106-554, § 515. *See also* Bureau of Land Management, Information Quality Guidelines, *available at* http://www.blm.gov/nhp/efoia/data_quality/guidelines.pdf .

BLM's internal guidance also recognizes the importance of accumulation and proper analysis of data. The agency's Land Use Planning Handbook emphasizes the importance of using sufficient, high quality data and analytical methods, and making those available to the public. Appendix H of the Land Use Planning Handbook also directs: "The data and resultant information for a land use plan must be carefully managed, documented, and applied to withstand public, scientific, and legal scrutiny." Appendix F-1 of the Handbook emphasizes the importance of providing a clear explanation of how analysis was conducted, stating: "Regardless of its source, sufficient metadata (data about data) should be provided to clearly determine the quality of the data, along with any limitations associated with its use." In other words, appropriate analysis of data is as important as the accumulation of sufficient data.

Further, both data and analyses must be disclosed to the public, in order to permit the "public scrutiny" that is considered "essential to implementing NEPA." 40 C.F.R. § 1500.1(b). BLM's guidelines for implementing the Data Quality Act also reiterate that making data and methods available to the public permits independent reanalysis by qualified member of the public. In this regard, NEPA "guarantees that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision." *Robertson v. Methow Valley Citizens Council*, 490 U.S. at 349. NEPA not only requires that BLM have detailed information on significant environmental impacts, but also requires that the agency make this information available to the public for comment. *Inland Empire Public Lands Council v. U.S. Forest Service*, 88 F.3d 754, 757 (9th Cir. 1996).

Where there is scientific uncertainty, NEPA imposes three mandatory obligations on BLM: (1) a duty to disclose the scientific uncertainty; (2) a duty to complete independent research and gather information if no adequate information exists unless the costs are exorbitant or the means of obtaining the information are not known; and (3) a duty to evaluate the potential, reasonably foreseeable impacts in the absence of relevant information, using a four-step process. Unless the costs are exorbitant or the means of obtaining the information are not known, the agency must gather the information in studies or research. 40 C.F.R. § 1502.22. Courts have upheld these requirements, stating that the detailed environmental analysis must "utiliz[e] public comment and the best available scientific information." *Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1171-72 (10th Cir. 1999) (citing *Robertson v. Methow Valley Citizens' Council*, 490 U.S. at 350); *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1521-22 (10th Cir. 1992).

As the Supreme Court has explained, while "policymaking in a complex society must account for uncertainty," it is not "sufficient for an agency to merely recite the terms 'substantial uncertainty' as a justification for its actions." Motor Vehicle Manufacturers Ass'n v. State Farm Mutual Automobile Ins. Co., 463 U.S. 29, 52 (1983). Instead, in this context, as in all other aspects of agency decision-making, "[w]hen the facts are uncertain," an agency decision-maker must, in making a decision, "identify the considerations he found persuasive." *Small Refiner Lead Phase-Down Task Force v. EPA*, 705 F.2d 506, 520 (D.C. Cir. 1983), *quoting Ind. Union Dept., AFL-CIO v. Hodgson*, 499 F.2d 467, 476 (D.C. Cir. 1974).

BLM must provide the public with an explanation of both the data used in analyzing the potential effects of management alternatives and the methods used to conduct the analysis, as well as an opportunity to provide comments and propose corrections or improvements.

6. BLM Must Respond to Public Comments and Specifically Address Scientific Uncertainty and/or Differing Scientific Opinions

Under Council for Environmental Quality (CEQ) regulations implementing NEPA, BLM must respond to substantive comments made during the public comment period for the EIS. 40 C.F.R. § 1503.4. An agency preparing a final environmental impact statement shall assess and consider comments both individually and collectively, and shall respond by one or more of the means listed below, stating its response in the final statement. Possible responses are to:

1. Modify alternatives including the proposed action.
2. Develop and evaluate alternatives not previously given serious consideration by the agency.
3. Supplement, improve, or modify its analyses.
4. Make factual corrections.
5. Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.

40 C.F.R. § 1503.4(a). Importantly, while agencies must attach comments considered "substantive" to the EIS (40 C.F.R. § 1503.4(b)), a comment need not be substantive to trigger the agency's response requirement.

NEPA requires that, in preparing a final EIS, BLM must discuss "any responsible opposing view which was not adequately discussed in the draft statement and indicate the agency's response to the issue raised." 40 C.F.R. § 1502.9. The Council on Environmental Quality interprets this requirement as mandating that an agency respond in a "substantive and meaningful way" to a comment that addresses the adequacy of analysis performed by the agency. Forty Most Asked Questions Concerning CEQ's

National Environmental Policy Act Regulations. [2] BLM's NEPA Handbook elaborates upon this requirement, providing that: comments relating to inadequacies or inaccuracies in the analysis or methodologies used must be addressed; interpretations of analyses should be based on professional expertise; and where there is disagreement within a professional discipline, "a careful review of the various interpretations is warranted." Handbook H-1790-1, Section V.B.4.a., p. V-11.

Failure to disclose and thoroughly respond to differing scientific views violates NEPA and obligates an agency to perform a compliant environmental analysis prior to approving a proposed action. *See*, *Robertson v. Methow Valley Citizens Council*, *supra* (EIS should reflect critical views of others to whom copies of draft were provided and respond to opposing views); *Sierra Club v. Bosworth*, 199 F.Supp.2d 971 (N.D.Cal. 2002) (failure to disclose and analyze scientific opinion that opposed post-fire logging violates NEPA); *Seattle Audubon Society v. Lyons*, 871 F.Supp. 1291, 1381 (W.D.Wash. 1994) (An EIS must "disclose scientific opinion in opposition to the proposed action, and make a good faith, reasoned response to it."); *Seattle Audubon Society v. Moseley*, 798 F.Supp. 1473, 1482 (W.D.Wash. 1992) (NEPA requires that the agency candidly disclose in its EIS the risks of its proposed action, in its EIS the risks of its proposed action, and that it respond to the adverse opinions held by respected scientists.").

Further, as discussed above, where there is scientific uncertainty, BLM cannot simply dismiss opposing scientific opinion and authority, but must provide a discussion of the support for its decision not to rely upon it. Accordingly, BLM must complete a conforming NEPA analysis that fully considers and responds to public comments, including opposing scientific opinion, and justifies any contradicting conclusions.

7. BLM Must Present Environmental Analysis and Information in a Manner that Facilitates, Rather than Impedes, Public Comment

NEPA requires BLM to "[e]ncourage and facilitate public involvement in decisions which affect the quality of the human environment." 40 C.F.R. § 1500.2(d). A critical part of this obligation is presenting data and analysis in a manner that will enable the public to thoroughly review and understand the analysis of environmental consequences. For this reason, NEPA requires the use of high quality data and the disclosure of the methodology underlying proposed decisions, as discussed above, and also explicitly requires that an EIS "be written in plain language" and presented in a way that "the public can readily understand." 40 C.F.R. § 1502.8. These requirements are specifically reinforced for an EIS; the "primary purpose" of this document is "to allow for informed public participation and informed decision making" so its language must be "clear" and "supported by evidence that the agency has made the necessary environmental analyses." *Earth Island Inst. v. U.S. Forest Service*, 442 F.3d 1147, 1160 (9th Cir. 2006); 40 C.F.R. § 1502.1.

[2] The U.S. Court of Appeals for the Tenth Circuit has found that the "Forty Questions" are "persuasive authority offering interpretive guidance" on NEPA from CEQ. *Davis v. Mineta*, 302 F.3d 1104, 1125 (10th Cir. 2002).

Therefore, "an EIS must be organized and written so as to be readily understandable by governmental decisionmakers and by interested non-professional laypersons likely to be affected by actions taken under the EIS." *Oregon Environmental Council v. Kunzman*, 817 F.2d 484, 493 (9th Cir. 1987). Accordingly, where a plan is so unclear as to not permit review and understanding, it may be deemed "incomprehensible" and in violation of NEPA. See, e.g., *California, ex rel. Lockyer v. U.S. Forest Service*, 465 F.Supp. 2d 942, 949-950 (N.D.Cal. 2006) (management plan for Giant Sequoia National Monument was "incomprehensible" because it referenced but did not explain its reliance on certain law and regulations, and because it contained conflicting statements regarding applicable standards for management, which were never clarified).

Where the PRMP and FEIS rely upon existing authority, they must include a sufficient explanation of how such authority actually supports the action taken – especially where such authority (such as the ORV regulations requiring the agency to protect other resources and avoid conflicts with other recreationists) appears to require different actions and where these issues have already been highlighted to BLM in comments. Similarly, where the PRMP and FEIS include conflicting information for the same resources (such as acreage or management prescriptions) or conflicting conclusions about how decisions may harm and protect resources at the same time, the agency must not only correct errors, but also fully explain its conclusions and ultimate management decisions. Numerous inconsistencies in data, conclusions and compliance were raised in our comments on the DRMP and DEIS. The PRMP must correct these deficiencies and fully comply with the requirements of NEPA.

B. Federal Land Policy and Management Act

The Federal Land Policy and Management Act (FLPMA), 43 U.S.C. § 1701 *et seq*., is BLM's organic act and guides the agency in managing public lands, drafting land use plans, and ensuring that the public has been involved in such decisions.

1. Duty to Inventory and Land Use Planning Requirements

FLPMA imposes a duty on BLM to identify and protect the many natural resources found on public lands. FLPMA requires BLM to inventory its lands and their resources and values, "including outdoor recreation and scenic values." 43 U.S.C. § 1711(a). FLPMA also obligates BLM to take this inventory into account when preparing land use plans, using and observing the principles of multiple use and sustained yield. *See* 43 U.S.C. § 1712(c)(4), (1). Through management plans, BLM can and should protect wildlife, scenic values, recreation opportunities, and wilderness character in the public lands through various management decisions, including by excluding or limiting certain uses of the public lands. *See* 43 U.S.C. § 1712(e). This is necessary and consistent with FLPMA's definition of multiple use, which identifies the importance of various aspects of wilderness characteristics (such as recreation, wildlife, and natural scenic values) and requires BLM's consideration of the relative values of these resources but "not

necessarily to the combination of uses that will give the greatest economic return." 43 U.S.C. § 1702(c).

BLM's obligations in developing a land use plan include: applying principles of multiple use and sustained yield, prioritizing designation and protection for ACECs, considering the relative scarcity of values involved and the availability of alternative means and sites for realization of those values, weighing long-term benefits against short-term benefits to the public, and complying with pollution control laws.

2. Unnecessary or Undue Degradation Standard

FLPMA requires that: "In managing the public lands the [Secretary of Interior] shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. § 1732(b). In this context, because the imperative language "shall" is used, "Congress [leaves] the Secretary no discretion" in how to administer FLPMA. *Natural Resources Def. Council v. Jamison*, 815 F.Supp. 454, 468 (D.D.C. 1992). BLM's duty to prevent unnecessary or undue degradation (UUD) under FLPMA is mandatory, and BLM must, at a minimum, demonstrate compliance with the UUD standard. *See Sierra Club v. Hodel*, 848 F.2d 1068, 1075 (10th Cir. 1988) (the UUD standards provides the "law to apply" and "imposes a definite standard on the BLM").

C. Off-Road Vehicle Regulations and Executive Orders

BLM must ensure that it is in compliance with Executive Orders and agency regulations implementing these Orders in relation to off-road vehicle (ORV) use on public lands. Executive Order 11644 (1972) as amended by Executive Order 11989 (1977) and BLM's regulations (43 C.F.R. § 8342.1) require BLM to ensure that areas and trails for off-road vehicle use are located:

- to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability;
- to minimize harassment of wildlife or significant disruption of wildlife habitats, and especially for protection of endangered or threatened species and their habitats;
- to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands; and
- outside officially designated wilderness areas or primitive areas and in natural areas only if the agency determines that off-road vehicle use will not adversely affect their natural, aesthetic, scenic, or other values for which such areas are established.

These Executive Orders put the burden of proof on BLM to ensure that sensitive and protected conservation lands are not harmed by ORV use. Under these directives, BLM should start from the position of evaluating all uses of lands that may harm or conflict with the values mentioned above as closed to ORV use. The next step is to take a hard

look at a reasonable range of alternatives under NEPA with adequate consideration of public input. BLM should provide ample evidence to show how they have located ORV areas and trails to minimize harm, or otherwise keep these areas closed to ORV use. Only after such deliberation has occurred can the agency sufficiently state that they have complied with their legal obligations in deciding how to designate certain ORV management areas.

D. National Historic Preservation Act

BLM has special stewardship responsibilities with respect to cultural resources on land that is under the agency's "jurisdiction or control" under the National Historic Preservation Act (NHPA), 16 U.S.C. § 470 *et seq*. A federal "undertaking" triggers the Section 106 process under NHPA, which requires the lead agency to identify historic properties affected by the action and to develop measures to avoid, minimize, or mitigate any adverse effects on historic properties. 16 U.S.C. § 470f; 36 C.F.R. §§ 800.4, 800.6. Because the drafting of a land use plan is an "undertaking," Section 106 review must occur prior to approving the plan in the record of decision.

The NHPA stipulates that consultation among agency official(s) and other parties with an interest in the effects of the undertaking on historic properties commence at the early stages of project planning, focusing on the opportunity to consider a broad range of alternatives. 36 C.F.R. § 800.1(c). Compliance with Section 106 is applicable "at *any stage* where the Federal agency has authority . . . to provide meaningful review of . . . historic preservation goals." *Morris County Trust for Historic Preservation v. Pierce*, 714 F.2d 271, 280 (3d Cir. 1983) (emphasis added); *Vieux Carre Property Owners v. Brown*, 948 F.2d 1436, 1444–45 (5th Cir. 1991). Therefore, the agencies cannot rely on later review process as a justification for refusing to comply with the NHPA.

To satisfy the Section 106 compliance requirement, the Responsible Agency Official must consult with the State Historic Preservation Officer(s) (SHPO) and appropriate Tribes and/or Tribal Historic Preservation Officer(s) (THPO). In addition, Section 106 regulations require BLM to "make a reasonable and good faith effort to carry out appropriate identification efforts, which may include background research, consultation, oral history interviews, sample field investigation, and field survey." 36 C.F.R. § 800.4(b)(1). As part of this duty, BLM must account for information communicated to it by parties expressing an interest in historic properties affected by the undertaking. *Pueblo of Sandia v. United States*, 50 F.3d 856, 860–61 (10th Cir. 1995).

Section 110 of the NHPA obligates agencies to identify sites that may be eligible for listing on the National Register. BLM should analyze the information obtained to identify eligible sites and commit to or require commitments for further inventory and submissions of proposals for listing. BLM should maximize the opportunity to obtain and use information on cultural resources to fulfill its obligations under the NHPA and increase our knowledge and protection of our cultural heritage.

E. Endangered Species Act

Congress enacted the Endangered Species Act (ESA) as "a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b). As the Supreme Court observed, the statute "afford[s] endangered species the highest of priorities." *Tenn. Valley Authority v. Hill*, 437 U.S. 153, 194 (1978). To achieve its objectives, Congress directed the U.S. Fish and Wildlife Service (FWS) to list species that are "threatened" or "endangered," as defined by the ESA. 16 U.S.C. §§ 1533, 1532(6) & (20).

Once a species is listed, Section 7 of the ESA mandates that every federal agency "consult" with FWS or the National Oceanic and Atmospheric Administration, National Marine Fisheries Service (collectively referred to as FWS) when taking any action that "may affect" listed species." 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.14(a). *See also Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv.*, 422 F.3d 782, 790 (9th Cir. 2005). The purpose of the Section 7 consultation process is to insure that no agency actions "jeopardize the continued existence" of a listed species. *Id.* To facilitate the consultation process, the "action agency" prepares a "biological assessment," which identifies the listed species in the action area and evaluates the proposed action's effect on the species. 16 U.S.C. § 1536(c); 50 C.F.R. §§ 402.02, 402.12. The ESA defines agency action broadly. 16 U.S.C. § 1536(a)(2). *See also Lane County Audubon Soc'y v. Jamison*, 958 F.2d 290, 294 (9th Cir. 1992). It includes "*all* activities or programs *of any kind* authorized, funded, or carried out, in whole or in part, by Federal agencies." 50 C.F.R. § 402.02 (emphasis added). Agency actions include those "actions directly or indirectly causing modifications to the land, water, or air." 50 C.F.R. § 402.02.

Through a biological assessment, the agency determines whether formal or informal consultation is necessary. 50 C.F.R. § 402.13(a). When formal consultation is necessary, FWS prepares a "biological opinion" that determines whether the agency's action will result in jeopardy to the species. 16 U.S.C. § 1536(b)(3)(A); 50 C.F.R. § 402.14(g). If there is jeopardy, FWS sets forth "reasonable and prudent alternatives" aimed at avoiding jeopardy. 16 U.S.C. § 1536(b)(3)(A). If there is no jeopardy, FWS identifies the reasonable and prudent mitigation measures. 16 U.S.C. § 1536(b)(4).

Moreover, all federal agencies are obligated to conserve listed species by "carrying out programs for the conservation of endangered species and threatened species." 16 U.S.C. § 1536(a)(1). Under the ESA, "conserve" is defined as recovering a species. Therefore, the agencies are not only obligated to avoid jeopardizing the survival and recovery of listed species, but are also required to take steps within its purview to recover these species. 16 U.S.C. § 1532(3) (definition of "conserve").

F. Clean Air Act and Clean Water Act

FLPMA and its implementing regulations—along with the applicable land use plans—require that BLM comply with all federal, state, and local environmental laws. *See* 43 U.S.C. § 1712(c)(8); 43 C.F.R. §§ 1610.3-2, 2920.7(b)(3). BLM is obligated, by FLPMA to comply with the environmental standards established in the Clean Air Act, 42 U.S.C.

§§ 7401, *et seq*., and the Clean Water Act, 33 U.S.C. §§ 1251, *et seq*. This means, for example, that BLM may not permit development that will result in exceedances of national ambient air quality standards, prevention of significant deterioration increment limits, air quality related values, and standards for hazardous air pollutants. BLM must conduct a full-scale quantitative analysis of the air quality impacts in the planning area and model these impacts. BLM must also model impacts to water quality and ensure that national and state standards will not be exceeded.

II. Air Quality

The Vernal PRMP fails to fully and accurately model the impacts of the activities that it permits on air quality in the planning area. Both NEPA and FLPMA require that BLM properly prepare such analysis. Without doing so BLM will not understand the effects of the pollutants that it has attempted to partially inventory and model in the Vernal PRMP, thereby violating NEPA and its requirement that BLM understand the environmental impacts of the activities it is permitting. Importantly, the Vernal PRMP will permit and plans for activities that would lead to exceedances of federal and state air quality standards, which BLM may not do. FLPMA requires that BLM manage the planning area according to federal and state air quality standards. *See* 43 C.F.R. § 2920.7(b)(3) (requiring that BLM "land use authorizations shall contain terms and conditions which shall . . . [r]equire compliance with *air . . . quality standards* established pursuant to applicable Federal or State law") (emphasis added); *see also* 43 U.S.C. § 1712(c)(8) (requiring BLM in land use plans—which would therefore require implementation in daily management—to "provide for compliance with applicable pollution control laws, including State and Federal air . . . pollution standards or implementation plans"). To properly comply with FLPMA, the Vernal PRMP must affirmatively state that BLM is obligated "require compliance with air … quality standards established pursuant to applicable Federal or State law." *See* 43 C.F.R. § 2920.7(b)(3).

BLM must perform comprehensive, complete modeling now. The fact that the implementation of the PRMP will result in air pollution (e.g., through approval of motorized use on designated routes) requires that such modeling and quantification be undertaken. The routes identified in this plan that will be open to vehicular travel will never face further analysis whereby better estimates might be developed. BLM must conduct these analyses now. There is no better time to conduct comprehensive ozone pollution modeling. BLM cannot punt this obligation to some later date. As part of the "hard look" requirement, NEPA demands that BLM determine baseline conditions so that it, and the public, can fully understand the implications of proposed activities. BLM has failed to do this here.

It is particularly critical that BLM perform modeling now since it has already determined in some project specific analysis that gas development in the planning area is likely to exceed national ambient air quality standards (NAAQS) and prevention of significant deterioration (PSD) limits for various pollutants. *See infra*.

BLM has modified many of its assumptions regarding air quality impacts in the air quality modeling for the PRMP compared to the modeling that was used for the draft RMP. *See* Email from Craig Nicholls, BLM, to Megan Williams (Sep. 19, 2008) (attached as Exhibit P). These assumptions now mean that the PRMP understates the likely impacts of oil and gas development on air quality. BLM's diminished figures must be changed as they represent unrealistic and unsupported figures. For example, the Vernal PRMP now assumes that the average roundtrip to visit a well site will only be 0.6 miles rather than four miles. *Id.* This assumption is excessively low and must be returned to at least the draft RMP assumption.

The Vernal PRMP fails to discuss the potential impacts of oil shale and tar sands development in the planning area on air quality. This is a significant oversight. It is entirely feasible that oil shale development will take place in the planning area during the life of the Vernal PRMP. Congress is currently considering a bill that would allow the State of Utah to determine whether federal lands in Utah should be made available for oil shale leasing. *See* H.R. 6899 § 171 (2008); Continuing Resolution likely to be passed during the week of September 22, 2008. BLM's EIS evaluating proposed oil shale development does not acceptably analyze the potential impacts of that activity on air quality. *See* Letter from Larry Svoboda, Environmental Protection Agency, to Sherri Thompson, BLM (Apr. 17, 2008) (attached as Exhibit M). The U.S. Environmental Protection Agency has made it clear that BLM has not yet adequately considered the impacts of oil shale development on air quality and that waiting for a site specific proposal will result in analysis that fails to consider the full regional impacts of oil shale development. *Id.* For that reason the BLM must evaluate the impacts of oil shale development on air quality in the Vernal PRMP.

Furthermore, the Vernal PRMP does not quantify the impacts of the various activities envisioned in this plan on global warming. The Vernal PRMP fails to quantify the amount of greenhouse gases that will be emitted by these activities. The Vernal PRMP also fails to account for some of the impacts to the planning area itself from a rise in temperatures. BLM must analyze these changes and attempt to quantify impacts to climate from the development activities that could result from the approval of this PRMP.

In summary, the Vernal PRMP does not adequately analyze the impacts to air quality that will result from the area and route designations, and activities planned and permitted in this document. Because monitoring indicates that the planning area already has levels of $PM_{2.5}$ that exceed NAAQS, and because it appears that ozone could also be exceeding—or close to exceeding—NAAQS, BLM is prevented by FLPMA from approving *any activities* that would further exacerbate or exceed these levels. These failures are contrary to both FLPMA, which requires that BLM observe air quality standards, and NEPA, which requires that BLM disclose the impacts of the activities it is analyzing.

Megan Williams, an air quality expert and former environmental engineer for the Environmental Protection Agency (EPA) (curriculum vitae attached as Exhibit Q) offers the following specific comments on the Vernal PRMP:

> The BLM has issued a proposed resource management plan and final environmental impact statement (PRMP/FEIS) for the Vernal Field Office (August 2008). After thoroughly reviewing this document I conclude that the BLM's planning decisions are not justified. The BLM has not adequately demonstrated compliance with all Clean Air Act (CAA) requirements as required by NEPA. Specifically, the BLM has not completed an analysis of ozone impacts, has not adequately demonstrated compliance with the fine particle NAAQS and the PSD increments and has not demonstrated protection of air quality related values, including

visibility. The BLM has not completed a comprehensive cumulative impacts analysis and has failed to establish any mitigation measure for ensuring compliance with all CAA requirements. Further, as discussed in numerous comments during the public review process, the BLM has failed to ensure scientific integrity in its air quality analyses.[3] The BLM indicates in several instances that its analyses are sufficient, but the comments in the record indicate otherwise.

In several cases, the BLM made certain choices in its modeling methodology that result in an analysis that does not represent a reasonable assessment of impacts. For example, the BLM did not take into account the complex terrain of the area in assessing air quality impacts in the model. The BLM acknowledged that much of the project area consists of complex terrain (PRMP/FEIS at 20) and Vicki Stamper even established how the BLM could best account for this with the available data (Stamper at 2) yet the BLM chose to ignore this important factor in its analysis. The BLM also chose to model only a small subset of sources that likely do not fully represent the maximum near-field impacts (see, for example, Vicki Stamper's comments at 3 and the BLM's Response to Comments by Resource AQ12 at 32). The BLM, in its cumulative impacts analysis, left out key Class I areas in Colorado and Wyoming that could be impacted by development in the planning area and failed to model at least three years of mesoscale meteorological data in its far-field analysis (see BLM's Response to Comments AQ47 at 55 and AQ31 at 42-43). None of these decisions were a result of a lack of information or because the alternative was technically infeasible. On the contrary, data and technology are available to support the use of complex terrain in the model, the use of a larger subset of sources in the near-field analysis, the inclusion of a greater number of Class I areas and the use of more meteorological data. In choosing not to take advantage of these resources to formulate a more comprehensive and reasonable assessment of impacts, the BLM is failing to meet its obligation under NEPA to provide "full and fair discussion of the significant environmental impacts" (40 CFR § 1502.1) and to ensure the scientific integrity of analyses in environmental impact statements. 40 CFR §1502.24.

In addition to failing to complete the most comprehensive and technically feasible modeling exercise possible, the BLM has completely failed to consider the potentially huge impacts from oil shale and tar sands development in its air quality analysis. This one omission affects every potential impact to air quality assessed in the BLM's PRMP/FEIS. The

[3] My review is based on the comment letters submitted to the BLM by Vicki Stamper on March 31, 2005 (Stamper) and the EPA Region VIII on May 6, 2005 (EPA) and the BLM's response to those comments in the Comments of the Draft RMP/EIS by Resource (Response to Comments by Resource).

EPA commented on the BLM's failure to include this development in its assessment and yet the BLM failed to include any such emissions in its modeling for the PRMP/FEIS. The development is foreseeable and it has the potential to cause huge impacts to air quality throughout the planning area. The BLM recently released the final Programmatic EIS for oil shale and tar sands development, which does not include any modeling of impacts from the proposed leasing program. A future commitment is not an acceptable replacement for a comprehensive quantitative assessment of the environmental and public health impacts resulting from considerable increases in air pollution in an area already heavily impacted by the adverse effects of increasing development. The BLM failed to address specific impacts in the programmatic EIS and it has failed to address the foreseeable impacts in the Vernal PRMP/FEIS. The BLM can and must perform a detailed analysis of the potential impacts from this very significant development sector.

A detailed review of the BLM's failures in fully assessing air quality impacts for the Vernal PRMP/FEIS follows:

The BLM Failed to Assess Ozone Impacts for the PRMP/FEIS

The BLM maintains, in the PRMP/FEIS, that it does not need to complete an ozone modeling analysis for the planning area prior to moving forward with its planning decisions for the Vernal RMP. The BLM provides several arguments for this. Specifically, the BLM discusses the current Uinta Basin Air Quality Study (UBAQS) that is currently being conducted by the Independent Petroleum Association of Mountain States (IPAMS) and for the White River RMP Amendment, which will both assess ozone impacts in the region. There is no discussion, however, of the timeline of these efforts or how they are being coordinated.

In fact, the IPAMS study is being coordinated with very little, if any, stakeholder input. The EPA has expressed concerns with the BLM's reliance on this effort since the BLM is not acting to directly oversee the process:

> "While we recognize that the BLM Vernal Field Office initiated an agreement late last year with the Independent Petroleum Association of the Mountain States (IPAMS) to begin an industry-managed study of basin-wide air quality impacts, EPA has concerns with this approach. We think the information to be generated by a basin-wide air quality study will be important for future NEPA analysis and decision making by your office. Therefore, it would be useful to follow the provisions of 'third- party' contract management according to 40 CFR 1506.5(c) and have the

> BLM Vernal Field Office directly manage this basin-wide air quality study rather than industry. "[4]

The EPA again expressed similar concern in its comments on the draft modeling protocol for the UBAQS, as follows:

> "If the study is to be used to inform management decisions by Federal, State, and local entities or in future NEPA actions, the independence of the analysis and assessment will be particularly important. . . . There are many Federal, State, and Tribal Agencies with an invested interest in the modeling study. With an active stakeholder process, BLM will increase the possibility that a reliable, useful, and credible modeling analysis will be completed."[5]

And in addition to procedural concerns, the EPA has also expressed specific technical and policy concerns with the protocol itself. Of particular concern to EPA, in addition to the need for stakeholder input, appears to be the integrity and comprehensiveness of the emissions inventory, including the capability to perform source attribution analyses in order to develop effective mitigation strategies.[6]

In fact, the EPA appears to have changed its overall position on the need for an ozone impact assessment prior to any further planning decisions in the area. In EPA's comments on the draft RMP it stated that the FEIS should "address ozone and specify that project-level NEPA compliance documents will estimate potential ozone impacts" (EPA at 6). This statement is what the BLM relied on to respond to comments regarding the lack of an ozone analysis in the RMP. However, since the time of EPA's comments on the draft RMP (and prior to the BLM's release of the PRMP/FEIS) it has stated that the BLM "has an obligation under NEPA to fully consider the reasonably foreseeable developments including proposed tar sands and oil shale activities that are likely in the next several decades, as well as the expansion of existing oil and gas operations *regardless of whether or not an application for drilling has been submitted to your office*."[7] (Emphasis added). This indicates that the EPA no longer supports the BLM waiting until they have project-specific requests before fully assessing air quality impacts, including those to

[4] February 4, 2008 letter from Larry Svoboda, EPA region 8, to William Stringer, BLM Vernal Field Office, Re: Final Environmental Impact Statement (EIS) for EOG Resources Inc., Chapita Wells-Stagecoach Area Natural Gas Development, CEQ #20070549.
[5] February 8, 2008 letter from Larry Svoboda, EPA region 8, to William Stringer, BLM Vernal Field Office, Re: Draft Modeling Protocol for the Uinta Basin Air Quality Study, pp. 1-2.
[6] February 8, 2008 letter from Larry Svoboda, EPA region 8, to William Stringer, BLM Vernal Field Office, Re: Draft Modeling Protocol for the Uinta Basin Air Quality Study, pp. 3-6.
[7] February 8, 2008 letter from Larry Svoboda, EPA region 8, to William Stringer, BLM Vernal Field Office, Re: Draft Modeling Protocol for the Uinta Basin Air Quality Study, p. 1.

ambient ozone concentrations. The EPA also explicitly recommended, for the proposed West Tavaputs Natural Gas Full Field Development Plan DEIS, that the BLM "prepare a Supplemental Draft EIS that includes modeled demonstrations of both this project and cumulative pollutant emissions sources from other activities in the Uinta Basin demonstrating whether the proposed action will contribute to violations of the ozone NAAQS."[8]

The State Division of Air Quality (DAQ) also commented that the BLM failed to demonstrate compliance with all of the NAAQS since, it noted, there is no ozone analysis presented. See BLM Response to Comments by Resource AQ75 at 24. Clearly the DAQ sees no reason why the BLM cannot perform such an analysis prior to making planning decision for the Vernal RMP.

In addition to concerns with the reliability of the ongoing efforts by industry and the BLM to assess ozone impacts in the region, the BLM has failed to include in the PRMP/FEIS a comprehensive inventory of emissions that contribute to ozone formation and has failed to explain how the inventoried sources in the DRMP/FEIS will be incorporated into the larger Uinta Basin Air Quality Study. Following are the issues that remain with the DRMP/FEIS inventory of NO_x and VOC sources.

The PRMP/FEIS Continues to Underestimate the Air Quality Impacts from NO_x Emissions from Compressor Engines

Both the EPA and Vicki Stamper commented that the BLM underestimated NO_x emissions from compressors (Stamper at 3-4 and EPA at 5). Specifically, these comments identified inconsistencies in the modeling parameters used in the near-field modeling analysis and in the number of compressors modeled in the far-field analysis and noted that the emission rates modeled for both near-field and far-field analyses were not reflective of actual permitted emission rates expected on the Uintah and Ouray Indian Reservations (in "Indian Country").

In response to Vicki Stamper's comment on the inconsistencies between the stack parameters for compressor engines modeled for the near-field analysis and those modeled for the far-field analysis (2004 Air Quality Assessment Report Table 3-19 at p. 34 versus Table 3-10 at p. 23), the BLM revised the parameters for the near-field analysis to match those used in the far-field analysis and indicated that the initial modeling was in fact based on these [now corrected] source parameters and therefore did not need to be redone. However, the results Tables for the near-field

[8] February 4, 2008 letter from Larry Svoboda, EPA region 8, to William Stringer, BLM Vernal Field Office, Re: Final Environmental Impact Statement (EIS) for EOG Resources Inc., Chapita Wells-Stagecoach Area Natural Gas Development, CEQ #20070549, p. 3.

analysis show otherwise. Table 5-68 in the 2006 Air Quality Assessment Report (p. 114) shows the near-field modeling results with a maximum modeled annual NO_2 concentration in the Vernal management area of 1.4 $\mu g/m^3$ compared with 7.7 $\mu g/m^3$ in the 2004 Air Quality Assessment Report (p. 116). This reduction in emissions by over 80% does not support the BLM's claim that the modeling is the same. The BLM must explain the huge reduction in NO_x emissions presented in the PRMP/FEIS.

Furthermore, and more importantly, the fact that the BLM did not alter the modeled emission rate for compressor engines located in Indian Country for the PRMP/FEIS means that NO_x emissions continue to under-represent what will likely occur. Both EPA and Vicki Stamper's comments expressed a need for the BLM to use emission rates in Indian Country (which makes up a large portion of the planning area) that are reflective of un-permitted minor source emission rates, not Utah state-permitted best available control technology (BACT) emission rates as low as 0.7 grams per horsepower hour (g/hp-h). The BLM completely ignored both EPA and Vicki Stamper's suggestions to evaluate recently-installed engines in Indian Country in order to establish a more representative rate. The BLM has failed to do this and has based its planning decisions on low emission rates that are not ensured through permitting. According to EPA, NO_x emission rates from field compressor engines on the Uintah and Ouray Reservations range from 2 to 28 g/hp-h. EPA at 5.

Finally, the number of compressor engines modeled for the far-field analysis appears to be too low. The maximum predicted number of compressors at 1,000 hp for the PRMP/FEIS is 69 (2006 Air Quality Assessment Report at 22). The number of wells for the preferred alternative of 4,265 (2006 Air Quality Assessment Report Table D-8) would mean that there would be approximately one compressor for every 62 wells (or roughly 16 hp per well). As previously noted in Vicki Stamper's comments, this does not seem adequate given the current level of development. Stamper at 7. The Record of Decision for the Questar Exploration & Production (QEP), Greater Deadman Bench Oil and Gas Producing Region (GDBR) 1-2 (Mar. 31, 2008) seeks to approve up to 15 2,000-hp compressors for 1,368 wells, or roughly 22 hp per well. The ratio of wells per 1,000 hp of compression under this proposal would be 1:46. Stamper goes on to point out that the ratio of 1:62 is much less conservative than the near-field analysis, which assumed six 1,000 hp compressor engines for every 25 well pads (or a ratio of wells per 1,000 hp of compression of 1:4). The BLM has not responded to this inconsistency, which potentially results in yet another underprediction of NO_x emissions in the Vernal Management Area.

The PRMP/DEIS Does Not Include the Impacts of Drill Rig Emissions in

the Near-Field Analysis

The BLM failed to include emissions from drill rig engines in its analysis of air quality impacts for the DRMP/FEIS on the basis that these emissions are considered insignificant. DRMP/DEIS at 4-35. Vicki Stamper disagreed in her comment letter and pointed out that the emissions inventory for the Rawlins DRMP/EIS included significant emissions from drilling operations and from other well pad construction equipment. Stamper at 5. The BLM responded by saying that drill rig engines were excluded based on estimates from the NSTC Air Quality staff but did not make publicly available the magnitude of these emissions as estimated by NSTC (Response to Comments by Resource AQ24 at 37). At the very least, the BLM should provide this information in support of its claim that these emissions are insignificant. It seems unlikely that these emissions could be considered insignificant since the BLM has included this source category in other RMPs and those emissions have not been an insignificant fraction of overall NO_x emissions. For example, the BLM estimated NO_x emissions from drill rigs for the Price Field Office DRMP/EIS and the West Tavaputs Plateau DEIS. These emissions made up over 40% and over 30%, respectively, of all NO_x emissions (construction and operation) inventoried.[9] In fact, it is not uncommon for NO_x emissions from drill rigs to account for as much as 40% of all NO_x emissions in oil and gas development.[10] The BLM must, therefore, justify why the NO_x emissions from drill rigs in the Vernal planning area are somehow different from other areas. In not including this source category, the BLM's assessment very likely underpredicts NO_x emissions by a significant amount.

The DRMP/FEIS Underestimates NO_x Emissions from Flaring

Vicki Stamper commented that the inventory of emissions from flaring appear to "greatly underestimate" NO_x emissions from that source. Stamper at 6. Stamper suggested an emission rate based on more recent emission factor data that is eight times higher than the rate assumed in the DRMP/FEIS. The BLM responded by saying that even if the modeled emission rate were eight times higher the modeling results still yield "extremely small concentrations". Response to Comments by Resource AQ25 at 38. The BLM also ignored Stamper's comment that the BLM must consider VOC emissions from flaring in their analysis. Considering the importance of NO_x and VOC emissions in ozone formation and the

[9] Based on data from the October 2006 "Price Field Office Air Quality Baseline and Analysis Report Emissions Calculations" CD for the September 2007 Supplement to the DRMP/EIS and the Air Quality Technical Support Document (Appendix J) for the February 2008 West Tavaputs Plateau Natural Gas Full Field Development Plan Draft Environmental Impact Statement (DEIS).

[10] Based on a review of inventories from the Pinedale Anticline and Jonah Infill Oil and Gas Development EIS Projects.

fact that the BLM has not conducted an ozone analysis for the region and therefore is not demonstrating compliance with the ozone NAAQS it is important for the BLM to consider *all* relevant emissions sources that contribute to ozone formation, however small.

The importance of protecting the air quality for those people who live in the region, most importantly for sensitive populations, including children, the elderly and those with respiratory conditions is huge. Exposure to ozone is a serious concern as it can cause or exacerbate respiratory health problems, including shortness of breath, asthma, chest pain and coughing, decreased lung function and even long-term lung damage.[11] According to a recent report by the National Research Council "short-term exposure to current levels of ozone in many areas is likely to contribute to premature deaths".[12] The EPA recently revised the 8-hour ozone standard from 80 ppb to 75 ppb.[13] The Clean Air Scientific Advisory Committee (CASAC) recommended substantially lowering the 8-hour standard and the EPA did not abide by the committees recommendations. Specifically, the CASAC put forth a unanimous recommendation to lower the 8-hour standard from 80 parts per billion (ppb) to somewhere between 60-70 ppb.[14] The committee concluded that there is no scientific justification for retaining the current 8-hour standard and that the EPA needs to substantially reduce the primary 8-hour standard to protect human health, especially in sensitive populations. So, even ozone concentrations at levels as low as 60 ppb can be considered harmful to human health and the BLM must consider this when evaluating the air impacts in the planning area. A monitor located in Vernal, UT for most of 2007 collected ozone data for the area. These data confirm that ozone concentrations in the basin already threaten human health.[15] The BLM must fully evaluate ozone concentrations in the region before continuing to approve more development that will increase emissions of ozone-forming pollutants in the planning area. As an example, the BLM recently proposed to allow NO_x emissions and VOC emissions from the West Tavaputs Plateau Full Field Natural Gas development to add over 1,200 and over 6,000 tons per year of NO_x and VOC emissions, respectively, to the area.[16] No modeling of the impacts of these emissions on ozone concentrations in the region was presented with the BLM's proposal.

The BLM has utterly failed to conduct any ozone analysis for the Uinta Basin up to this point (either at the planning stage or at the project-specific

[11] See EPA's National Ambient Air Quality Standards for Particulates and Ozone, 62 FR 38,856 (July 18, 1997).
[12] http://www.nationalacademies.org/morenews/20080422.html
[13] 73 FR 16436, Effective May 27, 2008.
[14] EPA-CASAC-LTR-07-001, Clean Air Scientific Advisory Committee's (CASAC) Peer Review of the Agengy's 2nd Draft Ozone Staff Paper, October 24, 2006
[15] The 4th maximum 8-hour average concentration in 2007 was 68 ppb.
[16] See Table 2-1 on page 2 of the Air Quality Technical Report (Proposed Action)

proposal stage). The recent West Tavaputs Plateau Natural Gas Full Field Development Project DEIS, which is located next to the planning area and is within the Uinta Basin, attempted to rely on ozone modeling done for southwest Wyoming to demonstrate compliance with the ozone NAAQS but the BLM did not even include project sources from the proposed development in it's "analysis" and the results of the analysis still showed exceedances of the 8-hour ozone NAAQS.[17] Along with the data collected at Vernal showing high ozone concentrations, other areas in the region are also already experiencing elevated ozone concentrations - sometimes in excess of the ozone NAAQS - including Canyonlands National Park, Zion National Park, Mesa Verde National Park and the Green River Basin in Wyoming.[18] The State of Wyoming recently issued three ozone advisories for the Pinedale region in the Upper Green River Basin. The Wyoming Department of Environmental Quality has said the cause of the elevated ozone levels is probably the area's intensive natural gas development.[19] These data show that ozone levels are already a concern and an even greater one than when the BLM released the draft RMP for the area. Yet the BLM continues to avoid completing an ozone analysis for the region. None of the following EAs from the Vernal BLM include an ozone analysis, instead claiming that a regional study should be developed: Enduring Resources Saddletree Draw Leasing and Rock House Development Proposal Environmental Assessment and Biological Assessment, UT-080-07-671, at 6-25 (June 2007) (approving approximately 60 wells); Record of Decision, Questar Exploration & Production (QEP), Greater Deadman Bench Oil and Gas Producing Region (GDBR) 8 (Mar. 31, 2008) (approving 1,368 gas and oil wells and stating that ozone analysis is often based on regional analysis); Record of Decision, EOG Resources, Inc. Chapita Wells – Stagecoach Area Natural Gas Development 6 (Mar. 31, 2008) (approving 627 gas wells and stating the same as the GDBR record of decision). At the project specific phase the BLM is saying ozone should be assessed on a regional level and yet the BLM fails to follow through with such an assessment for this regional planning document. The BLM is avoiding its obligation to complete such an assessment at both the planning stage and at the project proposal stage.

The BLM Failed to Adequately Demonstrate Compliance with the Particulate Matter NAAQS

The DRMP/FEIS does not adequately demonstrate compliance with the

[17] See Table 4-3.4 on p. 4-18 of the West Tavaputs Plateau Natural Gas Full Field Development Plan DEIS
[18] See data compiled by the National Park Service at http://www.airquality.utah.gov/Public-Interest/Current-Issues/Oil_and_Gas/Uintah_Basin/comparison.pdf. Also see the draft RMP for the Richfield Field Office (October 2007), Figure 3-4 on p. 3-9,. Also see "4 Corners Air Quality Task Force Existing Monitoring Summary", May 2006.Also see EPA air monitoring data for Sublette County, Wyoming at http://www.epa.gov/air/data/reports.html.
[19] See http://www.billingsgazette.net/articles/2008/03/11/news/wyoming/40-ozonewarnings.txt and http://billingsgazette.net/articles/2008/03/14/news/wyoming/25-drillerair.txt

particulate matter NAAQS (i.e., PM_{10} and $PM_{2.5}$). Of primary concern is the fact that the air quality analysis is based on outdated background concentrations that are not reflective of actual background concentrations as noted by the Division of Air Quality (DAQ) in several recent letters to the BLM. Specifically, the 24-hour average background concentration for PM_{10} of 28 $\mu g/m^3$ and for $PM_{2.5}$ of 19 $\mu g/m^3$ are specified, along with NO_2, SO_2 and CO, in Table 5-2 of the 2006 Air Quality Assessment Report (p. 51) and, according to the footnote in that table, are based on data from UDAQ from 2003. In fact, the BLM "defers the selection of background air quality monitoring data to the Utah DEQ". Response to Comments by Resource AQ2 at 2. However, even after the State of Utah questioned the BLM's background concentration data used for the analysis (see Response to Comments by Resource AQ2 at 2) the BLM did not seek to obtain and use updated data from the State. As recently as July 2008 the BLM used a 24-hour average background concentration in the Uinta Basin of 25 $\mu g/m^3$ and cited the source of this data as "UDEQ-DAQ(2008)".[20]

The State of Utah, in fact, claims it has not provided $PM_{2.5}$ background concentration data to the BLM for this area because it has not developed such values for studies such as EISs.[21] The State has revised its PM_{10} background concentration for this area to a 24-hour average concentration of 63.3 $\mu g/m^3$. [22] This value is based on recent PM monitoring data in the Vernal area. EPA has also weighed in on the background concentration for $PM_{2.5}$ for the Vernal area in its comments on the West Tavaputs Plateau Development DEIS. EPA expressed concern with "the use of basis for the estimated background level for $PM_{2.5}$" of 25 $\mu g/m^3$ for a 24-hour average period.[23] The EPA goes on to recommend that the BLM update the PM analysis with more current monitoring data.

All of the recent finalized RMPs prepared by the BLM in Utah have used a background $PM_{2.5}$ concentration of 25 $\mu g/m^3$ (24-hour average), or higher, so it is unclear why the 19 $\mu g/m^3$ concentration was not updated to reflect more currently available data per the request of both EPA and the State.

The $PM_{2.5}$ monitor in Vernal, Utah, which operated from December 2006 until mid-December 2007 appears to be the basis for the State's suggested

[20] Petro-Canada Resources (USA) Inc.'s Twin Hollow Exploratory Drilling EA, July 2008, Table 3-2, p. 29.
[21] April 28, 2008 letter from John Harja, State of Utah to Brad Higdon, BLM Re: West Tavaputs Plateau Natural Gas Field Development Plan Draft Environmental Impact Statement (DEIS) Project No. 08-8885, p. 3.
[22] April 28, 2008 letter from John Harja, State of Utah to Brad Higdon, BLM Re: West Tavaputs Plateau Natural Gas Field Development Plan Draft Environmental Impact Statement (DEIS) Project No. 08-8885, p. 3.
[23] May 23, 2008 letter from Larry Svoboda, EPA to Selma Sierra, BLM Re: West Tavaputs Plateau Natural Gas Full Field Development Plan, Draft Environmental Impact Statement, Carbon County, Utah, CEQ# 20080028, p. 6.

24-hour PM_{10} background concentration of 63.3 $\mu g/m^3$.[24] PM_{10} concentrations could obviously be even higher than the $PM_{2.5}$ portion monitored in Vernal but this must be the minimum value used as representative of background PM_{10} concentrations according to the State. During the short time of operation this monitor recorded several very high values of $PM_{2.5}$ in the area, including six exceedances of the 24-hour $PM_{2.5}$ NAAQS as follows:[25]

Vernal (VL)		NAAQS
$PM_{2.5}$ Actual Concentrations (24-hour average) in $\mu g/m^3$		$PM_{2.5}$ (24-hour average) in $\mu g/m^3$
01/10/07	45.1	35
01/15/07	35.5	
01/18/07	55.7	
01/27/07	63.3	
02/08/07	51.8	
12/05/07	43.3	

The maximum 24-hour average concentration at the Vernal monitor in 2007 was 63.3 $\mu g/m^3$ based on a one-in-three day sampling frequency. The second highest 24-hour average concentration (the "high second high" value) was 55.7 $\mu g/m^3$. Both of these observed 24-hour average concentrations are three times the background concentration of 19 $\mu g/m^3$ used by the BLM for the PRMP/FEIS. Keeping in mind that the concentration to be used as reflective of background should be determined by also evaluating "the meteorological conditions accompanying the concentrations of concern" (see 40 CFR Part 51, Appendix W, § 9.2.2), use of the maximum or high second high 24-hour average concentration from the Vernal monitor as the representative $PM_{2.5}$ background concentration – either 63.3 $\mu g/m^3$ or 55.7 $\mu g/m^3$ – is the best way to ensure public health protection. These observed concentrations, where even the high sixth high concentration exceeds the NAAQS, indicate that the BLM must find a way to *reduce* $PM_{2.5}$ emissions in the area in order to avoid violating the short-term $PM_{2.5}$ NAAQS. Continuing to approve more development that adds fine particle emissions to the basin will threaten the area's attainment of the NAAQS. Nowhere in the PRMP/FEIS does the BLM acknowledge these monitored exceedances of the short-term fine particle NAAQS in the Vernal planning area. At these concentrations, *any* increase in $PM_{2.5}$ emissions from development in the area (e.g., from off road vehicle use and from oil and gas development) will threaten the area's compliance with the short-term fine particle NAAQS. In order to meet its obligations under FLPMA, the BLM must demonstrate that the

[24] The last filter sampled was on December 14, 2007, per correspondence with the state DAQ.
[25] Data from the State's "Particulate PM2.5 Data Archive" at http://www.airmonitoring.utah.gov/dataarchive/archpm25.htm

proposed increases in primary and secondary $PM_{2.5}$ emissions will not cause or contribute to violations of the $PM_{2.5}$ NAAQS.

The NAAQS were set to protect the public and the environment from the adverse effects from air pollution. Thus, in determining whether these air quality standards might be exceeded as a result of the BLM's proposed action, the RMP must use background concentrations that are truly representative of the maximum concentrations that are currently occurring. Only by using a background concentration that is representative of the maximum concentration for the area will the public be assured that public health and welfare will be protected. Using a concentration that is significantly lower than monitored levels in the area leaves open the possibility (when concentrations as high as the NAAQS occur, as they already have) that human health will be adversely affected as a result of future oil and gas development on top of all other air emissions sources in the region. Using a lower background concentration than what has been observed in the area simply ignores the real fact that higher levels can (and likely will continue to) occur in the area.

The State describes the Vernal monitor in its $PM_{2.5}$ area designation recommendations as follows:

> "In this case it is not the mobile source emissions that dominate the inventory, nor is there a single large point source that could unduly influence the area. Population growth for the Uintah Basin is estimated at only about one percent per year (see Table 3.) Rather, it is the area source emissions from a source category that is not well understood. This area has long been a source of oil and gas deposits, and with the recent emphasis on exploration and development of domestic energy sources, there has been an upsurge in the industry surrounding this resource."[26]

The State attributes the high $PM_{2.5}$ values from the Vernal monitor to oil and gas activity in the area which lends even more support to the use of these data for background concentrations when determining future impacts from oil and gas development.

The EPA recently revised the short-term $PM_{2.5}$ standard because scientific information showed that the pollutant is a health concern at levels lower than what the previous standard allowed. $PM_{2.5}$ can become lodged deep in the lungs or can enter the blood stream, worsening the health of asthmatics and even causing premature death in people with heart and lung disease. Fine particles are also a major contributor to visibility

[26] Utah Area Designation Recommendation for the 2006 PM2.5 NAAQS, State of Utah, Department of Environmental Quality, Division of Air Quality, December 18, 2007, p. 34.

impairment. See the EPA's staff paper on particulate matter (EPA-452/R-05-005a, December 2005) as well as the EPA's Air Quality Criteria Document for Particulate Matter (EPA/600/P-99/002aF and EPA/600/P-99/002bF, October 2004) for more detailed information on the health effects of fine particles. And even $PM_{2.5}$ concentrations lower than the current NAAQS are a concern for human health. In fact, the CASAC, in their recommendations to the EPA on the revised $PM_{2.5}$ standard, unanimously recommended that the 24-hr $PM_{2.5}$ standard be lowered from 65 $\mu g/m^3$ to 30-35 $\mu g/m^3$ and that the annual standard be lowered from 15 $\mu g/m^3$ to 13-14 $\mu g/m^3$.[27] EPA set the standard on the high end of the CASAC recommended range for the short-term standard and chose not to lower the annual standard at all. In response, CASAC made it clear in their September 29, 2006 recommendation letter to the EPA that their recommendations were based on "clear and convincing scientific evidence" and that the EPA's decision not to lower the annual standard does not provide for "an adequate margin of safety … requisite to protect the public health" as required by the CAA and, furthermore, that their recommendations were "consistent with the mainstream scientific advice that EPA received from virtually every major medical association and public health organization that provided their input to the Agency". The BLM has an obligation, under NEPA, to evaluate all potential health effects from exposure to increased pollution under the various alternatives of an EIS. The fact that the EPA has set the $PM_{2.5}$ standards at levels that some would claim are not adequate to protect human health should not limit the BLM to using only EPA's standards. The BLM must assure adequate protection of human health from exposure to fine particles in the area and could certainly use the CASAC recommendations as a guide for achieving this protection.

Even using a background concentration of 19 $\mu g/m^3$, the modeling for the PRMP/FEIS shows that $PM_{2.5}$ concentrations for the planning area are over 50% the 24-hour average $PM_{2.5}$ NAAQS. 2006 Air Quality Assessment Report at 58 and 115. Considering the fact that the BLM already has and continues to approve oil and gas development projects in the Vernal planning area without any comprehensive analysis of $PM_{2.5}$ impacts makes it almost certain that $PM_{2.5}$ concentrations in the area are already threatening to violate the short-term NAAQS. In fact, the monitoring data from the Vernal monitor in 2007 appear to support this trend.

The Enduring Resources' Saddletree Draw Leasing and Rock House Development Proposal EA (Rock House EA) (December 2007) predicted modeled violations of the 24-hour average $PM_{2.5}$ and PM_{10} NAAQS as

[27] EPA-CASAC-LTR-06-003, Clean Air Scientific Advisory Committee Recommendations Concerning the Final National Ambient Air Quality Standards for Particulate Matter, September 29, 2006, http://www.epa.gov/sab/panels/casacpmpanel.html

well as the 24-hour average Class II PM_{10} increment. *See* Rock House EA at 6-24 to -25 and Rock House Emissions Inventory, Criteria Summary Tab. The modeled $PM_{2.5}$ NAAQS violations were based on a 24-hour average background concentration of 25 $\mu g/m^3$. The BLM recently approved over 620 natural gas wells, close to 100 miles of road and an additional 5,000 horsepower of compression for the Chapita-Wells Stagecoach Area Natural Gas Development project (*See* Exhibit Y) as well as over 1,000 natural gas wells, over 200 oil wells, almost 900 well pads, 15 compressor stations and 170 miles of new road for the Greater Deadman Bench Oil and Gas Producing Region and yet, neither of these EISs included a comprehensive analysis of $PM_{2.5}$ impacts (i.e., near-field, far-field and cumulative impacts).[28] The BLM cannot allow continued growth in fine particle emissions without assuring the public - through a comprehensive analysis of impacts - that concentrations of $PM_{2.5}$ are not at levels that are harmful to human health.

The $PM_{2.5}$ modeling that was completed for the PRMP/FEIS that results in 24-hour average $PM_{2.5}$ concentrations at over 50% of the NAAQS likely underestimated emissions and, therefore, ambient impacts. The modeling analysis did not include any $PM_{2.5}$ tailpipe emissions from construction of the well pads. Response to Comments by Resource AQ21 at 36. It also did not include any PM emissions from increased traffic on existing roads. Response to Comments by Resource AQ45 at 53. These additional PM sources are important for demonstrating compliance with the PM_{10} and $PM_{2.5}$ NAAQS, as well as the PM_{10} Class II PSD increments within the Vernal Field Office region. The BLM has included these source emissions in previous planning analyses and therefore has the capability to do so here, as well.[29]

It is unclear if the BLM modeled the fugitive PM emissions from roads and from all sources (i.e., from roads, well construction and operation) correctly. Both Vicki Stamper and EPA commented on this. In response to Stamper's comments, the BLM said it completed a separate analysis of the impacts from the road only, at the request of EPA Region 8. The BLM describes this "update" as follows:

> "To address the comment regarding the placement of receptors, and to update the near-field analysis to reflect site-specificity, the near-field analysis was updated." Response to Comments by Resource AQ23 at 36-37.

There is no detailed discussion of this updated analysis in the PRMP/FEIS

[28] See EOG Resources Inc. Chapita Wells-Stagecoach Area Natural Gas Development Final EIS UTU-080-2005-0010 (May 2007, Modified January 2008) and Greater Deadman Bench Oil and Gas Producing Region Final EIS UT-080-2003-0369V (January 2008)

[29] See, e.g., Rock House Emissions Inventory, "Const. Tailpipe" Tab.

or Air Quality Assessment Report other than the results reported in the 2006 Air Quality Assessment Report in Tables 5-69 and 5-70 which, for 24-hour $PM_{2.5}$ concentrations in the Vernal MA, are significantly lower than the concentrations reported in the 2004 Air Quality Assessment Report (99% lower for fugitive dust from roads only and 83% lower for fugitive dust emissions from roads and other sources). It appears that the updated analysis adjusted the placement of receptors such that the predicted impacts are now only a fraction of what they were in the draft. The BLM must more clearly explain/justify what changes it made to the modeling runs that result in lower predicted maximum $PM_{2.5}$ ambient impacts from fugitive dust. The receptor location that yielded the higher predicted concentrations would seemingly best represent "Maximum Modeled Concentration" as reported in Tables 5-69 and 5-70 of the Air Quality Assessment Report. The maximum modeled concentration must represent just that – the maximum concentration predicted at any given receptor location in the model.

In addition to the fugitive dust and tailpipe emissions from oil and gas development, the BLM must account for these same emissions from off-road vehicle (ORV) activities in the planning area. Southern Utah Wilderness Alliance (SUWA) specifically addressed this deficiency in a letter to the BLM on June 18, 2008.[30] SUWA provided documentation to support the type of emissions assessment that is needed for evaluating the impacts from this source category (e.g., one based on vehicle miles traveled and emission factors that do not employ dust suppression). Specifically, SUWA specified the need for modeling "ORV use on unpaved routes that would be authorized by its travel plan as well as ORV cross country use and predictable unauthorized use". The BLM has not addressed this omission of ORV emissions in the PRMP/FEIS.

Another way in which the BLM likely underestimated $PM_{2.5}$ emissions is by failing to consider secondary $PM_{2.5}$ emissions in its analysis. The $PM_{2.5}$ modeling conducted by the BLM for the PRMP/FEIS only considered primary $PM_{2.5}$ (directly emitted from combustion point sources and from fugitive sources). Emissions of NO_x, VOCs, SO_2 and ammonia can form, after emitted into the atmosphere, into $PM_{2.5}$ and this could potentially be a significant component of ambient $PM_{2.5}$ concentrations. Estimates of $PM_{2.5}$ formation from these precursors should also be included in the BLM's modeling analyses.

It is quite possible that the high concentrations of $PM_{2.5}$ that were recorded at the Vernal monitor are due in large part to the secondary formation of $PM_{2.5}$ (e.g., sulfates and nitrates), as opposed to directly emitted [primary] PM (e.g., road dust and wood smoke). The high values mostly occurred during the wintertime and could therefore be associated with inversions

[30] Letter from David Garbett, SUWA, to Kelly Buckner, BLM (June 18, 2008).

that limit dispersion and provide conditions (e.g., high relative humidity) that contribute to the formation of secondary $PM_{2.5}$ in the atmosphere. Since it is possible that the monitored high values in Vernal are due to gaseous pollutants that form fine particles after reacting with other compounds in the air during wintertime inversions then it would be very important for the BLM to consider these $PM_{2.5}$ sources (e.g., NO_x from diesel combustion) in its air quality impact assessment. All of the sources of the primary pollutants that contribute to secondary $PM_{2.5}$ formation – e.g., NO_x, SO_x and VOC - from development in the Vernal management area must be accounted for in the BLM's assessment of $PM_{2.5}$ impacts.

While the discipline of secondary $PM_{2.5}$ modeling is still evolving there *are* tools available to support such an analysis. The EPA provides access to certain photochemical modeling applications, including modeling of secondary PM, for regulatory applications. Specifically, the EPA recently developed a model based on the Community Multi-scale Air Quality (CMAQ) model to support the development of the $PM_{2.5}$ NAAQS. According to the EPA, the model has been shown to "reproduce the results from an individual modeling simulation with little bias or error" and "provides a wide breadth of model outputs, which can be used to develop emissions control scenarios".[31] The Comprehensive Air quality Model with extensions (CAMx) is another tool available to assess secondary $PM_{2.5}$ formation. CAMx has source apportionment capabilities and can assess a wide variety of inert and chemically reactive pollutants, including inorganic and organic $PM_{2.5}$ and PM_{10}. The Regional Modeling System for Aerosols and Deposition (REMSAD) can also model concentrations of both inert and chemically reactive pollutants on a regional scale, "including those processes relevant to regional haze and particulate matter".[32] These are just some examples of current models with the capability to assess secondary $PM_{2.5}$ impacts.

It is imperative that the BLM use the available tools to assess the impact of emissions in the planning area that contribute to secondary $PM_{2.5}$ formation. Resulting $PM_{2.5}$ concentrations will be higher when considering the additional impacts from secondary $PM_{2.5}$. Considering the already high $PM_{2.5}$ background concentrations in the area and the fact that the BLM has not arguably demonstrated compliance with the 24-hour NAAQS, the secondary $PM_{2.5}$ impacts are critical to understanding the best way to mitigate health impacts from fine particle pollution within the Vernal planning area.

All of these factors (i.e., the use of background concentrations lower than what has been observed in the area and potential underestimates of $PM_{2.5}$ emissions) result in an incomplete assessment of near-field $PM_{2.5}$ impacts

[31] See http://www.epa.gov/scram001/reports/pmnaaqs_tsd_rsm_all_021606.pdf
[32] See http://remsad.saintl.com/

and therefore fail to meet the requirements of FLPMA to demonstrate compliance with all CAA requirements. It seems quite likely, based on all of the presented information (e.g., the recent monitoring data in Vernal, previous BLM project-specific analyses in the Vernal management area, etc.) that compliance with the 24-hour $PM_{2.5}$ NAAQS cannot be demonstrated for the Vernal planning area. Failing to fully evaluate all known $PM_{2.5}$ emissions sources and failing to use a more representative background concentration will result in an analysis that under-predicts $PM_{2.5}$ impacts in the planning area. The extent of this under-prediction could be quite significant considering the recently monitored $PM_{2.5}$ values recorded in Vernal. Again, the BLM must ensure the scientific validity of this analysis per the requirements of 40 CFR § 1502.24.

The BLM Failed to Complete a PSD Increment Analysis

The BLM has failed to complete an analysis to determine how much of the incremental amount of air pollution allowed in clean air areas (i.e., PSD increment) has already been consumed in the affected planning area and how much additional increment consumption will occur due to the proposed development under the RMP. Without this analysis, the BLM is not ensuring that air quality will not deteriorate more than allowed under the law (Clean Air Act).

The BLM did not include any revisions to its PSD increment consumption "analysis" for the PRMP/FEIS. However, it did receive comments from Vicki Stamper and the State of Utah, which call into question the integrity of the BLM's so-called PSD increment analysis. In response to these comments, the BLM claims that "[t]he analysis of increment consumption is the sole responsibility of State air agencies that have been delegated authority by EPA under the Clean Air Act." Response to Comments by Resource AQ 26 at 46.

In fact, the BLM is required, under NEPA, to analyze and disclose all significant air quality impacts, regardless of whether another agency might address an adverse environmental impact in the future. The BLM must consider the PSD increments as important and legally binding Clean Air Act requirements and it must provide for compliance with these requirements in the FEIS. The PSD increments are separate ambient air quality standards not to be exceeded, as set out in §163 of the Clean Air Act, that apply *in addition to* the national ambient air quality standards in clean air areas. The BLM is required under FLPMA, 43 U.S.C. § 1712(c)(8), to "provide for compliance with" all Clean Air Act requirements, and thus the BLM cannot authorize an action that would allow the PSD increments to be exceeded. See also 43 CFR § 2920.7(b)(3) (requiring the same for land use authorizations).

Reliance on the State to track PSD increment consumption and assess PSD increments during new source permit reviews cannot be a substitute for the BLM's obligation under FLPMA to "provide for compliance" with the NAAQS and PSD increments. The types of oil and gas sources proposed in the RMP development (e.g., area sources and numerous smaller point sources) will likely not trigger the need for the operator(s) to obtain any PSD permits from the State and therefore, none of the referenced state analyses of increment consumption will occur. Utah's minor source permitting regulations do not require increment consumption analyses (see Utah Administrative Code (UAC) R307-401). There are other provisions of the Clean Air Act and implementing regulations that require the protection of the PSD increments in addition to permitting requirements. The state must also track increment consumption in the area (and in any affected Class I areas) and the State Implementation Plan (SIP) should contain any necessary measures to assure that the increments are not exceeded. Specifically, the state is required to periodically review its plans for preventing significant deterioration (40 CFR 51.166(a)(4)) and if it determines that an applicable increment is being violated, then the state must revise the SIP to correct the violation (40 CFR 51.166(a)(3). However, the fact that the State has a legal responsibility to protect increments does not mean that the BLM is relieved of its responsibility under FLPMA to "provide for compliance" with CAA requirements or its obligation under NEPA to fully describe the cumulative impacts of the proposed project and identify mitigation measures to prevent adverse impacts. In fact, the BLM has no assurance that the State will perform any analysis of increment consumption. If the State had performed such an increment tracking analysis for the Uinta Basin the BLM might properly rely on it to show that existing sources have not caused PSD increment violations. Without such an assessment to rely on, the PRMP/FEIS must include an increment consumption analysis so that BLM's obligation to develop and adopt sufficient mitigation measures may be included as part of the FEIS analyses and adopted as conditions in the Record of Decision.

In the past, the BLM has also indicated that the predicted PSD increment violations in EIS documents should not be considered as real increment violations because they are modeled. However, since only emissions from major stationary sources which commenced construction or modification after the applicable "major source baseline date" and emissions increases from minor, area and mobile sources that occurred after the relevant "minor source baseline date" affect the allowable increment, an air quality monitor cannot distinguish between pollutant concentrations from sources that are part of the baseline and those from sources that consume increment.[33] Therefore, it is impossible to use monitoring data to establish

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The major source baseline dates are January 6, 1975 for SO_2 and PM_{10} and February 8, 1988 for NO_2 (40 CFR 52.21(b)(14)(i)). The minor source baseline dates in Utah differ by pollutant and by [baseline] area and were triggered on the date that a complete PSD permit application was received by the State DAQ (or

compliance with the PSD increments; the only way to determine compliance is to complete a modeling analysis.

The BLM's PSD increment analysis is based on the use of a "monitoring base year" and only includes sources that began operation or commenced construction after that year. The "monitoring base year" is 2000 or 2001, depending on the pollutant being considered. See PRMP/FEIS Table 4.2.4 at 4-21. This type of analysis essentially leaves out all increment consuming emissions that occurred between the time of the applicable regulatory baseline dates and the "monitoring base year" (i.e., 2000 or 2001). As presented, the BLM's PSD increment analysis is merely a subset of what is required since it only assesses the emissions changes that have occurred or are expected to occur since 2000 or 2001.

The State of Utah, which the BLM purports to be the Agency with "the sole responsibility" of ensuring protection of the PSD increments, made the following comment, among others, regarding the BLM's PSD "comparison analysis":

> "UDAQ is not familiar with "monitoring baseline date," or why it would support the conclusion that since a source was operating at the time of the monitoring date, it was assumed to be included in the background concentration of a pollutant. As mentioned in other discussions in the DRMP-EIS, there is very little actual air quality monitoring data that exists within the study area. A PSD modeling analysis must include emissions from sources that would impact the study area at the 1ug/m3 level. The analysis must be redone using standard modeling procedures, which would include modeling the emissions from nearby sources. Also, since the major and minor PSD baseline dates have been established for the DRMP-EIS area, minor sources consume increment and must be included in all increment calculations." Response to Comments by Resource AQ81 at 25.

Clearly the State thinks the BLM must perform its own defensible PSD increment analysis as part of the planning process for the Vernal RMP. The BLM must prepare an inventory of all emissions changes that have occurred since the major and minor PSD baseline dates and model those changes in emissions to determine compliance with the PSD increments. The BLM is required to do this not only to comply with its obligations

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by the EPA for sources proposing to locate in Indian Country). Baseline area designations in Utah include Indian Country (40 CFR 81.345). See definitions of "major source baseline date", "minor source baseline date" and "baseline area" in the Utah PSD rules and 40 CFR 52.21(b)(14)(i), 52.21(b)(14)(ii) and 52.21(b)(15).

under the Clean Air Act and the Federal Land Policy and Management Act, but also to comply with its obligations under NEPA to consider the direct and indirect impacts of the action, and its cumulative impacts. See e.g., 40 CFR §§ 1502.2(d), 1508.7, 1508.8. Furthermore, the BLM must base its PSD increment analysis on a comprehensive inventory of sources in order to meet its obligation to ensure the scientific validity of this analysis. 40 CFR § 1502.24.

The BLM Failed to Prepare a Comprehensive Cumulative Source Inventory

The inventory of source emissions since the "monitoring base year" does not represent all sources that can and must be inventoried in order to make a full assessment of cumulative impacts in the areas impacted by sources throughout the planning area. Both Vicki Stamper and the EPA identified several shortcomings in the inventory which were not addressed by the BLM in the PRMP/FEIS.

The draft RMP/EIS identified a high to moderate potential for oil shale development in the next 15 years and EPA highlighted two current efforts in the Vernal planning area for pilot-scale oil shale development. It does not appear that the BLM specifically addressed the EPA's comment on the need to identify the impacts from oil shale development. As mentioned earlier, the BLM's final Programmatic EIS for oil shale and tar sands development does not include any modeling of impacts from the proposed leasing program.

The EPA also commented on the need to include reasonably foreseeable future sources of air emissions in the West Tavaputs Plateau development area. Specifically, the EPA identified several proposed projects with emissions estimates that could be included in the inventory for the RMP.

Vicki Stamper identified several sources that were not included in the inventory and should have been. Stamper at 12-13. These include sources that are located more than 50 km away from the Class I areas of concern but that could still impact these areas (e.g., coal-fired power plants in central and northeast Utah and northwest New Mexico as well as oil and gas development in southwest Wyoming, southwest Colorado and northwest New Mexico). The BLM responded to this comment by saying that more detail is needed on these sources, some of which - according to the BLM - are "well outside" the modeling domain. The BLM made no effort to obtain more information on these sources and made no changes to the inventory as a result. Vicki Stamper points out in her comments, however, that some of these sources, in fact, do have projected impacts in the Class I areas modeled for the Vernal RMP. The BLM has an obligation to look at all sources that will impact the same areas impacted by the

sources in the planning area. This could certainly include sources that are "well outside" of the modeling domain if their impacts are projected to be large enough to affect Class I areas impacted by sources covered under the RMP. The BLM says that "this NEPA air quality analysis is focused on the proposed action and alternatives, and is not performed to determine potential impacts at a given Class I area from every source regardless of proximity to the project area." Response to Comments by Resource AQ38 at 48. However, the BLM is not able to determine if the proposed alternatives will cause or contribute to violations of Clean Air Act requirements if it does not assess the proposed alternative impacts along with all other sources impacting the same locations.

Finally, the BLM failed to justify why the modeling included a 10 km "buffer" around each modeled Class I area where no sources were assumed to reside (since not all source locations were known). The BLM responded to Vicki Stamper's comment that this approach is inappropriate and could underestimate impacts to Class I areas by saying that "few, if any of these sources will actually be located within 10 km of a Federal Class I area." Response to Comments by Resource AQ44 at 53. The fact that some of these sources could, in fact, locate within 10 km of a Class I area (e.g., smaller sources that don't require a permit would not be restricted from locating within 10km of a Class I area), means the BLM has an obligation to include this possibility in its assessment. There is no scientifically defensible reason to arbitrarily establishing a "buffer" around Class I areas if it is quite possible, as the BLM acknowledges, that sources could locate there.

Failing to include the above-mentioned sources will result in an analysis that under-predicts cumulative impacts in the planning area. The extent of this under-prediction could be quite significant considering the magnitude of the oil shale and tar sands leasing program identified in the programmatic EIS. Again, the BLM must base its air quality analyses on a comprehensive inventory of sources in order to meet its obligation to ensure the scientific validity of this analysis. 40 CFR § 1502.24.

The BLM Failed to Adequately Assess Impacts to Air Quality Related Values, Including Visibility

The PRMP/FEIS does not include a comprehensive cumulative assessment of impacts to air quality related values (AQRV), including visibility, at affected Class I areas. This type of analysis is needed in order to determine whether the Vernal RMP sources will cause or contribute to significant adverse impacts on AQRVs at affected Class I areas.

The visibility modeling analysis should include a more complete emissions inventory (for sources expected in the Vernal planning area,

inventory sources, and other reasonably foreseeable development in the region as described in the source inventory section above) and should assess impacts at other Class I areas - besides just those in southern Utah - that could be impacted by the Verna1 planning area sources, as described previously.

In addition to understating potential impacts due to an incomplete look at emissions, the BLM continues to use comparison thresholds for visibility and sulfur and nitrogen deposition that ignore potential impacts. Both the US Forest Service (USFS) and Vicki Stamper commented on these comparison thresholds. *See*, e.g., Stamper at 17 and USFS Ashley NF at 28. The PRMP/FEIS continues to use sulfur and nitrogen deposition thresholds that are 1,000 times higher than the deposition analysis thresholds (DATs) developed and used by the National Park Service (NPS) and Fish and Wildlife Service (FWS) for their Class I areas. The BLM justifies this by saying that the lower DATs used by the other Federal Land Managers are screening levels above which further analysis is required. The BLM must therefore complete such an analysis if either sulfur or nitrogen deposition rates exceed the 0.005 kg/ha/yr rate. The BLM cannot simply ignore those areas with potential adverse impacts.

For visibility impairment, the BLM should use a visibility metric of 0.5 deciview (dv) or more change in visibility as a measure of whether the Vernal RMP would result in significant visibility impacts at Class I areas.[34] A threshold of 0.5 dv is much more protective of visibility in Class I areas and has the support of other Federal Land Managers (e.g., USFS, NPS). The Clean Air Act and subsequent EPA regulations also point to the importance of a 0.5 dv threshold. Under the regional haze regulations, states are required to consider a change of 0.5 dv in determining Best Available Retrofit Technology (BART) eligibility for stationary sources.[35] Furthermore, the BART rulemaking states that "changes in light extinction of 5% will evoke a just noticeable change in most landscapes."[36]

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[34] Deciview (dv) is an index based on the natural logarithm of light extinction. As the concentration of haze species increases, light extinction increases, visibility decreases (worsens) and the deciview metric increases.

[35] 70 FR 39104, 39120.

[36] 69 FR 25184, 25194. Dr. Jana Milford explained the basis for this statement in her September 26, 2005 comments on the Jonah Infill Draft EIS Air Quality Supplement, as follows:

> "The reference for this statement is a 1990 National Acid Precipitation Assessment Program report[36] that estimated perception thresholds for landscapes using a psycho-physical model of just noticeable changes in scenic brightness. An even lower threshold might occur for some viewers, scenes and viewing conditions.[36] The model used in the NAPAP assessment to derive the 0.5 dv threshold is relevant for situations of uniform haze, which is the case at issue with oil and gas development, where construction and production phases involve dispersed sources of NOx, SO_2, PM-2.5 and PM-10, all of which contribute to visibility degradation. Of note, the 2002 paper by Professor Ron Henry that is often cited for the suggestion that a threshold value higher than 0.5 dv should be used is not persuasive, because it considers thresholds for perceptible changes in

The Federal Land Managers' 2002 FLAG report, concluded that "for the case of visibility impairment which changes the appearance of a viewed background feature [i.e., uniform haze as opposed to a plume], thresholds of perceptibility, where a just noticeable change occurs in the scene, have been found to correspond to a change in extinction (Δb_{ext}) as low as 2% under ideal conditions, up to 20% (NAPAP, 1990; Pitchford and Malm, 1994). A Δb_{ext} of 5% will evoke a just noticeable change in most landscapes (NAPAP, 1990). The FLMs are concerned about situations where a change in extinction from new source growth is greater than 5% as compared against natural conditions. Changes in extinction greater than 10% are generally considered unacceptable by the FLMs and will likely raise objections to further pollutant loading without mitigation."[37]

The Forest Service and the National Park Service (NPS) both use a 0.5 dv change as their threshold for identifying visibility impairment. Because the Class I areas considered in the Vernal RMP are either under Forest Service or NPS control, the BLM must fully acknowledge and discuss the significance of impacts using the impact threshold of 0.5 dv, even if the BLM does not adhere to this standard for its own lands. The BLM's continued refusal to fully acknowledge and address impacts at the 0.5 dv level fundamentally fails to meet the basic intent of NEPA, as described in sections 101 and 102(1) (42 U.S.C. § 4331) by stating it is the "continuing responsibility of the Federal Government to use all practicable means" to "assure for all Americans safe, healthful, productive, and esthetically . . . pleasing surroundings."

Regardless of the threshold of comparison used for visibility, however, the visibility screening analysis showed cumulative impacts to visibility at greater than 1.0 dv change in Arches National Park, Dinosaur National Monument and Ouray National Wildlife Refuge in the Vernal MA. 2006 Air Quality Assessment Report Table 5-65 at 111. The "refined" analysis then shows no cumulative impacts at greater than 1.0 dv change at Arches and Ouray (but still one day of maximum change > 10% at Dinosaur National Monument due to all sources and days greater than 5% change at all three areas). 2006 Air Quality Assessment Report Table 5-66 at 112. Vicki Stamper questioned the BLM's refined analysis and, specifically, the use of 1987-2001 Canyonlands IMPROVE monitoring data in the refined analysis. Stamper at 18. Stamper questioned the use of the Canyonlands data in place of what is considered the natural background conditions from the CALPUFF model, where "natural background" is not meant to reflect changes due to manmade sources. Clearly, Canyonlands

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colorfulness, ignoring brightness.[36] Both of these visibility attributes are important, and are better captured by using the 0.5 dv standard."

[37] Federal Land Mangers' Air Quality Related Values Workgroup (FLAG) Phase I Report, December 2002, p. 26.

monitoring data from 1987-2001 would include such influences and the BLM has not justified the substitution of these data. In fact, they specify the use of extinction values from the Canyonlands IMPROVE site in their explanation of the refined analysis. Response to Comments by Resource AQ52 at 62. Substituting data influenced by manmade sources for natural background would tend to reduce the change in light extinction measured against the 1.0 dv and 0.5 dv thresholds. Or said another way, if a larger background extinction (one influenced by manmade sources) is subtracted from the modeled extinction then the *change in extinction* (again, which is the value compared with the 1.0 dv and 0.5 dv thresholds) will be less than if a lower background is used.

III. Climate Change

The PRMP Violates NEPA in Several Respects By Failing To Analyze the Impacts of Climate Change

Because BLM chose to treat this issue with such a superficial and abbreviated discussion, important information about the effects of climate change, and the management options available to BLM in this changing environment, are missing from the PRMP. The PRMP provides no estimate of how much temperatures will increase in the Vernal Resource Area, or even in the Colorado Plateau generally, or how that increase may affect natural resources such as water, vegetation, wildlife, or any other resource managed by BLM. It is reasonable to expect, given that the area will get even hotter under credible climate predictions, that water will become more scarce, native plant and animal life will suffer, and wildfire will become more prevalent. And in light of those consequences, BLM should have provided management alternatives which addressed these predicted impacts.

The PRMP addresses climate change for the first time—the draft resource management plan did not discuss climate change or its impacts on the public lands within the Vernal Field Office at all. However, the extent of the discussion of this important issue in the proposed plan is superficial at best. In a total of just a few paragraphs, the PRMP simply provides a generalized description of the phenomenon and notes that the Intergovernmental Panel on Climate Change predicted global increases of 1 to 4.5 degrees Fahrenheit over the next 50 years. *See* PRMP at 3-8 to 3-9.

The PRMP attempts to explain away its lack of analysis by noting that "BLM does not have an established mechanism to accurately predict the effect of resource management-level decisions from this planning effort on global climate change." *Id.* at 4-8. However, the PRMP makes no attempt to utilize existing studies as the basis for any further information about how climate change—with expected warmer weather—may affect the resources of the Vernal Field Office, noting only that drier soils may be less stable and that species ranges may move north or to higher elevations in response to climate stress. *Id.*

SUWA provided BLM with comments on the Draft RMP that highlighted this gap in the climate information, and included studies with specific information about the impacts of climate change on the Colorado Plateau—which includes the Vernal Field Office. These impacts are described more fully below, but include shrinking water resources, dust-covered snowpack with earlier, faster snowmelt, invasion of more flammable non-native plant species, soil erosion, loss of wildlife habitat, and larger, hotter wildfires. As discussed below, BLM ignored these studies in the Vernal PRMP.

Since the deadline to submit comments on the draft Vernal RMP and the release of the Vernal PRMP, several federal entities have published additional studies that confirm and reinforce the impacts discussed in SUWA's comments on the draft and the studies cited in those comments. These recent studies include: 1) U.S. Climate Change Science Program Final Report, Synthesis and Assessment Product 4.4, "Preliminary Review of

Adaptation Options for Climate-Sensitive Ecosystems and Resources" (June 2008), *available* at http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf; 2) Committee on Environment and Natural Resources, National Science and Technology Council, "Scientific Assessment of the Effects of Global Change on the United States" (May 2008), *available at* http://www.climatescience.gov/Library/scientific-assessment/; and 3) U.S. Climate Change Science Program, Synthesis and Assessment Product 5.2, "Best Practice Approaches for Characterizing, Communicating and Incorporating Scientific Uncertainty in Climate Decision Making," (April 2008), *available at* http://www.climatescience.gov/Library/sap/sap5-2/public-review-draft/default.htm. These studies provide significant new information about the impacts of climate change on lands like those in the Vernal Planning Area, as well as emerging new best management practices to employ in the face of climate change. The June 2008 report, prepared by the Environmental Protection Agency, specifically "identifies strategies to address management challenges posed by climate change for a subset of federally protected lands and waters. These strategies can also be broadly applied to other lands and waters managed by governmental or nongovernmental entities." U.S. Climate Change Science Program Final Report, Synthesis and Assessment Product 4.4, "Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources" (June 2008), *available at* http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf. This information should have been included in the analysis of the RMP alternatives in order to adequately address climate change.

A. Failure to Take a Hard Look

As the U.S. Geological Survey explains, "understanding interactions of landscape with changing environmental conditions, and their relative influence on the severity of drought, are important for natural resources planning and land use sustainability." USGS, Drought Conditions, 1996 to 2006: USGS Navajo Nation Studies, http://geomaps.wr.usgs.gov/navajo/drought.html (last visited Sept. 1, 2008). Yet, despite the brief acknowledgment in the PRMP that the existence of climate change is no longer a matter of debate but a matter of scientific consensus, the PRMP does not take the logical—and required—next step and analyze what this means for the Vernal Field Office.

This is an important step. A description of the effects of climate change on existing conditions such as the prevalence of exotic plant species, the availability of water, the health of riparian areas, zones of soil erosion or vulnerability to erosion all provide critical baseline information necessary to BLM's ability to determine whether the resources can withstand any of the proposed alternatives. Without this basic foundational information about the existing health of the land, it is impossible to make any informed decision about the level, location, and kind of activities it can support in the future.

The Intergovernmental Panel on Climate Change noted in 2001 that

> for the future of rangelands, it is important to reduce the vulnerability of these systems to climate change. This is likely to be achieved by considering social and economic factors that determine land use by human

> populations . . . . Soil stability and thus maintenance of water and nutrient cycles are essential in reducing the risk of desertification. Any changes in these processes could make rangelands particularly vulnerable to climate change.

Intergovernmental Panel on Climate Change, Climate Change 2001: Impacts, Adaptation and Vulnerability, *available at* http://www. grida.no/climate/ipcc_tar/wg2/241.htm (internal citations omitted).

SUWA's comments on the draft RMP provided specific information about federal studies that had been recently published about the impacts of climate change on public lands and grasslands like those in the Vernal Field Office. For example, the U.S. Climate Change Science Program working group published a report on September 11, 2007 which predicts and elaborates on the widespread impact of climate change on public lands in areas like the cold deserts of the Colorado Plateau. *See* U.S. Department of Agriculture, *The effects of climate change on agriculture, land resources, water resources and biodiversity*, *available at* http://www.climatescience.gov/Library/sap/sap4-3/default.php. That report notes that "the climate changes that we can expect are very likely to continue to have significant effects on the ecosystems of the United States." *Id*. at 3. These impacts include:

- Climate effects on disturbances such as fire, insect outbreaks and wind and ice storms are very likely important in shaping ecosystem structure and function;
- Grasslands will transform into woody shrublands with reduced capacity for water absorption and greater vulnerability to channelization and erosion;
- Droughts early in the 21st Century are likely to increase rates of perennial plant mortality in arid lands, accelerate rates of erosion and create opportunities for exotic plant invasions;
- Proliferation of non-native annual and perennial grasses are virtually certain to predispose sites to fire. The climate-driven dynamics of the fire cycle is likely to become the single most important feature controlling future plant distribution in U.S. arid lands;
- Climate change is likely to result in shrinking water resources and place increasing pressure on montane water sources to arid land rivers, and increase competition among all major water depletions in arid land river and riparian ecosystems;
- Major disturbances like floods and droughts that structure arid land river corridors are likely to increase in number and intensity (with associated increases in erosion and native plant loss);
- Land use change, increased nutrient availability, increasing human water demand and continued pressure from exotic species will act synergistically with climate warming to *restructure* the rivers and riparian zones of arid lands;
- Climate change will increase the erosive impact of precipitation and wind;

- Surface soils will become more erodible;
- Increases in wind speed and gustiness will likely increase wind erosion.

The report also notes that

> [g]iven that many organisms in arid lands are near their physiological limits for temperature and water stress tolerance, slight changes in temperature and precipitation . . . that affect water availability and water requirements could have substantial ramifications for species composition and abundance, as well as the ecosystem goods and services these lands can provide for humans.

Id. at 9. While these findings are dramatic, the report further notes that "[i]t is likely that these changes will increase over the next several decades in both frequency and magnitude, and it is possible that they will accelerate." *Id.* at 23.

BLM should have discussed all of these predicted effects of climate in Chapter 3's assessment of existing conditions and in Chapter 4's discussion of the impacts of the various alternatives.

At a minimum, a description of the effects of climate change on existing conditions such as the prevalence of exotic plant species, the availability of water and the health of riparian areas, zones of soil erosion or vulnerability to erosion, all provide critical baseline information necessary to BLM's ability to determine whether public land resources can withstand any of the proposed management alternatives, including the nearly 5,000 of miles of newly-designated ORV routes and roads, and new mining and oil and gas development. Without this basic foundational information about the existing impacts of climate change on the land, and future expected impacts, it is impossible to make informed decisions about the level, location, and kind of activities the land and its ecosystems can support in the future.

This omission is a significant oversight given that federal departments and agencies including the Department of Interior, the Environmental Protection Agency, and U.S. Geologic Survey have all published documents and/or provided public statements and even congressional testimony acknowledging the impacts of climate change on public lands resources. All of this information was readily accessible to BLM. Together with the failure to incorporate the newer studies cited above, this oversight amounts to a failure to take the necessary "hard look" at the challenge of resource management in the MFO, and an important aspect of that challenge.

Importantly, leaders of both the Department of Interior and BLM have elsewhere gone further than simply acknowledging that climate change is a well-accepted phenomenon. On April 26, 2007, over a year before BLM released the Vernal PRMP, Department of Interior Deputy Secretary Lynn Scarlet testified before the House Interior Appropriations Subcommittee that global climate change could dramatically reshape America's public lands with increased species extinctions and wildfire. As she put it, "On the ground,

we're seeing a lot of changes . . . some of them dramatic." Dan Berman, *'Dramatic' effects of rising temps being seen on public lands*, earthnews, http://www.earthportal.org/news/?p=93. Ron Huntsinger, BLM's own science coordinator, said,

> [w]e can anticipate further reductions in the level of allowable uses on public lands due to the loss of productivity and capacity . . . . The results are more fragile ecosystems, a greater susceptibility to the outbreaks of attacks by parasites and disease, increased vulnerability to wildland fire and erosion and an overall reduction in the carrying capacity of the land.

Id.

Clearly, information about the impacts of climate change and the need to make adjustments in land use plans to address climate change were circulating in the Department of Interior and available to BLM at the same time it was developing the Vernal PRMP. Failure to incorporate this information in the PRMP amounts to a failure to take a hard look at a crucial aspect of the land use plan.

BLM's bare statement regarding the presence of a level of uncertainty about the precise degree of future change in climate conditions in the Vernal Field Office does not excuse this failure. First, some degree of uncertainty does not justify a wholesale failure to address an issue. As the EPA report explained:

> It is not possible to *predict* the changes that will occur, but managers can get an indication of the *range* of changes possible. By working with a range of possible changes rather than a single projection, managers can focus on developing the most appropriate responses based on that range rather than on a 'most likely' outcome.

U.S. Climate Change Science Program Final Report, Synthesis and Assessment Product 4.4, Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources 9-14 (June 2008), *available at* http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf.

Additionally, NEPA contains specific requirements governing the treatment of uncertain conditions and imposes an obligation to state that existing evidence is inconclusive and to summarize the conclusions of that evidence. With respect to incomplete or unavailable information, 42 C.F.R. § 1502.22 provides in full:

> When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.
>
> (a) If the incomplete information relevant to reasonably foreseeable

> significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement.
>
> (b) If the information relevant to reasonably foreseeable significant adverse impacts cannot be obtained because the overall costs of obtaining it are exorbitant or the means to obtain it are not known, the agency shall include within the environmental impact statement:
>
> 1. A statement that such information is incomplete or unavailable;
>
> 2. a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment;
>
> 3. a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and
>
> 4. the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community. For the purposes of this section, "reasonably foreseeable" includes impacts which have catastrophic consequences, even if their probability of occurrence is low, provided that the analysis of the impacts is supported by credible scientific evidence, is not based on pure conjecture, and is within the rule of reason.

Given these regulations, BLM cannot rely on the so-called "uncertainties" relating to the impacts of climate change on the area to end the analysis with a simple acknowledgement of the phenomenon and a passing reference to BLM's claimed inability to "predict the effect of resource management-level decisions from this planning effort on global climate change." BLM must do more, even where information is uncertain (and in this case, SUWA emphasizes that the information, with the detailed studies cited above, is not particularly uncertain).

But even BLM's bare-bones excuse has it backwards. The point is not that BLM should predict how "management-level decisions" affect global climate change, but that *BLM should factor how climate change affects the Vernal Field Office and develop management options that reflect the reality of the dramatic change that warming will cause all the resources in the Vernal Field Office.* In other words, the predicted warmer, drier conditions will create fundamental change to the Vernal Field Office and BLM has simply ignored those coming changes, choosing instead to manage for the past, rather

than for the future.[38]

NEPA regulations require that NEPA documents address not only the direct effects of federal proposals, but also "reasonably foreseeable" indirect effects. These are defined as:

> Indirect effects, which are caused by the action and are later in time or farther removed in distance, *but are still reasonably foreseeable*. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems."

40 C.F.R. § 1508.8(b).[39]

Again, the impacts of climate change were simply not discussed; such an omission violates this section of the NEPA regulations. Thus, it is clear that BLM has failed to take a hard look—or virtually any look—at the impacts of climate change on the public lands resources in the Vernal Field Office.

We have noted elsewhere that the PRMP has not discussed the cumulative effects of various uses like ORV area and route designations, motorized recreation, and grazing on important components of the Vernal Field Office's native ecosystems like riparian areas. These cumulative effects should be considered in the context of climate change and how these uses act synergistically with climate change to impact the resources of the Vernal Field Office.

B. Failure to Include an Alternative that Captures Mitigation Options for Climate Change

An understanding of the predicted impact of climate change should, in turn, shape in important ways the various alternatives under consideration by BLM. For example, given that so many of the predicted outcomes of climate change center on increased soil erosivity, dust storms, shrinking water resources, drier riparian areas, invasion of exotic

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[38] BLM's failure to incorporate the existing scientific climate change information and recommendations into the PRMP arguably violates FLPMA's mandate that public lands be managed to "prevent unnecessary and undue degradation of the lands" (43 U.S.C. § 1732.(b)) as VFO is making management decisions without taking into account the predictable impacts of these decisions to the public lands and resources from climate change.

[39] This regulation provides:

> Effects include . . . Direct effects, which are caused by the action and occur at the same time and place. . . . Effects and impacts as used in these regulations are synonymous. Effects include ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative.

plants, and the spread of hotter, larger wildfires, it is entirely reasonable to expect BLM to design alternatives that minimize soil disturbance as much as possible. And given that ORVs are associated with both the ignition of wildfires and the spread of exotic weeds, it is likewise reasonable to expect that BLM would design—and even designate as preferable—an alternative with far fewer than the five thousand miles of backcountry ORV routes that the PRMP contains. As noted above, BLM's own science coordinator noted that the effects of climate change should result in a reduction in the allowed use of certain activities on BLM lands—yet such an option was not presented in management plan options.

Instead, without information about the effects of climate change in the area, the plan proposes a mix of exactly the kinds of actions that would *compound* the deleterious effects of a warming climate. This is most notable in BLM's overly-expansive network of roads and ORV trails, which was apparently adopted without objective analysis after county officials and ORV groups presented the agency with trail map "wish lists." Yet experts note that the "response of arid lands to climate change will be strongly influenced by interactions with non-climatic factors at local scales" including pressure related to the use of motorized off-road vehicles and grazing. *See* Ryan, MG "Land Resources" Section of the Climate Change working group report at 8, Attachment P to SUWA's comments of the DRMP; *See also id*. at 35 (noting that grazing may reinforce and accentuate the effects of climate change, a result that is probably true for ORV use as well).

In this regard, BLM's failure to consult the scientific literature, and in particular EPA's report, resulted in a fatally flawed document with none of the required options for managing a significant impact that will likely have systemic impacts throughout the Vernal Field Office. U.S. Climate Change Science Program Final Report, Synthesis and Assessment Product 4.4, Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources 9-14 (June 2008), *available at* http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf. BLM should have drawn on EPA's own research and consulted with EPA staff whose report "provides information on how existing practices could be adjusted, or new strategies developed, to address the effects of climate change on natural resources." EPA, Global Change Research Program, Science in Action: Building a Scientific Foundation for Sound Environmental Decisions, *Assessment Provides Strategies for Managing Natural Resources in a Changing Climate: Findings of the U.S. Climate Change Science Program Synthesis and Assessment Product 4.4* at 2, *available at* http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf. According to the report itself, these strategies involve increasing the resilience of ecological systems to climate change. Specific strategies include:

- Identifying and protecting key ecosystem features;
- Reducing anthropogenic stresses like developments which affect native vegetation and cause erosion;
- Protecting a "portfolio" of several slightly different species or ecosystems, which increases these chances that one or more will be suited to the new climate conditions;

- Protecting more than one example of a particular kind of ecosystem, which increases the chance of survival of that type if one or more others are lost in a catastrophic event;
- Restoring key intact ecosystems with important functions, like wetlands or riparian areas which confer resilience to flooding and provide necessary habitat for most native plants and wildlife;
- Identifying refugia where key species and ecosystem types have the highest likelihood of survival of climate change.

U.S. Climate Change Science Program Final Report, Synthesis and Assessment Product 4.4, Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources 9-18 to -21 (June 2008), *available at* http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf.

Importantly, the first option, reducing human-caused stressors, was judged to be the most effective strategy for increasing resilience to climate change among the three types of terrestrial ecosystems studied in the report. *Id.* at 9-61. This is also a defining aspect of the plan's purpose—to manage human impact on the lands and resources in the Vernal Field Office. Thus, BLM has abdicated an important part of its responsibilities by failing to present valid management options that can, over the long term, best ensure the sustainability of the full range of resources in the Vernal Field Office.

C. Violation of Secretarial Order 3226

Secretarial Order No. 3226 specifically requires BLM

> *to consider and analyze potential climate change impacts when undertaking long-range planning exercises*, when setting priorities for scientific research and investigations, when developing multi-year management plans, and/or when making major decisions regarding the potential utilization of resources under the Department's purview.[40]

Section 3 of Secretarial Order No. 3226 is comprehensive and includes every type of land management activity under the Interior Department's jurisdiction. In addition to the provision cited above, the order defines the activities that will trigger a climate change analysis:

> Departmental activities covered by the Order include, but are not limited to, programmatic and long-term environmental reviews undertaken by the Department, *management plans and activities developed for public lands*, planning and management activities associated with oil, gas and mineral

[40] *See* http://elips.doi.gov/app_so/act_getfiles.cfm?order_number=3226 (emphasis added). By its terms the "Order is effective immediately and will remain in effect until its provisions are converted to the Departmental Manual or until it is amended, superseded or revoked, whichever comes first." *Id*. at Section 4. The Order has not been amended, superseded, or revoked.

> development on public lands, and planning and management activities for water projects and water resources.

Id. (emphasis added).

As noted above, no analysis of potential climate change impacts was provided in the plan and EIS. BLM simply ignored the Secretarial Order.

D. BLM Must Prepare a Supplemental Draft Which Addresses the Issue of Climate Change and its Impacts on the Vernal Planning Area

As noted above, BLM briefly discussed climate change in the PRMP, but entirely failed to mention it in the Draft RMP. But 40 C.F.R. § 1502.9(c)(1) requires BLM to prepare an SEIS if "[t]here are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impact." The new climate change information should warrant an SEIS because it meets the threshold for "significant" new information, as outlined in 40 C.F.R. § 1508.27.

Whether new information is significant is a function of both context and intensity. 40 C.F.R. § 1508.27. Context means that:

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

40 C.F.R. § 1508.27(a).

Intensity refers to "the severity of impact," and should take into account several factors:

> (1) Impacts that may be both beneficial and adverse. A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.
>
> (2) The degree to which the proposed action affects public health or safety.
>
> (3) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.
>
> (4) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

> (5) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.
>
> (6) The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
>
> (7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.
>
> (8) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.
>
> (9) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.
>
> (10) Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.

40 C.F.R. § 1508.27(b).

In a recent Ninth Circuit case, *Center for Biological Diversity v. National Highway Traffic Safety Administration*, 508 F.3d 508, 555 (9th Cir. 2007), involving an NHTSA rule for corporate average fuel economy standards for light trucks, the court found that climate change satisfied several of the "intensity" factors in 40 C.F.R. § 5108.27(b). First, the court found that although the NHTSA rule at issue may have an "individually insignificant" effect on climate change, it may nonetheless have a "cumulatively significant" impact, thereby satisfying 40 C.F.R. § 1508.27(b)(7). In addition, the court found that climate change will affect public health and safety, satisfying 40 C.F.R. § 1508.27(b)(2).

Caselaw underscores the importance of agency disclosure and public participation in an agency's decision-making process. *See, e.g.*, Wilderness Watch v. Mainella, 375 F.3d 1085, 1094 (11th Cir. 2004); Am. Iron and Steel Inst. v. U.S. Envt. Prot. Agency, 568 F.2d 284, 291 (3d Cir. 1977) (emphasizing that public participation "enables the agency . . . to educate itself before establishing rules which have a substantial impact on those regulated"); Big Hole Ranchers Ass'n, Inc. v. U.S. Forest Service, 686 F. Supp. 256, 260 (D. Mont. 1988); North Buckhead Civic Ass'n v. Skinner, 903 F.2d 1533, 1540 (11th Cir. 1990). If a proposed action does not fully undergo the NEPA process, NEPA's purpose

is undermined and the agency decision is insulated because final NEPA documents are not subject to a comment period. California v. Block, 690 F.2d 753, 771 (9th Cir. 1982).

Here, BLM introduced an important issue concerning the future management of the Vernal Field Office for the very first time in the final plan. The public, interested parties, and those with expertise in climate change had no opportunity to review the information before the release of the final plan and provide input to BLM about its accuracy or completeness. This is a violation of NEPA's objective to educate both the public and the decision maker, and as a result, the climate information should be improved and released for public comment in a draft plan and EIS. *See* Westlands Water Dist. v. U.S. Dep't of Interior, 275 F. Supp. 2d 1157 (E.D. Cal. 2002) (NEPA process "broke down" where agency's discussion of impact was not presented until after closure of comment period on draft EIS). *See also* 40 C.F.R. §§ 1500.2(d), 1503.1(a)(4), 1506.6 (2007) (all requiring public notice and availability of environmental documents so that interested persons and the agencies can be informed); Anderson v. Evans, 371 F.3d 475, 487 (9th 2004) (CEQ regulations require that the "public must be given an opportunity to comment on draft EAs and EISs, and public hearings are encouraged to facilitate input on the evaluation of proposed actions").

IV. Cultural Resources

As noted in SUWA's DRMP comments, SUWA incorporated the comments submitted by James R. Allison, Ph.D. into SUWA's DRMP comments. Based on Dr. Allison's comments, the management decisions for cultural resources in the PRMP (which did not change from the DRMP) and BLM's responses to Dr. Allison's comments, SUWA has the following concerns regarding cultural resource management as proposed in the PRMP. Dr. Allison's comments have been included at Exhibit U on the accompanying disk.

A. BLM's Analysis Significantly Flawed

As noted in Dr. Allison's DRMP comments, BLM's analysis of potential impacts to cultural resources from decisions and management actions in the RMP is seriously flawed and fails to accurately account for potential impacts. In particular, the analysis in the PRMP places undue confidence in archaeologists' and BLM's understanding of the distributions of archaeological sites, and inappropriately generalizes the results of outdated, poorly designed sample surveys to estimate the number of sites likely to be affected under the different alternatives. Although the PRMP includes statements reflecting the uncertainty in the estimated numbers of sites that would be impacted by the various management decisions, it generally concludes that the number of impacted sites is relatively low. *See e.g.* PRMP at 4-69, 4-50. The PRMP then concludes that whatever impacts there may be are easily dealt with in the NHPA Section 106 process for individual undertakings.

The method used in the PRMP to estimate site numbers is to divide the entire planning area into high and low density site areas based on proximity to water, association with pinyon-juniper stands, vegetation communities, sand dunes, and other factors. These estimates are then applied across the entire area covered by the PRMP. This process incorporates a number of assumptions, many that are not scientifically justified. SUWA incorporates Dr. Allison's DRMP comments regarding the shortcomings of BLM's site density estimates, including inadequate sample surveys, and poorly designed surveys. *See* Dr. Allison's DRMP comments at 3-4. Although BLM's defends this flawed analysis by claiming that it is the best information available (BLM Response to Comments, Draft by Commenter at 385, 397), the fact remains that the methods used lack scientific justification, and the numbers in the PRMP are almost certainly unrealistically low, giving the public and decision-maker an inaccurate representation of potential impacts to cultural resources.

In general, and as noted in Dr. Allison's DRMP comments, the real problem is that the state of archaeological inventory in the VFO is not adequate for proper management of archaeological resources. While a large number of archaeological inventories have been completed, the vast majority of inventories have been small projects driven by the need to comply with Section 106 of the NHPA. These Section 106 surveys may be adequate for their immediate purpose of identifying cultural resources in danger of being directly affected by development. However, they usually do not adequately identify

archaeological resources likely to suffer secondary impacts from these developments, such as increased vandalism that almost inevitably follows allowance of or improvements to motorized access. Most important, because the existing inventories are generally small and irregular, and driven by reaction to project-specific needs, they do not provide a valid database for estimating site densities in different areas. For the most part, recorded sites are most common in the areas where the inventory has been completed, and though there must be areas of higher and lower site density in the VFO, it is difficult to say where most of them are from the currently available information. The current data also allow only very general statements about the relative abundances of different site types and how that varies in different areas.

In short, there are significant gaps in the cultural resource inventory data that made it impossible to properly integrate cultural resources, and the potential impacts to these resources, into the planning process. The only way to remedy these data gaps is through additional inventories. If, as BLM asserts, it is not feasible to "inventory a statistically valid sample of the 1.7 million acres of BLM lands within the VPA for the purposes of preparing the RMP" (BLM Response to Comments, Draft by Commenter at 387), then BLM should avoid management actions that would threaten cultural resources, such as designating open areas, roads and trails, designating areas open to oil and gas leasing and development, and dropping from consideration proposed ACECs that could benefit cultural resources. Otherwise, the agency has insufficient data on which to base an analysis of impacts to cultural resources. The PRMP's analysis of impacts to cultural resources, including the cumulative impacts analysis, fails to comply with NEPA's hard look requirement, and this failure must be corrected prior to issuing the Record of Decision.

B. All Routes, including, "Existing" Routes, Must be Surveyed Prior to Designation

SUWA concurs with Dr. Allison's opinion that all routes and open areas, including existing routes if these routes have never been surveyed, must be surveyed before designating as open to ORV use, in order to comply with NHPA Section 106. Designating areas and routes is an undertaking as defined in the NHPA, and since ORV use has the potential to damage cultural resources even if use is restricted to existing, un-inventoried routes, BLM must inventory all routes to be designated.

As Dr. Allison noted in his DRMP comments, there are routes on public lands that cross archaeological sites, and that on a well-constructed gravel road, OHV use is unlikely to have an effect on cultural resources (beyond whatever impacts were already caused by the construction). In addition, blading a dirt road through an archaeological site will damage, but maybe not necessarily destroy the site. Thus, it is not uncommon for significant archaeological deposits to remain intact below bladed dirt roads. *See* DRMP Comments of Dr. Allison, at 6. Most importantly, as Dr. Allison pointed out, heavy ORV use on bladed roads can therefore damage intact archaeological deposits directly or indirectly by increasing erosion. On routes created solely through use, it is even more

likely that portions of sites will be intact below the route, and that increasing or concentrating ORV use on those routes will cause further damage. BLM's response to Dr. Allison's comments that "[r]outes being designated through the RMP are existing routes where disturbance has already occurred," fails to respond to Dr. Allison's main concern. BLM Response to Comments, Draft by Commenter, at 388. By failing to survey routes and areas before designating them as open to ORV use, BLM is putting unknown numbers of unsurveyed cultural resources at risk of adverse impacts. Although, in general, concentrating ORV traffic on designated roads, while restricting it elsewhere, will be beneficial to cultural resources, *it is critical to first ensure that the routes and areas being designated as open to ORV use do not contain cultural resources*.

Finally, ORV use should be restricted to designated routes, without allowing use up to 300 feet off of either side of the routes, as the PRMP proposes – at least until the 600-foot corridors can be inventoried for cultural resources along the entire 4,860 miles of route. *See* PRMP at 2-44. Similarly, BLM should not designate any "open" areas for OHV use without first conducting a systematic cultural resources inventory of the proposed areas. Inventorying all routes and open area is consistent with Executive Order 11644 and 43 C.F.R. § 8342.1, which require the BLM to regulate ORV use to protect resource values and minimize use conflicts.

C. BLM Must Adopt a More Proactive Inventory Process

Since inventories in reaction to development projects will remain necessary for the foreseeable future, it would be appropriate, in many cases, for the BLM to require these inventories to expand far enough beyond the footprint of development to allow for the identification of sites likely to be subject to indirect impacts, such as the increased vandalism and OHV use that is a reasonably foreseeable effect of road construction – i.e. for energy development or other uses. In other cases, as Dr. Allison's DRMP comments noted, complete inventories of some areas prior to finalizing the PRMP would be appropriate. Specifically, no routes should be designated for ORV use until an on-the-ground survey has been completed covering the length of the proposed route and the entire area of potential effect. If BLM cannot complete such surveys before finalizing the RMP, then the lands should be managed in the way least likely to result in damage to not-yet identified cultural resources until the inventory can be conducted – closed to ORV use.

To fully consider cultural resources in the planning process, the BLM should have adequate inventory data of specific areas prior to making decisions about whether areas should be open to oil and gas development or ORV use. Where adequate inventory is lacking, there are several actions the BLM should take to minimize the potential for resource conflicts and damage to undocumented cultural resources. First, the BLM should require inventory of all areas proposed for oil and gas leasing. Sample surveys may be adequate for evaluating whether exceptional numbers of sites, or sites of exceptional quality, make the area unsuitable for leasing, although a complete inventory of the areas to be leased, prior to (or as a condition of) the actual leasing, would allow well pads and other facilities to be designed from the beginning to avoid cultural

resources. Second, the BLM should require, wherever feasible, practices that reduce the amount of ground disturbance from oil and gas development and reduce the amount of traffic accessing previously roadless areas along roads to oil and gas facilities. To the greatest extent feasible, multiple wells should be clustered onto well pads, and access to new roads should be restricted with gates or other appropriate means.

In summary, although the PRMP makes a superficial attempt to consider cultural resources in the planning process, there are serious problems with the methods used to estimate the likely impacts on cultural resources from the various management decisions. The number of sites that are likely to be at risk is (in most if not all cases) probably considerably higher than suggested by the PRMP, but it is difficult to accurately estimate these effects using existing data. The BLM must complete additional inventories to better inform the decisions required in the management plan, in order to comply with NEPA's hard look requirement, FLPMA's mandate to inventory and protect these resources and prevent unnecessary and undue degradation, and the agency's regulatory obligation to minimize impacts from ORV area and route designations.

V. Oil and Gas Development

A. BLM must analyze a "no leasing" alternative

BLM has failed to consider a no leasing alternative in the Vernal PRMP. As part of its analysis BLM must consider a no leasing alternative—in addition to a no action alternative. Federal courts have made clear that a no leasing alternative should be a vital component in ensuring that agencies have all reasonable approaches before them. *See, e.g., Bob Marshall Alliance v. Hodel*, 852 F.2d 1223, 1228 (9th Cir. 1988). In particular, the Federal District Court in Utah recently issued a decision confirming that a no leasing alternative is a necessary part of any analysis permitting oil and gas leasing and development. *See* S*outhern Utah Wilderness Alliance v. Norton*, 457 F. Supp. 2d 1253, 1262–64 (D. Utah 2006). This decision was issued subsequent to the public comment period on the draft RMP.

The Vernal PRMP does not analyze the possibility of a no leasing alternative. *See* Vernal PRMP at 2-6 to -7. The prior resource management plans for the Vernal Field Office—the Book Cliffs RMP and the Diamond Mountain RMP—never considered no leasing alternatives; a no action alternative is not a no leasing alternative. Management framework plans are not NEPA documents and thus any management framework plan predating the Book Cliffs and Diamond Mountain RMPs cannot constitute adequate pre-leasing analyses that consider a no leasing alternative. *See Southern Utah Wilderness Alliance*, 164 IBLA 118, 123-24 (2004). The Environmental Assessment for Oil and Gas Leasing in the Book Cliffs Resource Area, EA No. UT-080-89-02 (Dec. 16, 1988); the Supplement to the Environmental Assessment for Oil and Gas Leasing in the Book Cliffs Resource Area, EA No. UT-080-89-02 (Jan. 25, 1989); the Environmental Assessment for Oil and Gas Leasing in the Diamond Mountain Resource Area, EA No. UT-080-89-03 (Dec. 16, 1988); and the Supplement to the Environmental Assessment for Oil and Gas Leasing in the Diamond Mountain Resource Area, EA No. UT-080-89-03 (Jan. 23, 1989) all fail to analyze the no leasing alternative. Likewise, the 1975 Vernal District Oil and Gas Program Environmental Analysis Record does not sufficiently analyze a no leasing alternative. Finally, even if there were brief mention and rejection of the no leasing alternative in any of these supplemental NEPA documents it would be facially insufficient for the no leasing alternative analysis and could not be relied upon now for that necessary analysis. *See* S*outhern Utah Wilderness Alliance*, 457 F. Supp. 2d at 1262–64. Hence, the BLM has *never* had before it the possibility of totally abandoning oil and gas leasing in the Vernal planning area, something it is required to consider. *See Bob Marshall Alliance*, 852 F.2d at 1228. BLM must fully analyze the no leasing alternative. The present analysis is insufficient.

B. The impacts analysis from oil and gas development understates the true effects of these activities because of erroneous assumptions; BLM should have considered directional drilling standards

The Vernal PRMP bases its analysis of oil and gas impacts in the planning area on the mistaken assumption that well density will not exceed one well per 160 acres. *See* BLM

Response to Draft Comments, sorted by Resources, at 383. However, this assumption is incorrect, as it is likely that many locations in the planning area will see up to one well per forty acres, a four-fold increase in well density. *See id.* BLM has recently evaluated numerous projects in the Vernal planning area that would implement 40-acre spacing while completing rejecting full scale directional analysis. *See, e.g.*, Kerr-McGee's Bonanza Area Environmental Assessment, Draft, BLM EA No. UT-080-2006-240 (implementing 40-acre spacing and not including a full analysis of directional drilling); Resource Development Group Uinta Basin Natural Gas Project, Final Environmental Impact Statement, UT-080-2003-0300V (May 2006) (failing to analyze a directional drilling alternative and stating that some areas would be developed on a 40-acre spacing pattern). As a result of this improper assumption the Vernal PRMP drastically understates the negative impacts that will result to wildlife, wilderness character, air quality, soils and water resources, vegetation, and visual resources from the high density development that is likely to take place in the planning area. If the Vernal PRMP bases its impacts analysis on a 160-acre spacing assumption then it should limit operators to 160-acre spacing. On the other hand, through directional drilling operators could maintain 160-acre surface spacing and yet achieve 40-acre downhole density (or even greater densities). *See* Ken Kreckel, Directional Drilling: The Key to Smart Growth of Oil and Gas Development in the Rocky Mountain Region (submitted with comments from The Wilderness Society on Supplemental RMP). Mr. Ken Kreckel, a geoscientist with significant experience exploring and drilling oil and gas in the region provided BLM with substantial information on the feasibility of directional drilling in the planning area and of the advantages from imposing directional drilling requirements on operators. *See id.* However, these comments were ignored by BLM. BLM failed to consider directional drilling standards for the Vernal PRMP. This failure was arbitrary and capricious.

C. BLM must thoroughly consider SUWA's proposed alternative

The Vernal PRMP failed to consider a reasonable, feasible alternative proposed by SUWA in its Greater Dinosaur-Bookcliffs Heritage Plan for oil and gas development. In its response to public comments BLM did not even explain this oversight. BLM has an obligation to fully analyze this reasonable, feasible alternative proposed by SUWA. Furthermore, BLM failed to consider a directional drilling alternative which would require the implementation of directional drilling to minimize surface impacts. *See* Kreckel, Directional Drilling (Attached at Exhibit O).

D. BLM must impose more stringent standards on oil and gas development to protect sage grouse populations

BLM has failed to adopt adequate measures to protect sage grouse from the negative effects of oil and gas development. Clait E. Braun's *A Blueprint for Sage-grouse Conservation and Recovery* (May 2006) (submitted by The Wilderness Society and included at Exhibit L) represents the latest in scientific understanding regarding the impacts of oil and gas development on sage grouse populations. Despite this, the Vernal PRMP has ignored its recommendations. Among other things, Dr. Braun recommends that no surface impacts be permitted within 5.5 kilometers of any sage grouse lek. Braun

at 6. He also indicates that timing-based stipulations—those stipulations which prevent development activity during certain periods but allow it during others—do not appear to provide any benefit for sage grouse. *Id.* BLM ignored this information and the Vernal PRMP would allow development within this protective buffer and relies on timing-based stipulations which will not provide benefits to any sage grouse populations. BLM must impose more stringent standards on oil and gas development in sage grouse habitat.

VI. Recreation

A. General Recreation Management

Recreation on public lands comes in a variety of forms, and over time, an increasing number of users seek to use these lands. On a limited quantity of terrain, only so many types of recreation can feasibly coexist without impairing the natural habitat and the qualities that attract users. The PRMP inadequately addresses recreational use within the Vernal Field Office. BLM fails to fully analyze impacts from ORV use and does not take into account how different uses impact the land and conflict with each other.

By allowing a disproportionate level of ORV use within the management planning area, BLM is not maximizing the *net* benefits that could be received by recreational users of all types. A national study by Roper (2003) looked at participation rates over time (1995-2003) and found that off-road vehicle activities consistently ranked below non-motorized activities with walking, hiking and backpacking accounting for two-thirds or more of recreation visits, while OHV driving accounted for less than ten percent. Data from several states as well as national studies (the USDA Forest Service National Visitor Use Monitoring Program, the National Survey on Recreation and the Environment [see Cordell et al. 2004], and BLM's Public Lands Statistics)[41] all show that motorized use is consistently a small portion of total recreation visits to public lands. In addition, the Recreation Management Inventory System (RMIS) for the state of Utah show that in Fiscal Year 2004, non-motorized visits made up more than 50 percent of all visits. Motorized recreation visits only made up 20 percent.[42]

Throughout Utah BLM field offices, recreation trends have continually shown that a significant majority of recreation is non-motorized. Motorized recreation, despite the evident bias exhibited by the BLM through decisions made in the PRMP, tends to make up less than a quarter of all recreation. Nationally, regionally, and locally, the trend of recreational use is constant; the majority of recreation occurring on public lands is non-motorized. Stynes and White (2005) have shown that motorized and non-motorized visitors spend the same amount per day on tourism-related services. Therefore, due to higher rates of non-motorized recreation, it is easily extrapolated that traditional recreation forms create greater injections for local economies. Another study has shown that the economic value of a day of non-motorized recreation is, on average, higher than the value for the same day of motorized recreation. *See* Kaval and Loomis (2003).

As discussed below, the Vernal Field Office is no exception to these general statistics when it comes to recreational uses. The PRMP is deficient in striking a balance for the

[41] National Forest Visitor Use Monitoring Program National Project Results, January 2000 through September 2003. http://www.fs.fed.us/recreation/programs/nvum/national_report_final_draft.pdf
National Survey on Recreation and the Environment: http://www.srs.fs.usda.gov/trends/Nsre/nsre2.html
U.S. Department of the Interior, Bureau of Land Management, Public Lands Statistics: http://www.blm.gov/wo/st/en/res/Direct_Links_to_Publications/ann_rpt_and_pls/2006_pls_index.html

[42] Source: Tina McDonald, Outdoor Recreation Planner, Recreation Management Information System (RMIS) Project Manager, USDI Bureau of Land Management, 2850 Youngfield St., Lakewood, CO 80215, Email Tina_McDonald@blm.gov

management of the recreation needs in the planning area. Not only has BLM failed to adequately analyze current recreation data for the area, but also the agency does not minimize conflicts among recreational users as required by law.

1. BLM has not provided an adequate baseline for analysis of recreational use in the planning area as required under NEPA

The PRMP references a November 2001 statewide report from the Institute of Outdoor Recreation and Tourism at Utah State University. The PRMP states in part, "[r]esults of the survey indicated the following:

- Hiking was the most mentioned activity.
- OHV riding was mentioned second.
- Horseback riding was mentioned third.

PRMP at 3-54. This is an inaccurate statement of the findings of the report. The following is a direct and pertinent quote from the report concerning the Uintah Basin Planning Area:

> [T]he activity of Hiking, mentioned by 60% of Trail Users in the Uintah Basin Planning District . . . is clearly the most popular activity occurring on trails in Utah in the past 12 months . . . [T]he second most mentioned trail activity in the Uintah Basin Planning District is both ATV Driving and Horseback Riding, each mentioned by 15% of Trail Users and each higher than the statewide results. Biking/Mountain Biking was mentioned by slightly over 11%, followed by Walking at almost 8%. Camping and Fishing were mentioned as trail activities by slightly over 6% of Trail Users, followed by Hunting at almost 6%. All other trail activities were mentioned by about 4% and less of Trail Users in the Uintah Basin Planning District. Appendix D: Uintah Basin Planning District—Page D-10.

This excerpt shows the true nature of use in the planning area, where non-motorized activities are considerably more popular than motorized activities. The PRMP does contain an accurate quote from the report in public support for trails:

- Only 47% of trail users indicated they would support the use of additional public funds for motorized trails.
- Over 79% of trail users support the use of additional public funds for non-motorized trails.

PRMP at 3-54. Here again, there is much more public support for non-motorized trails than for motorized trails among trail users. Decisions in the PRMP should reflect these findings. However, BLM has chosen to leave ninety-six percent (96%) of the planning area available to ORV use.

Even though the PRMP provides the report from 2001 on recreational use, BLM makes no attempt in the PRMP to update this data or provide other data that takes into account the last seven years. The PRMP states, "Extensive research has been conducted over the

last several years to attempt to designate certain areas as appropriate for OHV use." PRMP at 3-55. However, the PRMP does not provide the results of this research or any other data that might point to current baseline data that would help BLM make a reasoned decision and help the public understand and provide meaningful comments on that decision.

2. BLM has failed to minimize conflicts between ORV use and other uses

BLM's ORV regulations require the agency to designate areas and trails for ORV use "to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands, and to ensure the compatibility of such uses with existing conditions in populated areas, taking into account noise and other factors," 43 C.F.R. § 8342(c). The PRMP fails to comply with this duty.

Motorized users are only minimally affected by non-motorized users. In contrast, non-motorized recreational users often feel displaced by motorized users. The scenic and physical impacts created by motorized users are far more noticeable than impacts caused by non-motorized users, and the noise that ORVs produce severely disrupts the natural experience. As a result, many traditional recreational users avoid areas where ORV use is known to occur. In areas open to both motorized and non-motorized recreation, this can largely exclude the latter. Therefore, not only are recreational opportunities and potential benefits to traditional non-motorized recreationalists reduced in the PRMP, conflicts are increased.

The PRMP clearly acknowledges that "known user conflicts between motorized users and non-motorized users would continue" in the discussion of long-term, indirect effects. PRMP at 4-308. This admission of impacts from motorized use does nothing to minimize conflicts among recreational users as required by law. In addition, after several commenters provided BLM with examples of conflicts they experienced from ORV use in specific areas, BLM responded in the following way:

> The BLM analyzed the impacts of travel management as outlined and described in Chapter 4 of the DRMP/DEIS. Congress recognized that, through the multiple-use mandate, there would be conflicting uses and impacts on the public land. Also, specific decibel limitations on motorized vehicles are under the jurisdiction of the Environmental Protection Agency, and a matter of State Law. As stated in 43 CFR 8343.1(b): "No off-road vehicle equipped with a muffler cutout bypass, or similar device, or producing excessive noise exceeding Environmental Protection Agency standards, when established, may be operated on public lands."

BLM Response to Comments, sorted by Commenter, at 241-42. This response fails to address concerns about conflicts from ORV use. BLM also does not explain how it will minimize these conflicts as required by the ORV regulations. This is an especially important discussion that should not be overlooked since the majority of users prefer a

non-motorized experience, which can conflict with motorized recreation, and the PRMP manages the area for primarily motorized recreation.

In addition, most of the routes in the planning area will have a six hundred foot corridor (three hundred feet on either side) for motorized travel off-route to a campsite. PRMP at 2-44. This allows for many recreation conflicts between users. The 9th Circuit recently discussed the following damaging impacts that could be expected from an RMP that provided for off-road camping use on just half the amount of land proposed in the Vernal PRMP:

> Specifically, the limitations contemplated in the EIS fall into basically two types: seasonal closures of some areas and limitations to existing routes. Even with such limitations in place, ORV users may venture off trail by as much as 150 feet to find a camping site, thereby creating ORV tracks as long as a football field criss-crossing existing routes. As they pass through "limited" areas, both on existing routes and en route to camping sites, ORVs will still churn up mud, transport mud and seeds into the regions through which they pass, and will still significantly affect the outdoor recreation experience. *Oregon Natural Desert Assn. v. BLM*, 531 F.3d 1114, 1145 (9th Cir. 2008).

The PRMP must be modified to preclude off-route driving. BLM must designate routes that access camping areas. Even with this change, the PRMP is undeniably slanted to favor ORV use over non-motorized activities. Because the planning area is largely used by non-motorized recreationists, these decisions will promote, and not minimize, conflicts among users in violation of the ORV regulations.

3. BLM has failed to provide a reasonable range of alternatives under NEPA

BLM is in violation of NEPA for not providing a reasonable range of alternatives for which recreation management decisions would be made. In all of the alternatives provided, BLM does not analyze an alternative with more than twenty-three percent of the planning are closed to ORV use. Most alternatives, including the proposed, are around 3 to 4 percent closed. This is not a reasonable range of alternatives, especially for an area where most of the recreation is non-motorized.

In discussing the range of alternatives provided for an RMP, one recent 9th Circuit case states:

> Limited ORV use is simply not identical to no ORV use. A limited designation, even with the possibility of closure, does not provide protection equivalent to a straightforward closure . . . the BLM must consider closures of significant portions of the land it manages, including, if found appropriate on remand, lands with wilderness characteristics.

Oregon Natural Desert Assn. v. BLM, 531 F.3d 1114, 1145 (9th Cir. 2008).

Considering the recreational context of the planning area as discussed above, a reasonable range of alternatives would have considered closing significant portions of the land to ORV use.

a. Requested Remedy

The statistics collected by the agency itself should be incorporated in the development and analysis of alternatives within the context of BLM's multiple-use mandate, as well as the directive to designate areas for motorized use that minimize conflict with other users of the public lands. These statistics should be updated to reflect the most current trends in the field office since this plan will likely determine management of the area for the next fifteen to twenty years.

BLM should develop a broader range of alternatives that accounts for true disparities in recreational uses and considers in greater depth the impacts of different recreation types on one another, in addition to the land itself. Alternatives should be examined fully to assess the tradeoffs between all economic values (both market and non-market) for all alternatives. The economic analysis should consider the net (rather than gross) benefits of a full range of management alternatives. BLM must refer to available literature on these economic impacts. Finally, access to camping sites must be on designated routes, rather than cross-country within a 600-foot corridor along routes.

B. Special Recreation Management Areas (SRMAs)

Recreation data shows that all forms of outdoor recreation have been increasing over the last two decades. Citing the need to avoid user conflicts and protect recreation-related resource values, BLM has designated a number of SRMAs within the Vernal Field Office land management area. However, the agency's designation process fails to adequately analyze the recreational, environmental, social, and economic consequences of these designations.

1. The PRMP omits determinations about what SRMAs will be designated and how they will be managed

BLM has neglected to include detailed management prescriptions for both Pelican Lake SRMA and Red Mountain-Dry Fork SRMA in the Proposed RMP and Alternatives in Chapter 2. It is apparent from other sections (PRMP at 3-53, 4-309, Map 28, and Appendix N-3) that BLM intends to retain some of these existing SRMAs. However, there should be a description of what these units are being managed for and how the BLM intends to manage these areas along with the other five designated SRMAs in Table 2.1.14.

The PRMP states the following in Appendix N and in a discussion of recreation management common to the PRMP and all alternatives in Chapter 2:

- Continue to manage 1,014 acres at Pelican Lake as a Special Recreation Management Area (SRMA). The area would be open to oil and gas leasing subject to major constraints such as No Surface Occupancy (NSO) stipulations and closed to mineral materials sales.
- Manage 24,259 acres in Red Mountain-Dry Fork as a SRMA to provide for maintenance and development of OHV or non-OHV trails, minimal facilities necessary for human health and safety, watershed values, relict vegetation communities, and crucial deer and elk winter habitat. An activity plan for the SRMA would be developed to determine what areas are appropriate for day use only.

PRMP at Table 2.1.13; Appendix N-3. However, the PRMP does not include these two SRMAs in Table 2.1.14, where five other proposed SRMAs are discussed.

The BLM Land Use Planning Handbook (H-1601-1) requires BLM to explain the rationale behind a decision to manage an area as an SRMA as well as the specific population that will be served by the designation:

> Each SRMA has a distinct, primary recreation-tourism market as well as a corresponding and distinguishing recreation management strategy. For each SRMA selected, determine whether that primary market-based strategy will be to manage for a *destination* recreation-tourism market, a *community* recreation-tourism market, or an *undeveloped* recreation-tourism market, and state that determination in the land use plan. Then describe the market that corresponds to that specific recreation management strategy (who they are and where they are located).

H-1601-1, Appendix C, page 15. For the Pelican Lake SRMA, BLM has failed to acknowledge why it is managing the area as an SRMA and what market the SRMA will be serving. Without more information, the public cannot provide substantive comments on its designation.

As to the Red Mountain-Dry Fork SRMA, the area will be managed "to provide for maintenance and development of OHV or non-OHV trails." PRMP at Table 2.1.13. Without further explanation, the public does not know why this SRMA is necessary or the type of recreationist it will cater to – this lack of information leads to an inability for the public to adequately understand or comment on the SRMA's use. H-1601-1 also makes clear that "[r]ecognition of singularly dominant activity-based recreation demand of and by itself (e.g., heavy off-highway vehicle use, river rafting, etc.), however great, generally constitutes insufficient rationale for the identification of an SRMA and the subsequent expenditure of major recreation program investments in facilities and/or visitor assistance." Appendix C, p. 16.

The oversights to include these SRMAs in Table 2.1.14 with details on market strategies and management prescriptions must be corrected. The public should be offered an

additional comment period in order to allow for adequate consideration of the management of these areas.

2. BLM has failed to conduct a thorough analysis of impacts from its designation of SRMAs

BLM is in violation of NEPA for not evaluating all reasonable direct, indirect, and cumulative environmental impacts from its designation of SRMAs. The agency focuses almost exclusively on the benefits of leaving areas open for ORV use, while simultaneously underestimating the impacts of motorized recreation.

BLM fails to take a "hard look" at the environmental implications of their SRMA designations as required by NEPA. The agency does recognize certain consequences of ORV use in general; the likelihood of soil compaction leading to surface runoff and site-specific reduction of forage material for livestock were among the most highlighted. However, the agency's evaluation of these impacts was only superficial. Concerning SRMAs in particular, there is no site-specific analysis of these impacts and the extent to which they would occur and adversely affect other recreational users, wildlife, or the quality of the habitat itself. In fact, the agency makes no mention of how exactly to curb impacts on resource values. The PRMP simply states that "[i]mplementation of a continuous monitoring program and subsequent adaptive management strategies would also reduce indirect impacts of OHV use, such as the degradation of water quality, soil quality, and wildlife habitat." PRMP at 4-309. BLM must provide *concrete* evidence supporting their proposed land management plan.

Although SRMAs are designated to provide ample recreation opportunities for users of different types (motorized, equestrian, biking, hiking), the land management plan lacks balance in the designation of allowable activities within the SRMAs. Of the 133,560 acres proposed within seven SRMAs, a considerable majority is open to motorized recreation. Although not explicit in the management prescriptions for SRMAs, it appears from Map 33 (Travel/OHV Areas) that the only SRMAs that exclude ORV use in part are the White River and Browns Park SRMAs along with a very small portion of the Nine Mile SRMA. On the other hand, the Red Mountain-Dry Fork SRMA, which contains 24,259 acres, is designated specifically for motorized recreation and the Blue Mountain SRMA (42,729 acres) contains no closed ORV areas. This kind of planning is backwards; non-motorized recreation represents the majority within the Vernal Field Office, while motorized users are a much smaller constituency (consistently less than one quarter of all recreational use), but the SRMA's fail to reflect this reality in its recreation management decisions. PRMP at 3-53.

Trails designated for motorized recreation have a significant physical footprint on the land and motorized users create considerable noise and effluence. All of this detracts from the natural experience. On the other hand, non-motorized recreation has very little adverse effect on ORV use, if any. As a result, non-motorized users will actively seek out areas where ORVs are known not to go. Therefore, SRMAs designated for shared use (both motorized and non-motorized recreation) would primarily be used by ORVs.

Based upon the recreation trends and data collected by BLM, and BLM's own projection that both types of recreation will increase in coming years, the PRMP does not appropriately designate SRMAs for recreation purposes.

Oil and gas development constitutes a more general threat to recreation of all types. Although SRMAs are designated specifically for varied recreational purposes, the majority of land within these SRMAs is available for oil and gas leasing. There is some area with no leasing and some with no surface occupancy, but the fact remains that most of the land within these special recreation areas is open for leasing. Oil and gas infrastructure is unsightly and creates effluence, including the precursors for ground-level ozone. This has very serious impacts on local recreation opportunities. Non-motorized recreationists in particular, will not want to recreate in an area where they can see oil/gas rigs. Furthermore, much of the area within the designated SRMAs is culturally important, containing petroglyphs and other cultural resources. The area of Nine Mile Canyon is considered to have some of the most abundant and valuable cultural resources in the country, and yet, the majority of this area is open to oil and gas leasing. The dust kicked up by passing trucks has noticeable affected rock art in the area, as have chemicals spread to prevent this dust. According to BLM, "Designating some SRMAs as No Surface Occupancy (NSO) areas for oil and gas development and as Closed to mineral leasing would have direct, long-term, beneficial impacts on recreation resources by preserving the natural, undisturbed qualities of these recreation areas." PRMP at 4-310. Given this acknowledgment and the obligations imposed by the ORV regulations, it is inexplicable that more of the SRMAs are not either closed to leasing or designated as NSO to protect recreation experiences.

The balance claimed by the BLM for SRMAs within the Vernal Field Office is largely absent. Using superficial qualitative assessment, the agency has attempted to mask the true nature of the plan that has considerable leanings towards motorized recreation and natural resource development. The natural amenities within the Vernal Field Office are world-class, yet BLM's plan will allow many of these resources to be squandered for the sake of limited financial opportunities. BLM's failure to assess the non-market values translates into a failure to abide by its own multiple use mandate.

2. The Proposed RMP does not present a reasonable range of alternatives

The range of alternatives promoted by the earlier Draft RMP/EIS and Supplements was overly limited and the PRMP does not fix this fatal flaw. A true range needs to represent the interests of all stakeholders for the specified lands, not just a limited demographic. Most areas for specialized recreation are targeted towards OHV use, and even areas meant for shared use are dominated by motorized recreation. The PRMP lacks sufficient opportunities for non-motorized recreation, providing virtually no balance despite the available tool of designating SRMAs to provide this type of experience. In addition, the preponderance of oil and gas leasing further damages the integrity of this plan to preserve recreational opportunities within the Vernal Field Office.

3. Requested Remedy

BLM should develop a reasonable range of alternatives. These alternatives should be examined fully to assess the tradeoffs between all economic values (both market and non-market) for all alternatives. The alternatives should consider in greater depth the impacts of different recreation types on one another, and especially to the land itself. Also, the statistics collected by the agency itself should be considered within the development and analysis of alternatives.

C. Special Recreation Permits (SRPs)

1. BLM can and should develop criteria for processing SRPs in the RMP

The issuance of special recreation permits (SRPs) on public lands is becoming more of a concern due to some associated uses (namely, ORV events) causing increased degradation and disturbance. Many SRPs are issued to large groups that can have irreparable impacts on the land and can lead to a disruption of other users' experiences of public lands. BLM should provide more detailed criteria governing the issuance of SRPs for lands in the planning area due to concerns with the often intensive uses associated with these permits.

The Recreation Permit Administration Handbook (H-2930-1) states: "Field Offices are encouraged to develop thresholds through land use planning for when permits are required for organized groups and events for specific types of recreation activities, land areas, or resource settings." BLM Handbook (H-2930-1) at 13. On the issue of Special Area Permits, the Handbook states: "Applications for Special Area Permits issued to individuals are processed according to the area-specific land use and/or business plan, or guidelines approved by the State Director." *Id.* at 17. The Vernal Field Office therefore must provide clear guidelines for processing Special Area Permits, because in this situation the Handbook directs land managers to look for this guidance in the RMP.

The Price Field Office Draft RMP provides a good example of an approach to evaluating SRP applications and issuing such permits. It classifies SRPs into four distinct classes, ranging from least intensive to most intensive, based on specific factors such as the type of equipment, size of area used, number of participants, etc. Because the standards are very specific (for example, surface disturbance of 5-40 acres ranks as "medium intensity"), BLM can easily determine whether to issue an SRP and where, and can better estimate cumulative impacts from such permits.

a. Requested Remedy

As can be seen from the Recreation Permit Administration Handbook and RMPs for other field offices, BLM has the discretion to establish detailed criteria for SRPs during the land use process and, because the RMP will serve as the overriding authority on criteria, the Handbook encourages development of criteria for effective, responsible land

management. Because these criteria will be used to process permits for at least two decades, this authority should translate into a comprehensive list of factors for SRPs that protect the public lands resources in order to "consider present and potential uses of the public lands" as required under FLPMA, 43 U.S.C. § 1712, when developing land use plans.

BLM should provide clearer, more detailed guidelines for issuing SRPs in the RMP as this document will set out the criteria for issuing permits for the next two decades. BLM should use the Price RMP as a model for setting out standards for processing SRPs that can be included in the Vernal RMP.

2. BLM must seriously consider impacts from alternatives developed during the land use planning process

The PRMP states that "Special Recreation Permits (SRPs) would continue to be considered on a case-by-case basis. All proposed applications for permits would be evaluated to determine compliance with the goals and objectives of this plan." PRMP at 2-44. However, site-specific projects will tier to the NEPA analysis performed in the RMP and thus will never be fully analyzed. The possibility of future analysis does not justify BLM avoiding an assessment of the potential environmental consequences of the action that it is approving in the RMP. As a matter of NEPA policy, compliance with the Act must occur "before decisions are made and before actions are taken." 40 C.F.R. § 1500.1(b). For purposes of NEPA compliance, "it is not appropriate to defer consideration of cumulative impacts to a future date when meaningful consideration can be given now." *Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1075 (9th Cir. 2002).

Because BLM will use the criteria in the RMP for processing SRPs at the site specific level, the RMP itself must provide meaningful analysis of the environmental impacts of SRPs.

a. Requested Remedy

BLM must fully and critically analyze impacts from SRPs at the RMP level. This means that BLM should take into consideration all comprehensive, reasonable, and specific criteria for issuing SRPs, and the potential impacts of various types of SRPs on the natural and cultural resources, as well as impacts on other users.

3. BLM has not taken a hard look at the impacts from the issuance of SRPs

BLM did not assess impacts stemming from the issuance of SRPs; this renders the analysis incomplete. The PRMP states that BLM will consider applications for SRPs on a case-by-case basis. However, depending solely on site-specific analysis does not allow for cumulative impact analysis as required by NEPA. As stated previously, the NEPA regulations define "cumulative impact" as:

> the impact on the environment which results from the *incremental impact of the action when added to other past, present, and reasonably foreseeable future actions* regardless of what agency (Federal or non-Federal) or person undertakes such other actions. *Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.*

40 C.F.R. § 1508.7 (emphasis added). Failing to include a cumulative impact analysis of actions within a larger region will render NEPA analysis insufficient. *See, e.g., Kern v. U.S. Bureau of Land Management*, 284 F.3d 1062, 1078 (9th Cir. 2002) (analysis of root fungus on cedar timber sales was necessary for the entire area).

The PRMP fails to disclose the impacts from past and present SRPs, and it fails to assess the impacts from reasonably foreseeable future actions. This is a necessary analysis because, as BLM says in the PRMP, ORV use in the planning area is increasing. PRMP at 3-54. Cumulative impact analysis must account for this trend in recreational uses and how the issuance of SRPs impacts this in order to satisfy NEPA.

a. Requested Remedy

BLM must assess cumulative impacts, including reasonably foreseeable future actions, stemming from issuance of SRPs and make adjustments in the criteria for issuance to ensure significant impacts are avoided. In this context, use of specific criteria for issuance of SRPs would support a more thorough analysis, as well as avoidance and/or mitigation of impacts.

VII. ORV Area and Trail Designations and Travel Plan Decisions

A. Federal Law Governing Off-Road Vehicle Management Focuses on Protection of Resources

As SUWA noted in its comments on the DRMP, off-road vehicle (ORV) use on BLM lands is governed by FLPMA, its implementing regulations, and executive orders. Each of these governing authorities is based on concerns about the destructive effects of ORV routes and the use of ORVs, and the need to manage these impacts to protect the environment and other users of the public lands. *See, e.g.,* 43 C.F.R. § 8340.0-2 ("[t]he objectives of these regulations are to *protect* the resources of the public lands, to promote the safety of all users of those lands, and to minimize conflicts among the various users of those lands") (emphasis added). *Thus, the guiding principle of these authorities is built on the assumption that ORV use may only be approved under certain circumstances and based on specific analysis and findings*. Any presumption in favor of ORV use in a particular area, or the approval of ORV use without the requisite findings or analyses, violates the very foundation of these governing authorities.

Other laws and policies also come into play regarding BLM's management of off-road vehicles and the designation of ORV areas and trails, including NEPA, the National Historic Preservation Act, the Clean Air Act, the Clean Water Act, the Utah Riparian Management Policy, and the BLM's 2006 "Clarification Guidance" for the development of ORV areas and trails.

B. The Vernal PRMP Fails to Comply with FLPMA and its Implementing Regulations

FLPMA requires that "[i]n managing the public lands the [Secretary of Interior] shall, by regulation or otherwise, take any action necessary to prevent unnecessary or undue degradation of the lands." 43 U.S.C. § 1732(b). BLM's duty to prevent unnecessary or undue degradation (UUD) under FLPMA is mandatory, and BLM must, at a minimum, demonstrate compliance with the UUD standard. *See* Sierra Club v. Hodel, 848 F.2d 1068, 1075 (10th Cir. 1988) (FLPMA land use standards provide the "law to apply" and "imposes a definite standard on the BLM"). FLPMA also mandates that the public lands be managed "without permanent impairment of the productivity of the land or quality of the environment." 43 U.S.C. § 1702(c).

In addition, BLM's ORV regulations, which incorporate Executive Orders 11644 and 11989, state that the "objectives of these regulations are to *protect* the resources of the public lands . . . and to *minimize conflicts* among the various uses of those lands (emphasis added)." 43 C.F.R. § 8340.0-2. These regulations require BLM to ensure that areas and trails for ORV use are located "to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and to prevent impairment of wilderness suitability." *Id.* § 8342.1(a). Areas and trails "shall be located to minimize harassment of wildlife . . . . Special attention will be given to protect endangered or threatened species and their habitats." *Id.* § 8341.2(b). Areas and trails "shall be located

to minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands . . . taking into account noise and other factors." *Id.* § 8342.1(c). BLM's own 8340 manual explains that "minimizing" means that the agency should reduce impacts to the maximum extent feasible. *See* BLM Manual 8340 – Off-Road Vehicles (General) (1982). Finally, BLM is obligated to close routes to ORV use if ORVs are causing or will cause considerable adverse effects upon soil, vegetation, wildlife, wildlife habitat, cultural resources, historical resources, threatened or endangered species, wilderness suitability . . . or other resources until the adverse effects are eliminated and measures implemented to prevent recurrence." *Id.* § 8341.2.

The Vernal PRMP travel plan and ORV area and trail designations (including 4,860 miles of route), including the decision to allow cross-country travel for 300 feet on either side of the designated trail for campsite access – creating a 600 foot wide cross-country corridor along all designated routes – fail FLPMA's UUD standard. *See* PRMP at 2-44. The proposed travel plan and ORV designations will harm natural resources in a number of important ways, including: unnecessarily increasing fugitive dust and degrading air quality; unnecessarily fragmenting wildlife habitat; causing unnecessary damage to riparian areas, floodplains, and cultural resources; unnecessarily reducing naturalness in areas with identified wilderness characteristics; and impairing Wilderness Study Areas.[43] (Elsewhere in this protest, we discuss the failings of the PRMP to consider how the proposed actions will exacerbate, and contribute to, the effects of climate change as well.)

BLM must remove this proposed decision in the Final RMP. BLM's proposal to allow motor vehicles to travel off of designated routes 300 feet on each side of the route to "access an existing disturbed dispersed campsite" fails to minimize the impacts to natural and cultural resources. PRMP at 2-44. Further, since there is no stated reason for the necessity of these excessive corridors, it also violates FLPMA's prohibition of unnecessary and undue degradation. This proposed action also contradicts the decision to prohibit cross-country travel and to restrict travel to designated routes. *See id.* at 2-44. BLM's proposal to allow what amounts to cross-country travel along a 600-foot wide corridor for the 4,860 miles of designated route is not insignificant. BLM's decision will allow travel corridors that are essentially the width of two football fields, and are wider than interstate highway corridors. BLM must analyze the potential impacts to resources from this decision, and disclose this information to the public and the decision-maker, before issuing the Record of Decision.

The PRMP fails to minimize conflicts with other users of the public lands, specifically non-motorized recreationists. The PRMP concludes that limiting the number of acres designated as open ORV play areas and increasing the acreage "limited to designated" routes would have "direct beneficial impacts . . . by reducing recreational resource-use conflicts," and would have indirect beneficial impact to "recreational activities that

[43] The PRMP includes a management decision that states that BLM will grant the State reasonable access across public lands for economic purposes, in accordance with the *Cotter* decision. *See* PRMP at 2-82. The PRMP should include a statement that BLM *must* comply with the Interim Management Policy (IMP) for wilderness study areas, as access can be provided that is consistent with the IMP as well as *Cotter*.

require high visual quality" as there would be a reduction in soil erosion and fugitive dust produced by ORV activities. *Id* at 4-336 to -337. Although moving to a designated route system from an open system could, conceivably, decrease resource-use conflicts, there is no analysis in the PRMP to support the contention that this is the case here. Indeed, with nearly 5,000 miles of proposed route, there may be little beneficial impacts to non-motorized users, as the web of routes is so dense that there are few places that non-motorized users can go to escape the sights and sounds of motor vehicles.

The PRMP notes that the results of a telephone survey conducted by the Institute of Outdoor Recreation and Tourism at Utah State University for the Uinta Basin sub-area indicates that hiking was the most mentioned activity, with ORV use the second, and that 79% of the respondents supported the use of "additional public funds for non-motorized trails" where as only 47% supported the use of additional public funds for motorized trails. *Id.* at 3-54. From this survey, it appears that there is a preference for more non-motorized recreational opportunities in the VFO, yet the PRMP fails to address that concern – if fact, it did just the opposite of what the survey data suggests as the most reasonable approach. Before issuing the PRMP, BLM should conduct a visitor survey, similar to the Moab National Visitor Use Monitoring survey and pay particular attention to the relative use of non-motorized versus motorized recreation. *See* http://www.suwa.org./site/DocServer/BLMNVUMsurveyMoab.pdf?docID+2821. This study shows that non-motorized recreation is utilized by vastly more visitors to the Moab BLM-managed lands than motorized (ORV-based) recreation. In fact, the Moab survey found that motorized use accounted for less than 7% of visitors' main activity. Having actual visitor information is essential to guide BLM's long-term recreation management decisions and ORV area and route designation decisions. Merely stating that there will be unquantified beneficial impacts by moving from a predominantly "open" VPA to one that is managed predominantly as limited to designated routes, particularly in light of the enormous 600-foot corridors around each route, is not the equivalent of minimizing these impacts. BLM must comply with NEPA and analyze the impacts of its ORV area and trail, and travel management decisions -- including its decision to designate over 96% of the VFO available to ORV use. The PRMP must be amended to incorporate adequate analysis prior to BLM issuing the Record of Decision.

The PRMP should explicitly include a provision in the Travel Management section for a "closed unless posted open" policy, to minimize adverse effects to resources and other users in areas that are not open for ORV use. Although BLM might issue route and ORV area designation maps, the agency must ensure that its ORV management decisions are being observed on the ground. Implementing a "closed unless posted open" policy will assist BLM in enforcing its area and route designations (ORV users will not likely be tempted to remove "open" signs), and contribute to BLM's mandate of minimizing impacts from ORV designations to natural and cultural resources.

For the reasons discussed above and detailed in Section C.2, below, for individual resources, the PRMP does not comply with FLPMA, the minimization requirements of Executive Order 11644, and BLM's ORV regulations. Specifically, the PRMP fails to minimize impacts to riparian and wetland areas, cultural resources, soils, vegetation, air

quality, water quality, wildlife and wildlife habitat, wilderness character areas, and other users. The PRMP, including Response to Comments, fails to disclose the purpose and need for the specific ORV area designations and the individual route designations, and fails to provide BLM's analysis supporting a determination that each designated ORV area and trail and the travel plan decision minimize impacts to natural and cultural resources, and minimizes conflicts among users. BLM must conduct this analysis and share it with the public before areas and routes are designated and determined available for use.

C. The Vernal PRMP Fails to Comply with NEPA

1. Alternatives

"An agency must look at every reasonable alternative, with the range dictated by the nature and scope of the proposed action." *Nw. Envtl. Defense Center v. Bonneville Power Admin.*, 117 F.3d 1520, 1538 (9th Cir. 1997). An agency violates NEPA by failing to "rigorously explore and objectively evaluate all reasonable alternatives" to the proposed action. *City of Tenakee Springs v. Clough*, 915 F.2d 1308, 1310 (9th Cir. 1990) (quoting 40 C.F.R. § 1502.14). This evaluation extends to considering more environmentally protective alternatives and mitigation measures. *See, e.g., Kootenai Tribe of Idaho v. Veneman*, 313 F.3d 1094, 1122–23 (9th Cir. 2002) (and cases cited therein).

NEPA requires that an actual "range" of alternatives is considered, such that the Act will "preclude agencies from defining the objectives of their actions in terms so unreasonably narrow that they can be accomplished by only one alternative (i.e. the applicant's proposed project)." *Colo. Envtl. Coal. v. Dombeck*, 185 F.3d 1162, 1174 (10th Cir. 1999) (citing *Simmons v. U.S. Corps of Eng'rs*, 120 F.3d 664, 669 (7th Cir. 1997)). This requirement prevents the EIS from becoming "a foreordained formality." *City of New York v. Dep't of Transp.*, 715 F.2d 732, 743 (2d Cir. 1983). *See also Davis v. Mineta*, 302 F.3d 1104 (10th Cir. 2002). The ORV area designations and the travel plan decisions included in this EIS are key examples of the aforementioned citations, with each alternative posing significant resource harms and no alternative that effectively mitigates those harms (i.e. all alternatives designate ORV areas and routes in riparian areas, culturally significant areas, proposed wilderness areas, etc).

BLM should have fully considered and analyzed more environmentally protective alternatives consistent with FLPMA's requirement that BLM "minimize adverse impacts on the natural, environmental, scientific, cultural, and other resources and values (including fish and wildlife habitat) of the public lands involved." 43 U.S.C. § 1732(d)(2)(A). The alternatives considered in the PRMP differ by only 207 miles (or a insignificant 4%) in the number of miles proposed for designation across the various alternatives (excluding the No Action alternative, since there were are no routes currently designated). Instead, BLM should have fully analyzed the following three alternatives (or a combination of one or more alternatives that incorporated the resource protections inherent in each of these three alternatives): 1) the Greater Dinosaur-Bookcliffs Heritage

Proposal (GDBHP) alternative designed to protect wilderness character areas and WSAs, and minimize conflicts among users, submitted by SUWA during the public participation process; 2) an alternative that would have minimized impacts to riparian areas by not designating routes or ORV use areas in or near riparian areas; and 3) an alternative that would have minimized impacts to cultural resources by not designating ORV use areas and trails before completing comprehensive surveys for cultural resources for the proposed ORV use areas and routes.[44]

The BLM's rationale for refusing to include the GDBHP as an alternative simply states, without supporting information or citations, that "BLM did not incorporate this plan in whole, but elements of the plan were incorporated in its action alternative, particularly Alternatives C and E. The BLM has also incorporated several elements of this plan it its Proposed RMP/Final EIS." PRMP at 2-5. NEPA does not mandate that only "elements" of a reasonable alternative be analyzed, but that all reasonable alternatives be evaluated. While some elements of the GDBHP might be included in Alternatives C and D, none of the alternatives strikes the same balance of user needs and resource protection offered by the GDBHP.[45]

BLM must comply with NEPA's mandate to consider a reasonable range of alternatives, by including the GDBHP's route designations and travel plan proposals in its alternatives analysis. BLM must issue a supplement that includes the GDBHP and alternatives that protect riparian areas and cultural resources, and it must allow the public and the decision-maker to review and comment on these alternatives prior to issuing the Record of Decision.

2. Hard Look

NEPA requires that BLM take a "hard look" at the environmental consequences of a proposed action and the requisite environmental analysis "must be appropriate to the action in question." *Metcalf v. Daley*, 214 F.3d 1135, 1151 (9th Cir. 2000); *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 348 (1989). In order to take the required "hard look, BLM must assess impacts and effects that include: "ecological (such as the effects on natural resources and on the components, structures, and functioning of affected ecosystems), aesthetic, historic, cultural, economic, social, or health, whether direct, indirect, or cumulative." 40 C.F.R. § 1508.8. (emphasis added). The NEPA regulations define "cumulative impact" as

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[44] In the discussion of BLM's failure to analyze the impacts of climate change, we also argue in this protest that BLM should have developed an alternative that would have addressed the predicted impacts and challenges of climate change. Development of such an alternative should have included the protection of large tracts of undisturbed ecosystems, as recommended by a study by the Environmental Protection Agency, released in June of 2008. U.S. Climate Change Science Program Final Report, Synthesis and Assessment Product 4.4, "Preliminary Review of Adaptation Options for Climate-Sensitive Ecosystems and Resources" (June 2008), *available* at http://www.epa.gov/ord/npd/pdfs/gcrp-factsheet_SAP-4-4.pdf. Such an alternative may have resembled the GDBHP in significant respects, and more effectively protected valuable riparian areas.

[45] SUWA incorporates into this protest our comments that were submitted for scoping and the DRMP, including our route-specific comments in SUWA's DRMP Comments, Attachment A.

> the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

40 C.F.R. § 1508.7.

A failure to include a cumulative impact analysis of actions within a larger region will render NEPA analysis insufficient. *See, e.g., Kern v. BLM*, 284 F.3d 1062, 1078 (9th Cir. 2002). Additionally, indirect effects are those that are "caused by the action later in time or farther removed in the distance, but are still reasonably foreseeable," including related effects on air and water and other natural systems, and growth inducing effects (i.e. publishing and distributing route maps will encourage increased ORV use on these designated routes, designating routes and ORV use areas in remote areas that have not been inventoried for cultural resources could be expected to increase damage and vandalism of cultural resources). 40 C.F.R. § 1508.8.

In the context of the Vernal PRMP, the decisions made with regard to designation of ORV areas and trails and travel management fail to fully analyze the effects of those decisions on riparian and wetland areas, cultural resources, soils, vegetation, air quality, water quality, wildlife and wildlife habitat, wilderness character areas, wilderness study areas, and other users, as discussed below.

a. Riparian Resources

Riparian areas represent approximately 1%-2% of the total area of the VFO, yet they are one of the most critical components of the ecosystem, as they provides habitat for 75-80% of all wildlife species. FLPMA, the ORV regulations, and the Utah Riparian Policy require BLM to *protect and minimize* impacts to riparian areas. However, the PRMP fails to include a list of perennial stream segments in the VFO and their associated functioning conditions (i.e. proper, at risk, or not in functioning condition), it merely states that there are 540 miles of perennial and intermittent streams in the VPA, and that based on preliminary inventory data (not disclosed in the PRMP), there are 295 miles in proper functioning condition, 133 miles functioning at risk, and 79 miles that are not in properly functioning condition (these figures account for only 507 of the reported 540 miles of riparian area). *See* PRMP at 3-57 to -58 Thus, based on BLM's own data, it appears that a full 42% of the riparian areas in BLM's preliminary inventory are not in properly functioning condition or are functioning at risk.

The PRMP has a gaping hole as ***it fails to adequately address the impacts of designating nearly 5,000 miles of motor vehicle routes on riparian areas.*** In fact, the PRMP's analysis is limited to general statements, such as: "Travel decision would have direct and indirect, short- and long-term beneficial impacts to riparian resources where newly permitted roads and trails are obliterated or returned to their original condition." PRMP

at 4-348; and that ORV use and increased visitor traffic would have adverse effects on riparian areas, that limiting ORV use to designated trails would be "beneficial" and that "limiting OHV use would have more long-term direct, beneficial impacts on riparian resources than Alternative D, but less than Alternative C." *Id.* at 4-347, 4-354 and 2-116.

These conclusory statements are unsupported by any quantitative analysis and the PRMP's associated facial comparison between the PRMP and Alternatives C and D do not suffice for the hard look and rigorous quantitative analysis NEPA requires. The PRMP fails to show how its decision to designate 4,860 miles of route would "minimize" the impacts to critically important riparian areas – the keystone to the ecological health of this landscape. In addition, the PRMP fails to disclose the number of miles of route in or near riparian areas or the number of route crossings. This information, in addition to the current functioning condition assessment for each riparian area is relevant and necessary information for the public and the decision-maker, and BLM must provide this information to the public before issuing its Final RMP.

Impacts from ORV area and route designations can be minimized and often avoided by prohibiting routes and ORV use in and near riparian areas. There is no indication in the PRMP that the area and route designations minimize the impacts to riparian areas.

b. Cultural Resources

The PRMP reports that "[c]ultural resources within the Vernal area are numerous, diverse and widely dispersed," however "a comprehensive picture of the exact distribution of the resources is not possible due to the large area encompassed and the lack of region-wide systematic study." PRMP at 3-19. Although the PRMP fails to disclose the percentage of the VFO that has been surveyed for cultural resources, it does acknowledge that only a "very small percentage of the VPA" has been inventoried, and that owing to insufficient data, the "exact impacts" of the PRMP decisions "cannot be quantified." *Id.* at 4-37.

BLM acknowledges that impacts to cultural resources would "primarily result from activities associated with surface and subsurface disturbance such as development projects, recreational use/OHV travel and fire management." *Id.* at 4-35. The PRMP continues "surface and subsurface disturbances, which not only destroy material culture but also destroy the spatial relationships that are key to interpreting that culture, have the greatest potential for negative impacts on cultural resources," and that impacts to cultural resources "typically cannot be reversed." *Id.*

While admitting that the actual data VFO has for cultural resources are just "snapshots across the VPA," BLM used this admittedly incomplete and limited "proxy" data to divide the FO areas into zones with "high" and "low" probabilities for cultural resources and based its analysis of potential impacts from the travel management decisions, including ORV route and area designations, on this unscientific model to come up with an estimated number of sites that might be impacted, and to get an idea as to "whether a management decision is more or less likely to impact cultural resources." *Id*. at 3-19, *see*

also id. at 4-68 – 4-70. As explained in Dr. James Allison's DRMP comments, the assumptions used in this model are scientifically unjustified, rendering the BLM's analysis of impacts critically flawed.

The PRMP's attempts to bolster this "analysis" by showing the percentage change of estimated impacts from proposed actions as compared to the current management situation. However, merely comparing proxy-derived potential effects from various proposed actions with potential effects from the current management does not meet NEPA's hard look requirement. BLM must survey open areas, routes and cross-country corridors along routes before designating these areas and routes, authorizing use, and publishing maps, in order to minimize impacts to cultural resources.

The PRMP states that potential impacts to cultural resources from the PRMP "are difficult to quantify precisely," yet states that "due to the additional level of analysis required for compliance with Section 106 of the NHPA and agency regulations, the potential for adverse impacts to cultural resources would be low." *Id.* at 4-35, and 4-61. However, the PRMP is skirting the NHPA by failing to comply with the Sec. 106 survey requirements *prior* to designating motor vehicle routes. The PRMP's statement that the impacts to cultural resources is expected to be "low" due to "compliance with Section 106" is false advertising and meaningless. *Id.* at 4-61. Section 106 Class III inventories must be conducted for each route, including the 600-foot cross-country corridor surrounding each route, *prior* to designating routes. BLM even acknowledges this is the only way that adverse impacts can be "avoided or mitigated." *Id.* at 4-37.

Given the inadequacy of BLM's data, BLM's acknowledgement that negative impacts can be expected from ORV trails (and the 600 foot wide corridor along designated trails that can be used to access campsites), the associated increased traffic on the trails and surrounding areas which "correspond to increased levels of vandalism and looting . . . [and] the greater the level of surface and subsurface disturbance associated with recreational [] use, the greater is the potential that cultural resources would be adversely impacted," BLM's decision to designate routes and ORV use areas without complying with Section 106 and conducting Class III inventories is indefensible. *Id.* at 4-61 and -68. To designate routes absent such inventories violates Section 106 of the NHPA, as well as BLM's duties under FLPMA (duty to protect resources), and the ORV regulations (duty to minimize the impacts).

If it is cost-prohibitive to inventory the entire VFO during the RMP process, or to inventory all of the proposed routes, BLM must refrain from designating those areas and routes that have not been inventoried in order to comply with FLPMA's UUD mandate, Section 106 of the NHPA, as well as the ORV regulations' minimization criteria. Moreover, if BLM is going to base its decision on cost, it must also weigh the high cost of the cultural artifacts that would be lost due to ORV access, damage, and looting.

Without first completing cultural resource surveys for each ORV area and trail that it proposes to designated in the plan, BLM lacks critical information on which to base ORV area and trail designation decisions, and the resulting PRMP is not in compliance with

NEPA's hard look requirement, the NHPA, and FLPMA's UUD and minimization mandates.

c. Soil and Water

The goals listed in the PRMP for soils and water could be effective to minimize impacts from ORV area and route designations if BLM's subsequent decisions were based on these goals. The goals listed in the PRMP include, among others: eliminate or reduce discharge of pollutants into surface waters, restore and maintain soil quality. Proposed management includes: restore and protect water quality and severe and critical erosion by restricting or mitigating surface disturbances, identify and avoid biological soil crust areas (mentioning ORV use specifically). *See id.* at 2-55. The PRMP also notes that many of the soils in the VPA "are derived from shale formations and are, therefore, highly erodible. Many of the soils also have limitations on rehabilitation after disturbance, which is one of the primary factors in evaluating the effects of other resource management decisions on soil and water resources." *Id.* at 4-397.

However, it is doubtful that the travel decisions in the PRMP fail to live up to these goals and statutory obligations, and the lack of information and analysis of the potential impacts make it impossible for the public and decision-maker to make informed decisions about the proposed actions and alternatives. For instance, the PRMP fails to disclose where, and how often designated ORV routes cross open waters (including streams, creeks and rivers), and how many miles of designated routes are located in riparian areas, areas with biological soils crusts, and critical erosion areas. The PRMP merely concludes that because soil and water resources are "greatly affected by runoff from roads and trails . . . the effects of the travel decisions on water and soils generally would be beneficial, long-term, and direct, primarily by limiting OHV activities to open areas and restricted travel routes," *Id.* at 4-403. As with riparian areas discussed above, the PRMP fails to include a map that shows route designations on the same map as open waters, biological soil crusts, and highly erodible soils. Without this information, the decision-maker cannot know if the PRMP minimizes impacts to these resources, as required by FLPMA's ORV regulations.

The entirety of the PRMP's analysis of the impacts of the travel decisions on waters and soils is confined to two short paragraphs which merely restate the number of acres that are open, limited and closed in the No Action alternative, as compared to the Proposed plan and Alternative A. *See id.* at 4-418 to -419. Reporting that the Proposed plan has more or less acres open or closed to cross-country travel than other alternatives completely fails to meet NEPA's hard look requirement, and does not comply with FLPMA and the ORV regulations' minimization requirement. The BLM should integrate the findings of the USGS ORV report, submitted w/ SUWA's DRMP comments, into its impacts analyses, and provide quantitative analysis of the impacts of the ORV area and trail designations and travel management decisions on soils, including biological soil crusts, and water, including the impacts to waters listed on the 303(D) list, to the public and decision-maker prior to issuing the Record of Decision.

d. Vegetation Including Special Status Species

As with soils and water, discussed above, the PRMP's stated goals and objectives regarding management of vegetation resources are sound: enhance native species, protect special status plant species, control noxious and invasive plants. *See id.* at 2-84. The PRMP states that ORV use causes damage to and loss of vegetation and the spread of noxious weed seeds." *Id.* at 4-503, *see also id.* at 3-120. It further notes that road closures would benefit vegetation by "restricting access, reducing the chance of impacts to vegetation, such as trampling and noxious weed invasions. Prohibiting motorized access into an area would also prevent the development of undesignated access/spur roads and trails." *Id.*

However, the PRMP would designate 4,860 miles of route, allow cross-country travel within a 600-foot corridor along routes, and allow for 800 miles of additional ORV routes that are not currently shown on the PRMP map Fig. 33. The Impacts Summary states that these 800 miles of additional route "would adversely expose areas to trampling and weed introduction." Id. at 2-127. Although the PRMP acknowledges that ORVs and routes impact vegetation resources, there is no analysis (quantitative or otherwise) of the impacts of the travel decision to designate 4,860 miles of route and allow cross-country travel for 300 feet on either side of these routes, to the vegetation resource, or how the decision – in keeping with the goals and objectives – will enhance vegetation, protect sensitive species, and control invasive plants. The impacts analysis in the PRMP consists of restating the number of acres open, limited and closed in the various alternatives. *See id.* at 4-503.

The PRMP contains no evidence that its ORV designations and the travel management decisions minimize impacts to vegetation, including the sensitive species. Reporting that the Proposed plan has less impacts than some alternatives considered, but more than other alternatives considered is not adequate for NEPA's hard look requirement, does not comply with FLPMA and the ORV regulations' minimization requirement, and may violate the Endangered Species Act. The BLM must revise its impacts analysis, and include scientific analysis, and integrate the findings of the USGS ORV report, submitted with SUWA's DRMP comments, into this analysis. BLM must disclose the quantitative impacts of the ORV and travel management decisions on vegetation, including special status species, and on the spread of invasive species to the public and decision-maker prior to issuing the Record of Decision.

e. Air Quality

As noted in the Air Quality section of these comments above (Section II), BLM must perform comprehensive, complete modeling of the potential impacts associated with the PRMP's ORV route and travel decisions. The fact that the implementation of the PRMP will result in air pollution (e.g., through approval of motorized use on designated routes) requires that such modeling and quantification be undertaken now. The open areas, and the 4,860 miles of route identified for designation in this plan will be open to motor vehicle travel, and will never face further analysis whereby better estimates might be

developed. As part of the "hard look" requirement, NEPA demands that BLM determine baseline conditions so that it, and the public, can fully understand the implications of the ORV area and route designations and travel decisions. BLM has failed to do this here.

In addition, BLM must assess the fugitive dust and tailpipe emission from motor vehicle routes and ORV activities in the planning area. SUWA specifically addressed this deficiency in a letter to the BLM on June 18, 2008. SUWA provided documentation to support the type of emissions assessment that is needed for evaluating the impacts from this source category (e.g., one based on vehicle miles traveled and emission factors that do not employ dust suppression, and for the fugitive dust generated from the existence of nearly 5000 miles of designated route). BLM has not addressed the potential impacts to air quality in the PRMP. In fact, the PRMP fails to even mention travel decisions and ORV area and trail designations in the section devoted to the impacts to air quality, other than to state that "travel-based . . . decisions are projected to have a negligible to incrementally positive effect on air quality." See e.g. PRMP at 4-33

The existence of designated open areas and designated routes will generate fugitive dust even when not being traveled by vehicles (e.g., by wind blown dust). The PRMP should, estimate the rate at which the 4,860 miles of route being designated will generate fugitive dust when not being traveled by vehicles (including wind movement data from the local region and dust production data gathered at incremental distances from the routes), estimate the number of vehicles that will use each route, and the likely fugitive dust generation rate, and generate a model to include those variables to understand the true impacts of fugitive dust emissions – from both the designation of areas and trails, and the associated use of those areas and trails. Dust and emissions studies have been conducted on public lands in the Mojave Desert, and VFO should avail itself of these studies to assist in its analyses.

The PRMP's failure to include an analysis of impacts on air quality from its ORV designations and travel management decisions does not comply with FLPMA's mandate to comply with federal and state air quality standards, NEPA's hard look requirement (including baseline information as well as impacts analysis) or with the ORV regulations' minimization requirements. Implementation of the PRMP will result in air pollution (e.g., through designation of, and approval of motorized use on, designated open areas and routes), which requires that air quality modeling and quantitative analysis be undertaken before the Final RMP is issued.

f. Wildlife and Wildlife Habitat and Special Status Species

The PRMP's stated goals for wildlife include protecting and enhancing wildlife habitat. *See id.* at 2-93. However, the PRMP will designate 4,860 miles of route, and allow for 800 miles of additional ORV routes that are not currently shown in the PRMP at Figure 33. The PRMP states that even though ORVs would generally be limited to designated routes, that "diverse OHV effects, such as trampling of either occupied or potential wildlife habitat, noise, habitat fragmentation, [and] increased wind erosion in sensitive habitats would still occur" but would be less than under the existing management strategy

in which more acres are managed as "open" to cross-country travel, and that BLM's "minimal management of OHV use would lead to declines of special status species and habitats as areas in the VPA become more popular for OHV recreation." *See id.* at 4-587, 4-469, and 2-132 to -133. Although the PRMP acknowledges that ORVs and routes impact the wildlife resource, there is no analysis (quantitative or otherwise) of the impacts of the travel decision to designate 4,860 miles of route to the wildlife resource, or how the decision – in keeping with the goals and objectives – will protect and enhance wildlife habitat. The impacts analysis in the PRMP consists of a restatement of the number of acres open, limited and closed in the various alternatives. *See id.* at 4-587.

The PRMP contains no evidence that its ORV designations and the travel management decisions (4,860 miles of route, with 96% of the VPA available to ORV use) minimize impacts to wildlife including the special status species. Reporting that the Proposed plan has less impacts than some alternatives considered, but more than other alternatives considered is not adequate for NEPA's hard look requirement, does not comply with FLPMA and the ORV regulations' minimization requirement, and may violate the Endangered Species Act. The BLM must revise its impacts analysis to include scientific, quantitative analysis, and must disclose the quantitative impacts of the ORV and travel management decisions on wildlife, including special status species, to the public and decision-maker prior to issuing the Record of Decision.

g. Non-WSA Lands with Wilderness Characteristics

Although the stated goals and objectives for managing non-WSA lands with wilderness characteristics is to "[p]rotect, preserve and maintain the wilderness characteristics," the PRMP will designate 113 miles of motor vehicle route within these areas (even within the areas the BLM is proposing to manage to protect the wilderness characteristics). Further, the PRMP provides for an additional 800 miles of route to be developed over the life of the plan (the PRMP does not indicate where the 800 miles of additional route will be located, although it is clear that a portion of these routes will be located in the non-WSA lands with wilderness characteristics). *Id.* at 2-39, 2-111.

The PRMP states that the "presence and noise of vehicles using these routes, however, would reduce the opportunity of visitors to find solitude in the non-WSA lands with wilderness characteristics . . . motorized uses would conflict with primitive and unconfined recreation opportunities sound in the non-WSA lands with wilderness characteristics." *Id.* at 4-241. However, it makes the unsupported assertion that travel on designated routes will "result in no additional degradation of the natural characteristics of the non-WSA land with wilderness characteristic", it

BLM's contention that routes in WC lands will not impact the area's natural character flies in the face of BLM's 1980 wilderness inventory documentation that included numerous statements regarding the existence of routes detracting from the naturalness of the area—which subsequently led BLM to drop the area from further wilderness consideration. BLM cannot have it both ways. Designating routes in WC lands will encourage more motorized use of the trail and the existence of a well-used trail bare of

vegetation affects the naturalness of the area and its future eligibility for wilderness designation.

In addition to reporting that ORV use in WC lands reduces the opportunities for solitude and primitive recreation, the PRMP states that the improvement or construction of 800 miles of new ORV route "would create surface disturbance that would have direct, adverse impacts on the landscape and natural quality of the non-WSA lands with wilderness characteristics, if any of the trails were developed in the non-WSA lands with wilderness characteristics." *Id.* at 4-240.

The so-called "impacts analysis" consists of a restatement of the number of acres open, limited and closed in the various alternatives and an acknowledgment that 113 miles of route will be designated in the WC lands. *See id.* at 4-239 to -241. The PRMP contains no evidence that its ORV designations and the travel management decisions minimize impacts to the WC lands. Merely reporting that the Proposed plan would designate 1,643,475 acres as "limited" and 75, 845 acres as closed to ORV use might help prevent future surface disturbance caused by ORV use (*Id.* at 4-239 to -241) is not adequate for NEPA's hard look requirement, and does not comply with FLPMA's UUD provision or the ORV regulations' minimization requirement. The BLM must revise its impacts analysis to include quantitative scientific analysis for impacts to non-WSA lands with wilderness characteristics for the various alternatives, and disclose this analysis of the impacts of the ORV and travel management decisions to the public and decision-maker prior to issuing the Record of Decision.

h. Wilderness Study Areas

SUWA supports the BLM's proposed decision to close all WSAs to motorized vehicle use. *See id.* at 2-72.

i. Other Users

The PRMP fails to minimize conflicts with other users of the public lands, specifically non-motorized recreationists, as it will allow ORV use in over 96% of the VFO. There is no support in the PRMP for the BLM's conclusion that limiting the number of acres designated as open ORV play areas and increasing the acreage limited to designated routes would have "direct beneficial impacts . . . by reducing recreational resource-use conflicts," and would have indirect beneficial impact to "recreational activities that require high visual quality" as there would be a reduction in soil erosion and fugitive dust produced by ORV activities. *Id.* at 4-336 to -337. Although moving to a designated route system from an open system could conceivably decrease resource-use conflicts, with nearly 5,000 miles of proposed route, there may be little beneficial impacts to non-motorized users; the web of routes is so dense that there are few places that non-motorized users can go to escape the sights and sounds of motor vehicles. A review of the proposed Route Designation EIS Figure 33 "Travel/OHV Areas" quickly reveals that there are few places where a visitor can get more than ½ - 1 mile away from a designated route. In addition, a comparison of the "closed" areas under the current plan versus the

proposed plan reveals that there is an insignificant increase in area closed (1%) from the current management plan.

The PRMP notes that the results of a telephone survey conducted by the Institute of Outdoor Recreation and Tourism at Utah State University for the Uinta Basin sub-area indicates that hiking was the most mentioned activity, with ORV use the second, and that 79% of the respondents supported the use of "additional public funds for non-motorized trails" where as only 47% supported the use of additional public funds for motorized trails. *Id.* at 3-54. From this non-scientific survey, it appears that there is a public preference for more non-motorized recreational opportunities in the VFO, yet the PRMP fails to address that concern.

Before issuing the PRMP, BLM should conduct a visitor survey, similar to the Moab National Visitor Use Monitoring survey and pay particular attention to the relative use of non-motorized versus motorized recreation. *See* http://www.suwa.org./site/DocServer/BLMNVUMsurveyMoab.pdf?docID+2821. This study shows that non-motorized recreation is utilized by vastly more visitors to the Moab BLM-managed lands than motorized (ORV-based) recreation. In fact, the Moab survey found that motorized use accounted for less than 7% of visitors' main activity. Having actual visitor information is essential to guide BLM's long-term recreation management decisions and ORV area and route designation decisions. Merely stating that there will be beneficial impacts by moving from a predominantly "open" VPA to one that is managed predominantly as limited to designated routes, is not the equivalent of minimizing these impacts. Undertaking a visitor survey to ascertain actual visitor preferences and uses (motorized and non-motorized) would provide VFO with information on which to base informed decision, and comply with the ORV regulations minimization criteria. This data must be incorporated into the affected environment and environmental consequences analysis sections to more accurately depict the impacts to non-motorized users of BLM's ORV area and route designations and travel management decisions.

BLM must comply with NEPA and analyze the impacts of its ORV area and trail, and travel management decisions -- including its decision to designate over 96% of the VFO available to ORV use, and make this information available to the public. The PRMP must be amended to incorporate adequate analysis and accurate baseline information prior to BLM issuing the Record of Decision.

j. ORV Area and Route Designation Process

The PRMP fails to disclose the factors used by BLM to arrive at the various ORV area and trail designations and travel decisions. The PRMP states only that the goals of the ORV designations and travel decisions are to "[p]rovide areas for OHV and motorized use while protecting other resources" and to "[e]stablish working partnerships with local and state agencies, user groups . . . that would facilitate effective OHV program development." PRMP at 2-82. Although the PRMP states that BLM "is following policy

and regulation authority" of the BLM's ORV regulations, the PRMP fails to include an analysis of how VFO applied the minimization requirements of these regulation.

BLM Instruction Memorandum No. 2004-005 advises BLM to "*[c]hoose* individual roads and trails" for designation, "rather than using *inherited* roads and trails." IM Attachment 2-3 (emphasis added). The reason behind this recommendation is that "[m]ost existing roads and trails on public lands were created over time, rather than planned and constructed for specific activities or needs." *Id.*

It appears that the VFO did exactly what the IM cautioned against -- "inheriting" the existing, haphazard jumble of routes, as BLM proposes to designate 4,860 miles, which is the greatest number of miles of route proposed for any alternative considered in the PRMP. *See* PRMP at ES-7[46]. There is no explanation or analysis in the PRMP that indicates that VFO chose individual routes that would protect resources and minimize impacts to resources and other users as mandated by the ORV regulations.

In addition, the PRMP fails to provide a compelling purpose and need for the area and route designations and travel decisions, including BLM's proposals to allow off-road travel up to 300 feet on either side of designated routes for the purposes of accessing campsites, creating a 600 foot wide corridor of cross-country travel along 4,860 miles of route. Converting this 600-foot wide corridor along 4,860 miles of route into acres results in an increase of over 353,000 acres in what will be effectively managed as "open" areas.

The 9th Circuit recently discussed the following damaging impacts that could be expected from an RMP that provided for off-road access to camping:

> Specifically, the limitations contemplated in the EIS fall into basically two types: seasonal closures of some areas and limitations to existing routes. Even with such limitations in place, ORV users may venture off trail by as much as 150 feet to find a camping site, thereby creating ORV tracks as long as a football field criss-crossing existing routes. As they pass through "limited" areas, both on existing routes and en route to camping sites, ORVs will still churn up mud, transport mud and seeds into the regions through which they pass, and will still significantly affect the outdoor recreation experience. *Oregon Natural Desert Assn. v. BLM*, 531 F.3d 1114, 1145 (9th Cir. 2008).

The ONDA case contemplated an cross-country corridor of half the width contemplated in the Vernal PRMP. The PRMP must be modified to preclude off-route driving.

Finally, there is no information in the PRMP disclosing which areas and/or routes proposed for designation were found to have resource conflicts but were nevertheless included in the proposed plan. And, importantly, the PRMP fails to include an analysis

[46] Alternative B would have designated 4,861 miles of route, one mile greater than the proposed plan. This additional mile is possibly the result of GIS data inaccuracies, and is insignificant when compared to the total miles of route designated.

of whether the proposed area and route designations are sustainable over the long term. To ensure that the agency has taken the required hard look, its analysis must be supplemented and provided for public review before the ROD is issued.

k. Incomplete Information

The federal regulations address incomplete or unavailable information at 40 C.F.R. § 1502.22. In short, the regulations require that BLM do more than baldly assert that it lacks sufficient information to complete the NEPA analysis. The Vernal PRMP and DRMP's lack of information on the impacts from ORV area and trails designations and travel management decisions to air quality, water quality, soils, riparian areas, vegetation, non-WSA lands with wilderness character, and cultural resources, and other users, cannot be used as an excuse by BLM for not providing analysis of the potential and expected impacts from its ORV area and trail designations, and travel decisions. BLM must do more *before* it authorizes motorized use in designated areas and on designated trails. Were it otherwise, agencies could simply, and easily, undercut NEPA's insistence on informed decision making by failing to gather data relating to key determinative issues and then arguing that the information is unavailable or too difficult to obtain. That is precisely what BLM is attempting to do here.

Due to this lack of information, the PRMP fails to comply with NEPA's "hard look" requirement and fails to comply with the minimization criteria as required by FLPMA's ORV regulations.

3. The PRMP Does Not Describe the Existing Baseline Conditions and the Impacts of ORV Use in the Vernal Field Office

In order to evaluate the broad range of impacts required by a NEPA analysis, it is critical that BLM adequately and accurately describe the environment that will be affected by the proposed action under consideration—the "affected environment." 40 C.F.R. § 1502.15. The affected environment represents the baseline conditions against which impacts are assessed.

As SUWA noted in its comments on the DRMP, an accurate description of the baseline conditions of the Vernal Field Office is crucial to BLM's analysis and description of the environmental impacts from the proposed action and various alternatives. All management decisions and strategies flow from the description of the current conditions. Unless BLM has an accurate, well-informed understanding of the current conditions, it cannot possibly begin to plan for future resource demands and needs. BLM cannot objectively decide how much ORV use to allow in the future, and which areas and routes to designate, as BLM does not know how much and what kind of damage such use has caused in the past, and is causing right now.

One of the most obvious and consequential flaws in the PRMP is its failure to assess the ongoing impact of existing ORV use in the Vernal Field Office. Instead of analyzing the current impacts of ORV use, BLM essentially treats existing ORV use as a given which it

need not examine. BLM simply presumes that ORV use will continue and contends that such use will cause no damage over and above that which occurs now, and that the existing damage does not need to be studied. *In other words, BLM has concluded that current levels of ORV use and the existing trails are consistent with FLPMA, including the UUD and the minimization requirements, even though it does not know what the impacts are*. *See also* PRMP at 4-239 (limiting ORV use to designated routes "would confine disturbance to soils and vegetation caused by motor vehicle use to the existing 113 miles of routes and result in no additional degradation of the natural characteristics of the non-WSA lands . . ."); as noted in SUWA's DRMP comments, this is a circuitous argument, it is not analysis.

BLM must disclose accurate baseline information – concerning the natural and cultural resource – to the public and decision maker regarding the impacts of current ORV use and allow public comment *before* issuing final decisions for ORV area and trail designations and the travel plan.

4. The PRMP Fails to Adequately Assess the Indirect and Cumulative Impact of ORV Area and Route Designations

The PRMP fails to adequately analyze and inform the public and the decision-maker as to the potential indirect and cumulative impacts to the natural and cultural resources from the ORV area and route designations and travel decisions. *See e.g.* PRMP at 4-617 (no discussion of ORV designations or ORV use in the air quality cumulative impacts analysis); 4-618 (no discussion of ORV designations or ORV use in cultural resource cumulative impacts analysis); 4-621 (no discussion of ORV designations or ORV use in cumulative impacts analysis for non-WSA lands with wilderness characteristics); 4-622 (no discussion of ORV designations or ORV use in cumulative impacts analysis for riparian areas); 4-624 ("travel . . . decisions would cause beneficial to minimal cumulative effects to soil and water resources from the Proposed RMP . . . OHV use would be adverse to soils"); 4-625 ("cumulative impacts of activities proposed for all resource decisions on special status plants is projected to be moderate to detrimental at localized areas within the short-term. Major contributors include OHV activities throughout most of the area."); 4-626 (no discussion of ORV designations or ORV use in cumulative impacts analysis for the vegetation resource); 4-627(management decisions could "produce long-term cumulative impacts on visual resources . . . [i]mpacts could be caused by . . . OHV use."); and 4-627 (no discussion of ORV designations or ORV use in cumulative impacts analysis wildlife resource).

These statements, unanalyzed and asserted with no supporting data, are no substitute for scientific, quantitative analysis. The PRMP fails to adequately assess the cumulative impact that the dense network of routes (over 96% of public lands in the VFO are available for ORV use) have on wildlife, soils, vegetation, riparian areas, air and water quality, WSAs, non-WSAs with wilderness character lands, visual and cultural resources, and other users, when taken in combination with other past, present and reasonably foreseeable actions, including oil and gas development, vegetation treatments, grazing, and climate change. BLM must supplement the PRMP and provide an unbiased,

scientific and quantitative analysis of the cumulative and indirect impacts of the ORV designations and travel management decisions, and provide the public a chance to review and comment on the supplemental information before a decision is issued that could significantly affect the very resources BLM is entrusted to protect.

5. Scientific Integrity and Public Scrutiny

The agency must "insure the professional integrity, including scientific integrity, of the discussions and analyses in environmental impact statements." 40 C.F.R. § 1502.24. Information regarding reasonably foreseeable significant adverse impacts that is essential to a reasoned choice among alternatives shall be included in an EIS if the costs of obtaining it are not exorbitant. *Id.* § 1502.22(a). In addition, NEPA requires that environmental information be made available to the public. "The information must be of high quality. Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA." *Id.* § 1500.1(b). This type of information and analysis is wholly lacking with regard to off-road vehicle area designations and the travel plan decisions in the PRMP.

BLM must include site-specific documentation of the agency's own analysis of the purpose and need for the area and trail designations, and the potential impacts associated with the *designation* and *use* of all proposed ORV areas and trails. This is critical information for the public and the decision maker to determine if BLM's decisions comply with the mandates of FLPMA, the ORV regulations, and Executive Orders—all of which require that BLM locate ORV areas and trails to *minimize* damage to riparian areas and floodplains, soils, vegetation, wildlife and wildlife habitat, cultural resources, air and water quality, and to *minimize* conflicts with other recreationists—and BLM's obligations under the Clean Air Act, Clean Water Act, Endangered Species Act, and National Historic Preservation Act.

The DRMP failed to present this information with respect to the various ORV area and trail designations and the travel management decisions under consideration and the PRMP did not correct these gross omissions. Without this information and data, the public has no way of discerning the basis for BLM's decisions regarding the specific area and trail designations and travel plan, and cannot confirm that BLM has, in fact, ensured that these designations comply with the minimization requirements and other legal and policy obligations set out above. In addition, the PRMP misstates the amount of open areas as 6,202 acres (PRMP at ES-7), when the reality is that six times that amount, or over 353,000 acres of additional "open" area is being allowed by the PRMP's decision to allow cross-country travel along a 600-foot wide corridor along the 4,860 miles of designated route. The PRMP misleads the public and the decision-maker by not reporting this acreage in the comparison of alternatives (*See e.g.* PRMP at ES-7) and in Chapter 4's impact analysis.

To address these deficiencies, BLM must provide specific information on the purpose and need for the routes incorporated in each alternative, the justification for designating the area and route and the 600-foot wide cross-country corridor, the potential impacts to

natural and cultural resources, the potential conflicts with other users, how those impacts can be mitigated or avoided, enforcement and monitoring requirements and schedules, and the manner in which designation of the areas and routes for ORV use is consistent with the agency's obligations under FLPMA and BLM's ORV regulations and policy.

In addition, in order to provide high quality information for the public to review and assess, the PRMP's ORV area and route designation maps (EIS Figure 33) must be modified to display the proposed ORV area and route designations with other resource inventories and/or management decisions, such as riparian areas, potential ACECs, wildlife habitat, non-WSA lands with wilderness character areas, wilderness character areas proposed to be managed to protect wilderness character attributes. *See* ACEC and Route Designation map and Wildlands and Route Designation map, attached as Exhibit D, and Exhibit E respectively. The Vernal PRMP maps fail to adequately portray critical information to the public and decision maker. BLM has this information at its disposal. The PRMP maps must be modified and re-issued so that the public and decision-maker can better understand the impacts of the ORV area and route designations on various resources *before* issuance of a Record of Decision.

VIII. Riparian Resources

We incorporate by reference herein the comments submitted by the Wilderness Society into our protest, and we also discuss our further concerns below.

The important role riparian and wetland areas occupy in the health and integrity of ecosystems throughout Utah and the West is recognized by the special protection conferred on them by several Executive Orders and the Utah BLM Riparian Management Policy. As the Utah BLM Riparian Policy explains, "[r]iparian areas comprise less than one percent . . . of public lands . . . in Utah . . . these small but unique areas are among the most important, productive, and diverse ecosystems in the state." Utah BLM Riparian Management Policy, Instruction Memorandum No. UT 2005-091 at 1; *see also* PRMP at 3-57. The Utah BLM Riparian Policy continues:

> The objective of the policy is to establish an aggressive riparian area management program that will *identify, maintain, restore, and/or improve riparian values* to achieve a healthy and productive ecological condition . . . .

Utah BLM Riparian Management Policy, Instruction Memorandum No. UT 2005-091 at 1 (emphasis added).

To meet this objective, field offices are responsible for "ensuring that all new or revised management plans contain objectives and management actions to maintain or improve riparian resources," and to the extent possible, "[m]aintain and/or improve riparian areas to Proper Functioning Condition (PFC) by incorporating riparian resource needs in Resource Management Plans (RMPs)." Utah BLM Riparian Policy at 2–3. This policy is binding on the BLM Vernal Field Office and provides the framework for the RMP process.

Further, Executive Order 11990 mandates that BLM "shall take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities." Exec. Order No. 11,990, 42 Fed. Reg. 26,961 (May 24, 1977).

In addition to required substantive protections, BLM also must provide certain information and analysis, as required by NEPA, FLPMA, and the Utah Riparian Policy. NEPA requires that the environmental assessment process reveal the information required for the public to understand the current condition and proposed management of each riparian area. FLPMA, 43 U.S.C. §§ 1701–1785, § 1701(a)(2) (2000), declares that "the national interest will be best realized if the public lands and their resources are periodically and systematically inventoried." The Utah BLM Riparian Policy explains that each field office is "responsible for . . . mapping and inventorying all riparian areas in [its] jurisdiction" and "will, to the extent possible . . . [i]nventory and map riparian areas within each office." Utah BLM Riparian Policy at 3. The policy further explains that this responsibility:

will normally be completed during the Resource Management Planning (RMP) process. In order to be useful, the RMP, at a minimum will:

- Contain the Field Office riparian area priority list.
- Identify key riparian areas using PFC inventory and determine whether or not they are properly functioning systems.
- Identify riparian areas for possible acquisition.
- Identify riparian areas which meet policy tests for disposal or exchange.
- Identify easement acquisition which will improve Bureau management of existing riparian areas.
- Identify riparian areas with outstanding qualities to be considered for special designation or management.
- Contain planning and monitoring objectives for riparian area management.

Utah BLM Riparian Policy at 7–8.

The Vernal PRMP fails to provide much of the required information and analysis, and accordingly fails to reveal to the public the full impact of the Vernal Field Office's riparian resource management decisions. Further, BLM has made management decisions based on an old, outdated inventory. The PRMP states that BLM conducted some sort of inventory in the early 1980s and that this data, perhaps in addition to other inventory processes, constitutes a "preliminary inventory." *See, e.g.,* PRMP at 3-57, -58, -85, -86. The PRMP also confesses the obvious truth that "riparian conditions could have changed since the 1984 riparian/wetland assessment." *Id.* at 3-57. This is especially true given the drought conditions prevalent in the Vernal Field Office since 1984, and the clear trends towards a warmer, drier climate overall.

Notwithstanding this admission that BLM has incomplete and outdated data, the Vernal PRMP uses the results of BLM's incomplete, outdated inventory in its decision making. The PRMP explains: "As identified in the preliminary riparian inventory there are 295 miles and 3,674 acres of riparian areas currently in proper functioning condition, 133 miles and 1,452 acres functioning at risk, and 79 miles and 1,213 acres that are not in properly functioning condition." *Id.* at 3-58. The PRMP repeats these statistics throughout its analysis, even though BLM clearly states that "[t]hese are preliminary numbers and they may change as the inventory is completed." *Id.* at 3-58. BLM's reliance on undeniably old, incomplete data when deciding how to manage these

resources for the next several decades is arbitrary and capricious and fails to take the necessary "hard look" mandated by NEPA.

In addition to failing to conduct an inventory prior to making the long-lasting decisions contained in the RMP process, BLM also inappropriately fails to provide any timeline for when such data will be gathered in the future and appears to be passing its responsibility to inventory on to the private sector, including self-interested permittees with inherent conflicts of interests who have no duty (or demonstrated expertise) to manage and protect riparian resources. The PRMP states: "These are preliminary numbers and will change as the inventory is completed. Monitoring by the permittee and the BLM would be used to determine the trend and condition of riparian areas." *Id.* at 4-345. While the PRMP asserts that future, case-by-case analysis will fill the gaps in the currently incomplete inventory, this too fails to remedy the problem. *See id.* at 4-346. Future analysis, whether conducted by BLM or permittees, does nothing to inform the management decisions made during the RMP process or the public's understanding or ability to provide input about these decisions. BLM cannot leave this requirement to future analysis, but rather should have done it prior to publishing the PRMP.

An accurate inventory of riparian resources is important to identify riparian resources, their current health, and level of function, so that BLM and the public can fully understand the impacts of conflicting uses, such as OHV use and grazing. Without such information, it is hard to believe that even BLM understands how these conflicting uses impact each of the Vernal Field Office's riparian resources. The PRMP should list the names of the riparian areas and their locations, provide a map of riparian areas, and other relevant information necessary for the reader to understand the relationship between a riparian area's category status and how it will be managed under the RMP. EIS Figure 5: Forage Assignment Localities and Riparian Inventory hardly provides sufficient information for the public to understand the location of riparian resources and how they will be managed. Until BLM provides this information, the public cannot discern whether BLM has implemented aggressive, protective riparian management decisions, as required by the BLM Utah Riparian Policy.

Even with the information BLM does provide in the PRMP, BLM does not appear to have complied with BLM's policy to aggressively protect riparian areas. The Utah Riparian Policy clearly states that "[r]iparian areas are to be improved at every opportunity." Utah BLM Riparian Policy at 4. The Vernal Field Office, however, fails to utilize most of the opportunities before it in this RMP process to improve riparian areas. While the Vernal PRMP explains the benefits of protecting riparian areas, it fails to adequately impose such protections on riparian resources in the Vernal Field Office. *See, e.g.,* PRMP at 3-57. Further, the PRMP repeatedly explains the serious damage OHV use, grazing, and other interference inflict on riparian areas, but still allows such activities in many riparian areas. *See, e.g., id.* at 4-363, -623. These failures demonstrate that BLM is falling short of meeting its responsibility to "maintain or improve riparian resources" and to "provide leadership . . . to preserve and enhance the natural and beneficial values of wetlands."

IX. Socioeconomics

The socioeconomic analyses in the Vernal Proposed Resource Management Plan (PRMP) are inadequate. Several notable deficiencies in the Draft RMP were brought to the attention of BLM. These deficiencies have not been addressed in the PRMP, nor does BLM's response adequately address the issues raised in our comments.

In the opening paragraph of the socioeconomic section BLM states, "If impacts to some aspect of the socioeconomic situation are not mentioned in this analysis, then a negligible effect should be assumed." Vernal Proposed RMP and Final EIS at 4-364. This statement does not absolve BLM from its obligation to conduct the analyses requested by commenters. BLM makes this claim in response to many substantive comments by our groups and others BLM. In one case this response was given to an organization seeking analysis of the impacts of oil and gas development on recreation, "Consequently, it was concluded that the impacts on recreation from oil and gas development would be negligible and therefore no further reporting would be done." Response to Draft Comments Sorted by Commenter at 931. It is impossible that a plan which makes over 80% of the planning area available for oil and gas development will have "negligible" impacts on recreation. This and other examples of the agency's abject refusal to fulfill its responsibility to analyze the likely environmental and socioeconomic consequences of the proposed management of public lands indicate that BLM never had any intention of allowing the analyses conducted (or not as the case may be) to actually inform its selection of a management alternative, in direct contravention of the agency's legal obligations. This dismissal of issues raised by stakeholders is unacceptable, especially in light of the agency's knowledge supporting the importance of these issues and its obligation to rely on objective, quality scientific data.

In the summary of section 4.14 BLM states, "There would be no unavoidable, adverse impacts to socioeconomics," and "There are no foreseeable impacts for short-term use versus long-term productivity" and finally, "There are no foreseeable irreversible or irretrievable impacts to socioeconomics," PRMP at 4-396. These statements are unsupportable given the incomplete and cursory assessment of all but a few sectors of the economy in the PRMP.

Several specific areas of concern are listed below and addressed in detail in the following sections:

- The PRMP does not account for errors and inadequacies of the Draft RMP/EIS that were identified in comments addressed to BLM.
- The PRMP does not adequately address the potential negative impacts of increased oil and gas drilling.
- The PRMP overstates the potential importance of the oil and gas industry, and the opportunity costs of protecting lands with wilderness characteristics.
- The PRMP does not account for the non-market values associated with undeveloped wild lands.

- The PRMP fails to fully address the impacts that the alternatives will have on the local economy.
- The PRMP fails to address or even acknowledge the well documented and significant costs associated with off-road motorized recreation.
- Activities on BLM lands, especially oil and gas operations, will likely result in air quality impacts, which in turn will result in socioeconomic costs which must be accounted for.

A. The PRMP does not account for errors and inadequacies of the Draft RMP/EIS that were identified in comments addressed to BLM.

The Wilderness Society provided BLM with substantive comments on the Draft RMP/EIS. However, the agency has severely abridged the provided information and issues, and has only responded to these truncated comments, often asserting that they are unsubstantiated or lack documentation. In most cases the documentation to support requested analyses has been provided to BLM and would be apparent if the comment were reproduced in its entirety.

In other instances BLM cites a lack of available data as a rationale for ignoring the requested analysis. This disregards the fact that in most cases, the commenter realizes and acknowledges that BLM lacks the appropriate data. Therein lies the issue. BLM must *acquire* the data necessary to do a full evaluation of the socioeconomic impacts of the proposed plan. To do otherwise is to proceed without complete information on the impacts of the propose plan.

Examples include comments on non-market values, comments concerning impacts on local economies, comments on oil and gas development, and comments on the costs associated with off-road motorized recreation. BLM was supplied with several examples of non-market valuation techniques and methods, ample documentation of the changes in Western economies, citations of considerable research on the negative socioeconomic impacts of oil and gas development and a list of literature documenting the costs of off-road motorized recreation. BLM chose to ignore these portions of the comments from The Wilderness Society.

1. Comments regarding non-market values

Specifically, The Wilderness Society asked that BLM analyze the impacts on non-market values:

> Non-market values have been measured and quantified for decades. There is a well established body of economic research on the measurement of non-market values, and the physical changes (decreases in the source of these values) brought about by oil and gas development and motorized recreation are very easy to measure quantitatively.

> One of the most important purposes of public lands, including those of the BLM in the Vernal Planning Area, is the provision of public goods. Non-market goods often fall into the category of public goods. These are things like opportunities for solitude, outdoor recreation, clean air, clean water, the preservation of wilderness and other undeveloped areas that would be underprovided if left entirely to market forces. The BLM has an inherent responsibility to see that these public goods are provided and in quantities that meet the demand, not just of local residents, but of every U.S. citizen.
>
> This analysis is especially important when considering the protection lands with wilderness characteristics since these lands produce benefits and values that are seldom captured in the existing market structure. The literature on the benefits of wilderness is well established and should be used by the BLM to estimate the potential value of the non-WSA lands with wilderness characteristics in the Vernal Planning Area. Krutilla (1967) provides a seminal paper on the valuation of wilderness lead the way for countless others who have done research all providing compelling evidence that these lands are worth much more in their protected state. Morton (1999), Bowker *et al.* (2005), Krieger (2001) and Loomis and Richardson (2000) provide overviews of the market and non-market, use and non-use values of wilderness and wildlands. See Walsh *et al.* (1984), Bishop and Welsh (1992), Gowdy (1997), Cordell *et al.* (1998), Loomis and Richardson (2001) and Payne *et al.* (1992) for several more examples.
>
> Peer reviewed methods for quantifying both the non-market and market costs of changing environmental quality have been developed by economists and are readily applicable to the present case. For a catalog of these methods see Freeman (2003). For a complete socioeconomic analysis, BLM should adapt these methods to conditions in the Vernal Planning Area to obtain a complete catalog of estimates of the economic consequences of the proposed Alternatives.
>
> ***Recommendations***: The BLM must measure and account for changes in non-market values associated with the level of oil and gas drilling and motorized recreation proposed in this RMP. To do otherwise omits a very important socioeconomic impact that is the direct result of management actions. The BLM must assess the non-market economic impacts on the owners of the lands in the Vernal Field Office – all Americans. This analysis must include the passive use values of all lands with wilderness characteristics.

The Wilderness Society Comments on Supplement to Vernal Draft RMP/EIS for Non-WSA Lands with Wilderness Characteristics at 41-42.

BLM proceeded to abridge this comment section:

> The DEIS and Supplement do not account for the nonmarket values associated with undeveloped wildlands. This analysis is especially important when considering the protection of lands with wilderness characteristics since these lands produce benefits and values that are seldom captured in the existing market structure. The literature on the benefits of wilderness is well established and should be used by the BLM to estimate the potential value of non-WSA lands with wilderness characteristics in the VPA. Peer reviewed methods for quantifying both non-market and market costs of changing environmental quality have been developed by economists and are readily applicable to the present case. For a catalog of these methods see Freeman (2003).

See Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 299.

The agency then responded to the truncated comment:

> The non-market values to which the commenter refers are not available to the BLM. The studies of which the BLM is aware are based on designated wilderness, the results of which may or may not be generalized to other "wild lands". Even if the studies are generalizable to Wilderness Study Areas (WSAs), the impacts are irrelevant, since WSA management is outside the scope of the current planning effort. The BLM is unaware of any evidence that such studies are generalizable to non-WSA lands with wilderness characteristics.
>
> FLPMA Section 202, (c) (4)states: "In the development and revision of land use plans, the Secretary shall…rely, to the extent it is available (emphasis added), on the inventory of the public lands, their resources, and other values."
>
> The BLM does recognize the potential importance of non-market values relative to managing for wilderness characteristics. These values are discussed qualitatively in Chapter 4 of the Proposed RMP/Final EIS.

See Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 299-300.

This response ignores decades of peer-reviewed, widely-accepted economic research on the non-market values associated with wildlands. The research addresses Wilderness quality lands, and the concepts can be easily extended to a variety of wildlands, many of which are present in the Vernal Field Office. Researchers can and do often apply values estimated in other studies for other areas to new areas. This technique, called "benefit transfer," has been widely accepted for policy analysis and should be applied to BLM land management decisions given the importance of non-market values as discussed

above. BLM attempts to dismiss the relevance of the referenced literature by citing a clause of FLPMA. However, within the very section cited by BLM, it says that in developing land use plans, the Secretary shall rely on *other values*, as well as inventories of public lands and their resources. Non-market values would certainly fall in this category of *other values*. What is more, BLM refers back to its own socioeconomic section which includes the term "non-market" only once and in reference to intangible aspects of oil and gas drilling, rather than as requested in our comments. This attempt to justify the agency's inadequate analysis is unacceptable. The Wilderness Society would not have submitted comments if it saw BLM's analysis as adequate in the first place. There is a significant difference between recognizing non-market values and quantifying them. By failing to do so, BLM has made an improper assumption that these values and any impacts thereto are negligible

If "suitable data" are not available to BLM, then such data should be collected by BLM. To refuse to do an analysis because of a lack of data is inappropriate. These values are likely to be large and should be estimated. Furthermore, studies on the non-market values of designated wilderness can and have been generalized to assess the benefits of lands that have the characteristics of wilderness without the designation (as noted above Walsh *et al.* 1984 did exactly this). The Wilderness Society is not the only commenter that has requested that BLM analyze non-market values associated with the set of alternatives. There are other individuals and organizations that see the deficiency in the agency's analysis without assessing these values. BLM must recognize the validity of the requests and proceed to include non-market valuation in their analysis.

2. Comments regarding impacts on the local economy

Comments from The Wilderness Society to BLM requesting that the agency extend the analysis of the impacts on the local economy beyond those resulting from the extraction of natural resources were quite extensive and incorporated extensive recommendations in additional documents which were also supplied to the agency:

> While the Supplement acknowledges that "…the very existence of wilderness characteristics within an area can provide economic benefits to the local economy," it misconstrue these benefits as very narrowly accruing only to businesses that rely directly on wilderness (the examples cited are "wilderness therapy groups or river running outfitters." Supplement, p. 4-68. This does not fully capture the economic impact that wilderness and wilderness quality lands have on local economies. Many businesses are free to locate wherever they choose. As the U.S. economy moves from primary manufacturing and extraction to a service-based economy the "raw materials" upon which these businesses rely are people. And study after study has shown that natural amenities attract a high-quality, educated, talented workforce – the lifeblood of these businesses. To narrow the range of potential impacts of protected lands as the Supplement does greatly underestimates the potential benefits of such protection.

More and more evidence has accrued indicating that the West is not a resource-dependent region. The public lands, including those managed by the BLM in the Vernal Planning Area are increasingly important for their non-commodity resources – scenery, wildlife habitat, wilderness, recreation opportunities, clean water and air. A vast and growing body of research indicates that the economic prosperity of rural Western communities depends more and more on these amenities and less and less on the extraction of natural resource commodities. See Bennett and McBeth (1998), Deller *et al.* (2001), Duffy-Deno (1998), Johnson and Rasker (1993) and (1995), Johnson (2001), Lorah (2000), Lorah and Southwick (2003), McGranahan (1999), Morton (2000), Nelson (1999), Power (1995) and (1996), Rasker *et al.* (2004), Reeder and Brown (2005), Rudzitis (1999), Rudzitis and Johansen (1989), Shumway and Otterstrom (2001), Snepenger *et al.* (1995) and Whitelaw and Niemi (1989) for some examples.

New residents in the rural West often bring new businesses, and more and more of these are not tied to resource extraction. Some are dependent directly on the recreation opportunities on the surrounding public lands. Other entrepreneurs are attracted to the area for the same resources. The Federal Reserve Bank of Kansas City has found that the level of entrepreneurship in rural communities is correlated with overall economic growth and prosperity. Low 2004. These businesses may be harmed or deterred by the potential single-use industrialization of vast public land areas allowed under the preferred alternative in the Draft RMP/EIS. Retirees and other who earn non-labor income are also important to rural western communities. This income is important for the counties impacted by the Vernal RMP – making up 42% of total personal income in Daggett County, 21% in Duchesne County and 20% in Uintah County, making it among the largest sources of income in the latter two counties and by far the largest in Daggett County. Retirees are attracted by natural amenities that are available on undeveloped public lands. The potential impact that a management plan which is so heavily weighted toward development and motorized recreation will have on this source of income and economic activity must be accounted for.

The BLM must collect and analyze actual data on the economic impacts of the alternatives, including Alternative E. Some suggested analyses and sources of data can be found in *Socio-Economic Framework for Public Land Management Planning: Indicators for the West's Economy"* (attached).

Recommendations: The BLM must make a thorough examination of the full socioeconomic impacts likely to occur if the management alternatives are implemented. These analyses must take into account the impacts that

> BLM land management actions will have on the surrounding communities, including the added cost of providing services and infrastructure, the long-term costs of the likely environmental damage, and the impacts on other sectors of the economy. The BLM must examine the role that protected public lands (including non-WSA lands with wilderness characteristics) play in the local economy.
>
> The BLM must make a thorough examination of the full socioeconomic impacts likely to occur if the management alternatives are implemented. These analyses must take into account the impacts that BLM land management actions will have on the surrounding communities, including the added cost of providing services and infrastructure, the long-term costs of the likely environmental damage, and the impacts on other sectors of the economy. The BLM must examine the role that protected public lands (including lands with wilderness characteristics) play in the local economy.

The Wilderness Society Comments on Supplement to Vernal Draft RMP/EIS for Non-WSA Lands with Wilderness Characteristics at 42-43. (*See* comments from The Wilderness Society submitted January 3, 2008 for the complete citations of the literature referenced above).

BLM created two abbreviated comments from this section:

> The DRMP/EIS and the Supplement fail to fully address the impacts that the alternatives will have on the local economy. It does not fully capture the economic impact that wilderness and wilderness quality lands have on local economies. Many businesses are free to locate wherever they choose. As the US economy moves from primary manufacturing and extraction to a service based economy the "raw materials" upon which these businesses rely are people. And study after study has shown that natural amenities attract a high-quality, educated, talented workforce – the lifeblood of these businesses. To narrow the range of potential impacts of protected lands as the Supplement does greatly underestimates the potential benefits of such a protection.
>
> The DRMP/EIS and Supplement fail to fully address the impacts that the alternatives will have on the local economy. More and more evidence has accrued indicating that the West is not a resource-dependent region. The public lands, including those managed by the BLM in the VPA are increasingly important for their non-commodity resources – scenery, wildlife habitat, wilderness, recreation opportunities, clean water and air. A vast and growing body of research indicates that the economic prosperity of rural Western communities depends more and more on these amenities and less and less on the extraction of natural resources commodities. *See letter for list of examples. The Draft RMP and the

> Supplement fail to address or even acknowledge the well documented and significant costs associated with off-road motorized recreation.

See Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 300-301.

BLM's response to both of these truncated comments was identical:

> The Proposed RMP/Final EIS has an expanded discussion of the socioeconomic benefits which may result from managing lands to preserve, protect and maintain wilderness characteristics.

See Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 300.

The agency's response to this comment makes the claim that it has in fact performed an adequate analysis of the impacts to the local economy. However, the impacts that were actually assessed are merely the customary narrow range which includes only the extractive industries and motorized recreation which lies at the heart of the issue raised by the comment in the first place.

The manner in which BLM ignores the substance of the comment is unacceptable. The response simply refers the commenter back to the agency's section that is being questioned. This fails to address or respond to the concerns raised by The Wilderness Society, and is inadequate as a response. This form of response is not an isolated case. There are several comments (from The Wilderness Society, as well as other organizations and individuals) that call into question the validity of analysis performed by the agency. BLM has responded to them almost always by referring the commenter back to its own section of the Draft RMP.

This pattern of the agency presenting abbreviated comments to which it then refuses to respond is a violation of the BLM's responsibilities to consider and respond to public comments, as well as to ensure that those comments inform the ultimate management decisions. Taken in their entirety, the comments above do in fact offer specifics to support The Wilderness Society's requests, suggested data sources, existing methodologies, and peer-reviewed literature; these comments must be substantively addressed and the PRMP corrected.

3. Comments regarding the costs associated with oil and gas development

The extensive comments submitted to the BLM from The Wilderness Society requested that the agency extend the analysis of the economic impacts from oil and gas development; the comments included specific recommendations and additional documents that were submitted to the agency:

The impacts of boom and bust cycles in resource extraction have well documented negative impacts. We are pleased to see that the BLM acknowledges that alternatives which are heavily weighted toward oil and gas extraction may have a long-term negative impact on local communities: "Increasing jobs in this sector also increased the dependency of the region on this industry and consequently increases the risk of economic downturn due to a bust cycle in oil and gas." Draft RMP/EIS, p. 4-176.

This concept should be more fully explored by the BLM analysts and supported with the considerable body of peer-reviewed academic literature on the social structure and economic performance of resource dependent communities. This information should lead the BLM to consider the most protective alternative, and even extending protection into areas that were excluded in Alternative E.

Drilling booms by definition occur at a rapid pace and tend to expand drilling into higher risk areas. Smith (1986) observed that past booms extended drilling into marginal areas that were abandoned when prices dropped – leading to the bust portion of the boom-and-bust cycle. Smith also noted that the areas with the largest rate of growth also experienced the largest rate of decline. Goldsmith (1992) and Guilliford (1989) have also documented the problems associated with the boom and bust nature of oil and gas development. The historical lesson suggests that mitigating the boom and bust economic swings is one strategy for reducing the community costs associated with oil and gas development.

Economic downturns due to the cyclical nature of the oil and gas industry are not the only risk associated with increased drilling in the Vernal Planning Area. Drilling booms also have negative impacts on communities in the West. Recent news accounts document residents leaving areas where drilling has become the dominant land use, reducing quality of life and property values.[47] Research in La Plata County, Colorado linked a 22% decline in property vales with an increase in coalbed methane production in the county (BBC Research and Consulting, 2001). Other impacts include damage to rural roads;[48] poaching in and around the gas fields[49] and other crime, especially drug use.[50]

Cohen *et al.* (2007) describe an increase in methamphetamine production on the nation's public lands, citing documents from the National Drug Intelligence Center. It is possible that drug production may be occurring on the public lands surrounding boom towns experiencing increased drug

[47] "Silt couple selling 110-acre ranch," The Grand Junction Daily Sentinel, 26 February 2007.
[48] "Boom hits county roads," Casper Star-Tribune, 13 December 2006.
[49] "Poachers making a killing in West's oil, gas fields," USA Today, 15 February 2007.
[50] "Boomtown Blues," The New Yorker, 5 February 2007.

use. Among the problems described by Cohen *et al.* are economic losses to gateway communities, stemming both from a loss of tourism and from an increased demand for emergency and social services. Jacquet (2005) demonstrates a link between increased gas drilling in the Pinedale, Wyoming area and an increase in per capita incidents of serious felonies, arrests and emergency service calls. These impacts reduce an area's desirability as a location for the types of businesses and new residents driving the current amenity economy.

Communities experiencing a boom in oil and gas drilling are impacted demographically as drilling crews and workers migrate into the area. Historically, most of the disruption and dissatisfaction in Western boom towns stems from the rapid influx of new residents. Merrifield 1984; Davenport and Davenport 1980. Increased demand for housing raises prices during boom periods, leading to increased poverty among those not able to take advantage of new jobs. Brabant and Gramling 1997. Providing basic services for a rapidly growing population, along with the increased costs associated with changes in per capita demand for services (due to the increase in social problems noted above), places added financial burdens on local governments during booms. Communities in southern Wyoming provide a modern example of these boom town impacts which mirrors those documented a quarter century ago. Pinedale Anticline Working Group 2005; Pederson Planning Consultants 2001.

Oil and gas development is known to lead to cycles of boom and bust which can have devastating impacts on Western communities. Research has indicated that an emphasis on resource extraction results in inherently economically unstable communities. Fortmann *et al.* 1989; Freudenburg 1992; Freudenburg and Gramling 1994. This instability in income and employment is usually a result of labor saving technological improvements and fluctuations in world resource markets – macroeconomic forces completely outside local control. Such economic instability and lack of local control can be expected with rapid oil and gas development.

In addition to the social and economic instability, oil and gas drilling also has negative impacts on the landscape. Morton *et al.* 2004. The attached brief, *The Economic & Social Impacts of Oil and Gas Development*, discusses these costs in more detail.

Recommendations: We recommend that the BLM to consider the long-term negative impacts associated with over-dependence on the resource extraction sectors and approve a plan which protects the area's lands with wilderness characteristics to the fullest, as these are much more likely to be the stable, long-term source of the region's economic prosperity.

The Wilderness Society Comments on Supplement to Vernal Draft RMP/EIS for Non-WSA Lands with Wilderness Characteristics at 38-40.

Once again, BLM has chosen to crop the comments:

> The DEIS and the Supplement do not adequately address the potential negative socioeconomic impacts of increased oil and gas drilling. This concept should be more fully explored by the BLM analysts and supported with the considerable body of peer-reviewed academic literature on the social structure and economic performance of resource dependent communities.

See Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 297.

BLM's response to the truncated comment follows:

> An expanded discussion of the potential negative social impacts on communities from large-scale oil and gas development has been added to Chapter 4 of the Proposed RMP/Final EIS. That expanded discussion provides evidence that the Vernal planning area, at least to date, has not experienced the rapid population growth or increases in crime that often accompany such booms.

See Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 297.

BLM's response to the comment makes it seem, once again, that all potential social impacts from oil/gas development have been considered, either within the Vernal Draft RMP/EIS or the Proposed RMP/Final EIS. However, even within the revised socioeconomic analysis in Chapter 4, BLM only performs a superficial qualitative analysis of possible impacts on local communities. The narrow range of analysis barely mentions impacts on recreation opportunities or boom bust cycles. BLM does acknowledge the possibility of boom bust to exhibit itself within natural resource-based economies; however, the agency goes into no cite-specific detail and largely dismisses the possibility by saying that no characteristic trends of boom bust cycles have been seen in the Vernal planning area. The fact that these trends have not yet been exhibited within the planning area is irrelevant. BLM must take account of the possible effects *should* a boom occur as a result of oil/gas development. The only detailed quantitative analysis was performed for the marketable costs and benefits of oil and gas development. This narrow view is completely inadequate to address all potential impacts to socioeconomic conditions for local communities, which the RMP/EIS is supposed to do in order to assure informed decision-making.

BLM has ignored the substance of the comments, preferring to look only at the narrow analysis they performed. At the very least, the agency must respond to any information

presented in comments presented to it. Responding by pointing to the analysis in question is completely inappropriate, whether to The Wilderness Society, other organizations, or individuals. Furthermore, BLM's continual blatant use of small portions of submitted comments highlights the disingenuous approach that the agency is taking to public review and participation.

4. Comments regarding the costs associated with off-road motorized recreation

In a particularly egregious example, The Wilderness Society presented BLM with a very extensive review of peer-reviewed literature on the costs associated with the impacts of off-road motorized recreation. This comment by The Wilderness Society was *several pages long,* and includes numerous examples of studies of the costs of off-road motorized recreation or its impacts:

> The following section presents a representative sample of the vast body of research which provides evidence of the costs associated with off-road motorized recreation.
>
> - **Increased soil compaction and erosion and disrupted hydrologic function**
>
> A study of the impacts of recreation use of a trail in southern Indiana (Mortensen 1989) found that ff-road vehicle use produced the most serious trail impact, and was "too widespread and pervasive to be assigned individual impact areas." Results indicated that off-road motorized recreation was associated with tread widening, loss of ground vegetation, increased soil exposure, and entrenchment erosion. The trail tread had been widened to more than 40 m (130 ft) in some places, indicating that off-road recreationists had taken different routes to the top (in effect, becoming scramble runs). Normal tread width is about 1 m (3.3 feet). Mortensen also notes major implications for soil erosion and esthetic characteristics. Compaction can lead to a loss of pore space for air infiltration, reduced water infiltration, increased erosion and runoff, and reduced germination of woody seedlings. Additionally, vegetation in disturbed areas was also harmed. Areas with moderate to severe disturbance had, on average, 50% as much healthy understory vegetation. It is interesting to note that even though off-road vehicles are prohibited except on current and old logging roads in the particular area studied, the author found pervasive intrusion of off-road vehicles and noted that their impacts were more pronounced than other recreational uses.
>
> Less obvious but equally damaging is the soil compaction caused by off-road vehicles. Studies have shown that soils are far more compacted in disturbed areas than in undisturbed regions. Raghavan *et al.* (1976). Soil erosion is another result of off-road motorized recreation. Kalisz (1996) studied the impacts of off-road motorized recreation in the mountains of

Kentucky and found that such use resulted in increased erosion which undermines the biological capability of the soil, results in the loss of valuable topsoil, and leads to increased streambed siltation. OHV trails also serve as corridors for invading exotic plants and animals, and as attractive dumps for human trash. Areas with OHV disturbance have three times as many damaged overstory trees as undisturbed sites. Predictably, loss of vegetation results in further erosion, thus perpetuating the cycle of desolation.

Riparian areas are also impacted by off-road motorized recreation. Chin *et al.* (2004) assessed the effects of all-terrain vehicle (ATV) trails on stream characteristics in the Ouachita National Forest in Arkansas. The authors compared selected pool characteristics in two watersheds with ATV trails to those in two control watersheds without ATV trails. They found that the watersheds with ATV trails had pools with higher percentages of sands and fines (siltation), lower depths, and lower volumes. Effects of sedimentation were visibly apparent in the ATV-affected stream pools. Median pool depths were about 20-25 cm in the affected pools and nearly 50 cm in the unaffected. Pools serve as the primary habitat for many fish; lower pool depths and volumes suggest possible damage to ecological function in areas affected by ATV use.

- **Air pollution**

  An often overlooked effect of off-road motorized recreation is the air pollution and fossil fuel demand created by such types of recreation. The Environmental Protection Agency (Fritsch 1994) estimates that small engines account for 5% of total air pollution, with a significant portion of this being contributed by off-road vehicles. In addition, one study estimated the yearly national fuel expenditure for OHV operation to be roughly half a billion gallons.

  Durbin *et al.* (2004) found that off-road vehicles make a disproportionately high contribution to the emissions inventory. The authors found that hydrocarbon (HC) emissions from 2-stroke engine-equipped motorcycles are about 10 times greater than those from a comparable 4-stroke engine on a per-mile basis. Cramer (1998) studied population growth and air quality in California and found that population growth has a significant and large effect on all types of emissions from off-road vehicles. Air pollutants from off-road vehicles include reactive organic gases (ROG) and oxides of nitrogen (NOx), the precursors of ozone; oxides of sulfur (SOx); and carbon monoxide (CO).

- **Impacts on vegetation**

  Another impact of the use of off-road vehicles is the spread of invasive species. A single ATV can disperse over 2,000 knapweed seeds in a ten-

mile radius. Knapweed seeds are more likely to germinate and crowd out native plants in areas where soil has been compacted. Montana State University Extension Service (1992). The economic impact to agriculture and wildlands from these weeds is substantial. The potential annual loss to Montana's economy from spotted knapweed alone is estimated to be $42 million. Duncan *et al.* (2001). If knapweed continues to invade highly vulnerable lands, the potential annual loss to Montana's livestock industry would be $155 million each year.

Invading non-indigenous species in the United States cause major environmental damages and losses adding up to more than $138 billion per year. Pimentel *et al.* (1999). There are approximately 50,000 foreign species and the number is increasing. About 42% of the species on the Threatened or Endangered species lists are at risk primarily because of non-indigenous species. Non-native weeds cause at least $25 billion in crop and forage losses annually. Noxious weeds are estimated to have a direct cost to all Idaho lands of $300 million annually. Idaho Department of Agriculture (2007).

Vegetation suffers directly and indirectly from the passage of off-road vehicles. The effects can last decades or even centuries. Compaction and erosion impair the ability of plants to absorb nutrients and carbon dioxide and experience proper root growth. Disturbance of soils by off-road vehicles has long-term effects that favor the establishment of weedy species. Blackburn *et al.* (1994).

- **Impacts on wildlife**

  Losos *et al.* (1995) classified threats to species endangerment and found that 69% of federally-listed species were known to be threatened at least in part by resource extraction and recreation activities. They found recreation threats to 23-26% of species. The most destructive recreational practices were off-road vehicle use (motorcycles, four-wheel drive vehicles, snowmobiles, dune buggies, all-terrain vehicles, and other vehicles with high ground clearance) and general recreation (all unspecified recreation threats). Stritthold and Dellasala (2001) study the importance of roadless areas on biodiversity and find that these areas are important for species protection.

- **Foregone passive use benefits**

  Jerrel (1995) estimated the benefits of protecting 6.9 million acres of desert land in California. The value to California residents of designating seventy-six new wilderness areas and creating three new national parks was found to be between $177 and $448 million per year. The 1993 version of the California Desert Protection Bill restricted vehicle access in

the parks and prohibited motorized and mechanized recreation in the wilderness areas.

- **Foregone wilderness/roadless recreation benefits**

  Swanson and Loomis (1996) used a benefit-cost analytical method that translates recreation use into economic benefits. Recreation in 1990 on public lands (U.S. Forest Service and BLM) in the Pacific Northwest (western Washington, western Oregon, northern California) generated public benefits of $1.6 billion. Recreation demand exceeded supply in some areas—the greatest gap was in "semi-primitive non-motorized" recreation. Authors measured the effects of four alternative management scenarios to estimate their ability to meet demand. Economic benefits were maximized under a redistribution that shifted acres from "semi-primitive motorized" to "semi-primitive non-motorized." This scenario resulted in an additional $916 million in public benefits. Authors found that existing public land allocations in the region provided excess supply for roaded recreation.

- **Personal safety and injury**

  According to the Consumer Product Safety Commission (CPSC), CPSC (2005), there have been 7,188 ATV-related deaths since 1982 – 2,178 of these were children under the age of sixteen. In addition, over 1.8 million ATV-related injuries were treated in hospitals and doctors' offices in the same time period. The CPSC reports that in 2005 children under the age of 16 accounted for 30% of annual ATV-related injuries. These deaths and injuries impose costs on society, according to Helmkamp (2002), the average annual comprehensive economic loss resulting from ATV deaths in West Virginia through the 1990's was estimated to be between $10 million and $34.2 million. Similar costs can be expected with off-road motorized recreation in the Vernal Planning Area and these costs must be estimated and included in the economic impact analysis for the RMP. Moore and Magat (1997) and Heiden and Lenard (1995) offer additional information on the costs and risks associated with all-terrain vehicle injuries and deaths.

- **Law enforcement**

  The Supplement states (p. 4-54 – 4-55) that the "… lack of additional trails could produce an increase in cross-country travel, thereby increasing the adverse impacts … without further OHV opportunities, overland riding, user conflicts, elevated user densities, and the decline in visitor safety would continue within the VPA." This implies that off-road motorized recreation participants are generally lawless. If this is the case, increasing rather than decreasing access constraints would be indicated. In fact law enforcement needs for this particular user group are a large source of the costs associated with off-road motorized recreation.

The need for law enforcement to ensure that ORV rules and regulations are followed and are effective imposes costs on society as well. The General Accounting Office (1995) studied the use and impacts of off-highway vehicles after their increasing use lead to damage to natural or cultural resources, or their use clashed with other forms of outdoor recreation (e.g., hiking, picnicking, horseback riding). The report found that agencies (BLM and U.S. Forest Service) gave lower priority to monitoring off-road motorized recreation than to other programs, that they relied heavily on states for financial support of law enforcement, that off-road motorized recreation was being monitored casually rather than systematically and that levels of compliance were mixed. The report also found that adverse effects were seldom documented.

The states of Michigan and Washington both document spending on OHV enforcement. The State of Michigan appropriated $1,374,500 in fiscal year 2003 to support county sheriff's departments for enforcing ORV laws. State of Michigan (2003). The State of Washington (Interagency Committee for Outdoor Recreation) administers the Non-Highway and Off-Road Vehicle Activities (NOVA) Program, which funds grants to counties to support maintenance, education, and enforcement activities. Washington spent over $1.8 million on non-highway and off-road vehicle road projects, and education and enforcement in 2003. Interagency Committee for Outdoor Recreation (2004).

- **Costs to taxpayers**

  OHV activity on public lands can be costly to taxpayers who subsidize the basic construction, maintenance, and management of the required infrastructure and the restoration and repair of damaged lands and who pay the price for ecotourism opportunities lost because of degraded habitat. Defenders of Wildlife (2002). For example, Defenders of Wildlife found that OHV damage in the Chattahoochee/Oconee National Forest (Georgia) is estimated at $990,000 ($1,800 per acre) to repair 550 miles of illegal trails.

  Studies of Americans' recreation activities repeatedly show that the vast majority of people participate in non-motorized recreation – not motorized. A national study by Roper (2003) looked at participation rates over time (1995-2003) and found that off-road vehicle activities consistently ranked below non-motorized activities with walking, hiking and backpacking accounting for two-thirds or more of recreation visits, while OHV driving accounted for less than ten percent.

  Data from several states as well as national studies (the U.S. Department of Agriculture Forest Service National Visitor Use Monitoring Program, the National Survey on Recreation and the Environment (see Cordell ***et al.***

(2004)), and BLM's Public Lands Statistics)[51] all show that motorized use is consistently a small portion of total public lands recreation visits.

Data from the Recreation Management Inventory System (RMIS) for the state of Utah show that in Fiscal Year 2006 motorized recreation accounted for just 20% of total visits, while non-motorized recreation visits were 52% of the total.[52] Alternative E, the most protective alternative offered by the BLM still proposes to make over 77% of the planning area available to a group which represents 20% of total users. This will in no way harm these users and is certainly not balanced.

Furthermore, Stynes and White (2005) have shown that motorized and non-motorized visitors spend the same amount per day on tourism-related services. Given the preponderance of evidence that most visitors are engaging in non-motorized recreation, it is likely that most of the benefit to the local communities from hotel and restaurant spending, as well as other spending by visitors is due to the non-motorized recreation opportunities in the area. It is also likely that as the landscape becomes degraded and overrun by off-road vehicles the "cash cow" tourists seeking non-motorized opportunities are likely to choose other destinations. The impact on the local economy of this shift must be assessed as part of the Final RMP EIS analysis.

Making over 77% of the planning area available to off-road vehicles would be inappropriate given the small numbers of participants, the important values which will be lost to all Americans and the potential high costs that will be imposed on Utah and the rest of the region from higher levels of off-road motorized recreation in the Vernal Field Office.

Recommendations: BLM must collect and analyze more thorough and accurate data on the costs of off-road motorized recreation in order to make an accurate assessment of the impacts of the alternatives. BLM must recognize that increasing off-road motorized recreation implies the need for increased restrictions, and increased law enforcement, not opening more land for open cross-country travel.

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[51] National Forest Visitor Use Monitoring Program National Project Results, January 2000 through September 2003, http://www.fs.fed.us/recreation/programs/nvum/national_report_final_draft.pdf; National Survey on Recreation and the Environment, http://www.srs.fs.usda.gov/trends/Nsre/nsre2.html; U.S. Department of the Interior, Bureau of Land Management, Public Lands Statistics: http://www.blm.gov/wo/st/en/res/Direct_Links_to_Publications/ann_rpt_and_pls/2006_pls_index.html.

[52] Tina McDonald, Outdoor Recreation Planner, Recreation Management Information System (RMIS) Project Manager, U.S. Department of the Iinterior, Bureau of Land Management, 2850 Youngfield St., Lakewood, CO 80215, Email: Tina_McDonald@blm.gov.

The Wilderness Society Comments on Supplement to Vernal Draft RMP/EIS for Non-WSA Lands with Wilderness Characteristics at 43-48. (*see* original The Wilderness Society comments for the complete citations of the literature referenced above).

Unlike the other comment section submitted to BLM, the agency formed some response for each section of the above comment. However, BLM still has chosen to abbreviate these narrower comment sections. Taken out of context and without much of the supporting material, the agency still shows a lack of consideration for science outside of the narrow scope that they have evaluated themselves. For the greater part, the agency chooses to refer the commenter back to BLM's own analysis. BLM does *acknowledge* many costs of ORV recreation, as well as benefits from keeping areas closed to ORVs; however, these values are evaluated only superficially. The agency has performed in depth qualitative analysis only regarding economic benefits of OHV users and permitting. There is no detailed economic analysis of the many costs that are inflicted on the land itself as well as other recreational users. In addition, BLM makes the assumption that ORV users will follow regulations. The Wilderness Society has presented the agency with research to the contrary, and overwhelming personal accounts support the validity of this position: many ORV users choose not to follow regulations. The costs of this illegal use are substantial, and yet BLM claims that enforcement is outside the scope of their analysis. Management costs to deal with this entirely predictable illegal use certainly affect the ability of the agency to manage the area as a whole. BLM responds by saying " if additional law enforcement is required to manage any specific resource within the VPA it is correct that it could create an additional cost to the tax payer, however, the additional needs could create a new position(s) , which could assist the local economy as well." *See* Public Comments and Responses, Vernal Draft RMP/EIS August 2008, Supplement Comments sorted by Commenter at 302. Even if this claim is valid, BLM *still* ignores the costs to the physical environment (non-market values). This reflects the superficial nature of most of the agency's analysis.

Virtually none of the costs discussed above were examined substantively by BLM in the Draft RMP/EIS. Instead the agency chose to focus its socioeconomic analysis of off-road motorized recreation on the potential benefits. Such an analysis is incomplete. Net, rather than gross, benefits should always be the basis for decisions, especially ones with long-term and far-reaching consequences such as a resource management plan that will dictate public land use for 20 years.

The comment presented by The Wilderness Society is important and substantiated with considerable evidence from peer-reviewed economic literature on the socioeconomic costs associated with off-road motorized recreation and its impacts on the environment. BLM must collect and analyze more thorough and accurate data on the costs of off-road motorized recreation in order to make an accurate assessment of the socioeconomic impacts of the alternatives. BLM must recognize that increasing off-road motorized recreation implies the need for increased restrictions, and increased law enforcement, not making more land available for such recreation.

The agency's response to comments highlights its ongoing disregard for science provided by The Wilderness Society, and public opinion in general. NEPA requires that BLM discuss "any responsible opposing view which was not adequately discussed in the draft statement and indicate the agency's response to the issue raised" in preparing a final EIS. 40 C.F.R. § 1502.9. The Council on Environmental Quality interprets this requirement as mandating that an agency respond in a "substantive and meaningful way" to a comment that addresses the adequacy of analysis performed by the agency.[53] As such, the agency has violated NEPA's requirements.

5. Requested Remedy

BLM must complete a conforming NEPA analysis that fully considers the opposing scientific opinion and justifies its contradicting conclusions. BLM must take into account the full scope of the comments, and not specific points taken out of context. The agency must then revise the Proposed Plan as needed.

B. The PRMP does not adequately address the potential negative impacts of increased oil and gas drilling.

While the PRMP does include a very brief summary of the issues associated with an economy dominated by the oil and gas industry, it does not complete the requested analyses of these impacts. Furthermore this brief section cites only one study of the dozens which were pointed out to BLM. Later it becomes apparent why the rest of the vast body of literature on the social and economic disruption of boom and bust industries was ignored. This one study (Smith et al. 2001) seems to support the philosophical premise upon which BLM's analyses were bases.

The PRMP undermines its cursory acknowledgment of these important negative impacts by stating:

> A major factor that could alleviate or even mask a decline in social well-being is the recognition that the area has come to depend more on oil and gas development over the recent past .The Smith et al study concludes that even communities which suffer social disruptions due to minerals booms tend to recover quickly once the boom has ended.

PRMP at 4-381.

This in no way absolves BLM from the necessity to analyze these impacts seriously, nor does it render these impacts "negligible." The notion that just because an area has "come to depend on the oil and gas industry…" (and this in and of itself is debatable) does not mean that the boom and bust cycles do not cause real, long-term economic and social negative impacts.

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[53] The U.S. Court of Appeals for the Tenth Circuit has held that the "Forty Questions" are "persuasive authority offering interpretive guidance" on NEPA from CEQ. *Davis v. Mineta*, 302 F.3d 1104, 1125 (10th Cir. 2002).

BLM itself acknowledges that there are also minimal potential benefits to the oil and gas industry in reducing the total acreage available for leasing in the PRMP:

> …a decrease in the acreage available for phosphate development would also prolong the availability of finite phosphate resources found in the VPA for future use, which would reduce the long-term adverse impacts on the phosphate mining industry by ensuring that the resource was available to support a viable, long-term phosphate mining industry.

Supplement to the Draft RMP and EIS at 4-39.

This same argument can certainly be made for the oil and gas industry as these resources are also finite, the industry is prone to cycles of boom and bust which could be mitigated by prolong the life of the resource, and the postponement of leasing can certainly achieve this benefit for the industry, and more importantly, for the local economies. A long-term stable oil and gas industry would certainly be preferable.

1. Requested Remedy

BLM must analyze the long- and short-term negative impacts associated with over-dependence on the resource extraction sectors and revise the PRMP to provide details on the impacts that the proposed management actions have on the region's economy. Furthermore, BLM should approve a plan which will prevent such negative impacts.

C. The PRMP overstates the potential importance of the oil and gas industry, and the potential opportunity costs of protecting lands with wilderness characteristics.

The PRMP implies that implementing protection for lands with wilderness characteristics will adversely impact the oil and gas industry. This is simply not the case. Even the token protective alternative (E) makes over 80% of the planning area available for oil and gas drilling. Implementing the modest protection for lands with wilderness character in Alternative E would decrease the monetary benefits from oil and gas drilling by less than 4% according to the estimates presented in Table 4.14.3 at 4-378 to 4-379.

At the heart of the agency's multiple use mandate is the need to protect multiple values, yet BLM dismisses the request that directional drilling be required in order to protect multiple values. This dismissal is unwarranted. As it is, the PRMP is an unbalanced plan devoted to industrial use of the Vernal Planning Area (90% of the planning area is available for oil and gas drilling). Requiring an industry extracting highly profitable resources from lands which belong to all Americans to implement practices which will help retain the other values for which these lands are prized is not an unreasonable request.

The numbers of oil and gas jobs estimated in the PRMP is still too large given current employment patterns. The entire mining sector (of which oil and gas extraction is a portion) in the Vernal Planning Area accounts for 16% of total employment.[54] This is highest in Uintah County, but here still only 19% in 2006. Alternatives A-D all predict total annual employment in the Vernal Planning Area that would amount to between 38 and 42 percent of the current total. This ignores other sectors of the economy which do not benefit from a plan which opens almost the entire planning area to oil and gas extraction. The professional and service sector in the three counties accounts for 27% of total employment in the planning area.

A more important economic indicator is total personal income. Oil and gas extraction accounts for only 3.58% of total personal income in the three counties (only 5.75% in Uintah County)[55]. On the other hand the professional and service sector accounts for 15.79% of total personal income in the three-county area.[56] BLM must resist the tendency to assume that this industry is the most important in the planning area. It is not.

Perhaps in response to this comment, the PRMP includes dubious information from a study conducted by the Utah Energy Office which implies that the oil and gas industry has an employment multiplier of nearly 9, "…the UEO study, which estimated most of the new job creation would in the services, retail and wholesale trades, with only 1.7 of the 14.8 projected jobs in the oil and gas industry." Vernal Proposed RMP and Final EIS at 4-368. Based on standard scientific principles, multipliers over 3 should be viewed with skepticism. Furthermore, similar analyses should be applied to other sectors of the economy. By focusing so much effort on one industry, BLM fails in its obligation to conduct a credible analysis.

To continue to assert that such a large proportion of the area's employment is attributable to an industry which accounts for less than 20% of direct employment indicates a willingness on the part of the agency to promote this one use of the lands in the Vernal Planning Area to the detriment of multiple use. The exaggeration of the potential jobs and other benefits from oil and gas drilling overstates the opportunity cost of protecting the other multiple uses and values of the Vernal Planning Area.

1. Requested Remedy

BLM must adjust its assessment of both the potential positive impacts of oil and gas drilling to reflect more realistic employment and other impacts and also to reflect the costs (market and non-market) associated with such development. The agency must also adjust the negative impacts to the oil and gas industry and the opportunity costs associated with protecting lands with wilderness characteristics to reflect these more realistic values.

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[54] U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 2006 data

[55] U.S. Department of Commerce, Bureau of Economic Analysis, Regional Economic Information System, 2006 data

[56] Ibid.

D. The PRMP does not account for the non-market values associated with undeveloped wild lands.

America's public lands produce much more than oil and gas, livestock forage, or even recreation visits. The laws and regulations reigning in such uses were put in place in large part to protect the non-market values which are also an important product of public lands. Despite reasonable and well-documented requests to quantify the non-market values associated with the alternatives proposed for the Vernal Planning area, BLM has refused to do so, claiming, among other excuses, that non-market values are not available. There are several problems with this claim.

First, economists have bean measuring non-market values for decades. The methods and techniques are well-established and accepted among economists. Our comments provided numerous examples of seminal research as well as literature on the use of benefit transfer methods.

Second, as we noted in our comments, one of the most important purposes of public lands, including those of the BLM in the Vernal Planning Area, is the provision of public goods or non-market goods. Things like opportunities for solitude, outdoor recreation, clean air, clean water, the preservation of wilderness and other undeveloped areas would not be supplied in the socially optimal quantities if left entirely to the market. BLM has an inherent responsibility to see that these public goods are provided and in quantities that meet the demand, not just of local residents, but of every U.S. citizen.

This analysis is especially important when considering the protection of lands with wilderness characteristics since these lands produce benefits and values that are seldom captured in the existing market structure. The literature on the benefits of wilderness is well established and should be used by the BLM to estimate the potential value of the non-WSA lands with wilderness characteristics in the Vernal Planning Area.[57]

Finally, if as BLM states, non-market values are not available, a credible research effort should be undertaken to estimate the full range of non-market values associated with the alternatives proposed for the Vernal Resource Management Plan.

Peer reviewed methods for quantifying both the non-market and market costs of changing environmental quality have been developed by economists and are readily applicable to the present case. For a catalog of these methods see Freeman (2003). See Swanson and Loomis (1996) for a discussion of non-market values relevant to public land management. In order to perform a complete socioeconomic analysis, BLM should adapt

[57] Krutilla (1967) provides a seminal paper on the valuation of wilderness lead the way for countless others who have done research all providing compelling evidence that these lands are worth much more in their protected state. Morton (1999), Bowker et al. (2005), Krieger (2001) and Loomis and Richardson (2000) provide overviews of the market and non-market, use and non-use values of wilderness and wildlands. *See* Walsh et al. (1984), Bishop and Welsh (1992), Gowdy (1997), Cordell et al. (1998), Loomis and Richardson (2001) and Payne et al. (1992) for several more examples.

these methods to conditions in the Vernal Planning Area to obtain a complete catalog of estimates of the economic consequences of the proposed Alternatives.

It should be noted that estimates of the non-market impacts of oil and gas drilling have been used by the agency in other planning process in Utah. The analyses conducted for the West Tavaputs Plateau natural gas development included good estimates of non-market values which provide a minimum estimate as well as an example which the Vernal Field Office should follow (BLM 2008).

1. Requested Remedy

BLM must measure and account for changes in non-market values associated with the level of oil and gas drilling and off-road motorized recreation proposed in this RMP. To do otherwise omits a very important socioeconomic impact that is the direct result of management actions. The BLM must assess the non-market economic impacts on the owners of the lands in the Vernal Field Office – all Americans. This analysis must include the passive use values of all lands with wilderness characteristics.

E. The PRMP fails to fully address the impacts that the alternatives will have on the local economy.

We reiterate our request (made in comments on the Draft RMP and the Supplements) that BLM examine the broad impact that the management of the lands in the Vernal Planning Area will have on the local economies. It can no longer go unacknowledged that the West's economy is not dependent on resource extraction. Oil and gas extraction does not account for more than 17% in any of the counties in the VPA. In fact in all of these counties the professional and service sector is (and has been for years) the largest source of jobs and income. The possibility that the focus of PRMP so heavily on oil and gas development may have negative impacts on these other sectors must be assessed by BLM. The Supplement acknowledged that "…the very existence of wilderness characteristics within an area can provide economic benefits to the local economy." Supplement to the Draft Resource Management Plan and Environmental Impact Statement at 4-68. We pointed out that the agency had misconstrued these benefits by defining them very narrowly as those accruing only to businesses that rely directly on wilderness. BLM's response to this comment has been to completely eliminate any recognition of benefits to the local economy from protected public lands.

This is simply unacceptable. It has been widely acknowledged by sociologists and economists that the region's economy has changed and that many of the traditional assumptions are no longer valid. Studies have shown that rural areas that rely heavily on one or a few industries (such as those that focus on extractive industries) do not fare as well as those with more diversified economies. These resource dependent areas also have higher rates of social problems, lower incomes, higher rates of poverty.[58] *See* Pederson

[58] For several examples of this research see Smith 1986, Goldsmith 1992, Gulliford 1989, BBC Research and Consulting 2001, Jacquet 2005, Merrifield 1984, Davenport and Davenport 1980, Brabant and Grammling 1987, Fortman *et al.* 1989, Freudenburg 1992, and Freudenburg and Grammling 1994.

Planning Consultants 2001, Pinedale Anticline Working Group 2005, and BBC Research and Consulting 2008 for discussions of how the current drilling boom is affecting the economic and social well-being of Western communities.

On the other hand, diversified economies perform better, and protected public lands have been shown to be a factor in this superior performance.[59] As we noted in our comments, many businesses are free to locate wherever they choose. As the U.S. economy moves from primary manufacturing and extraction to a service-based economy the "raw materials" upon which these businesses rely are people. And study after study has shown that natural amenities attract a high-quality, educated, talented workforce – the lifeblood of these businesses. To narrow the range of potential impacts of protected lands as the Supplement does greatly underestimates the potential benefits of such protection.

1. Requested Remedy

BLM must revise the PRMP to include a thorough examination of the full socioeconomic impacts likely to occur if the management alternatives are implemented. These analyses must take into account the impacts that BLM land management actions will have on the surrounding communities, including the added cost of providing services and infrastructure, the long-term costs of the likely environmental damage, and the impacts on other sectors of the economy. The BLM must examine the role that protected public lands (including non-WSA lands with wilderness characteristics) play in the local economy.

F. The RPMP, like the Draft RMP and the Supplement, fails to address or even acknowledge the well-documented and significant costs associated with off-road motorized recreation.

The full content of this section of our original comments is reproduced for illustrative purposes in section VII of this document so we will not reiterate it here. However we will reiterate the need (highlighted in our comments on the Draft and the Supplements) for BLM to analyze the potential negative consequences of opening 96% of the planning area to off-road motorize recreation. In its response to this request BLM first dismisses evidence provided as unacceptable because it is from an advocacy group. This ignores the fact that much of the evidence for the potential benefits from off-road motorized recreation has come from advocacy groups. Furthermore BLM mischaracterize an important document which the agency should be using as the basis for qualitative analysis of the impacts of this form of recreation when it states:

> In an exhaustive review of literature on the socioeconomic costs and benefits of OHV use on BLM lands, the United State Geological Survey

[59] See Bennett and McBeth (1998), Deller *et al.* (2001), Duffy-Deno (1998), Johnson and Rasker (1993) and (1995), Johnson (2001), Lorah (2000), Lorah and Southwick (2003), McGranahan (1999), Morton (2000), Nelson (1999), Power (1995) and (1996), Rasker *et al.* (2004), Reeder and Brown (2005), Rudzitis (1999), Rudzitis and Johansen (1989), Shumway and Otterstrom (2001), Snepenger *et al.* (1995) and Whitelaw and Niemi (1989) for some examples.

> "revealed no published studies on the socioeconomic costs generated by OHV use" (USGS, Environmental Effects of Off-Highway Vehicles on Bureau of Land Management Lands: A Literature Synthesis, Annotated Bibliographies, Extensive Bibliographies, and Internet Resources, 2007). The same study cited numerous studies documenting the economic benefits generated by such users. The USGS study does not state that OHV use does not pose such costs, but rather that they have not been documented.

See Supplement Comments by Commenter (Individuals) at 308.

First, this document does not look at socioeconomic "benefits" of OHV use. Second, the BLM is mischaracterizing what the USGS study actually does state. The USGS found that there were no studies focusing specifically on the *socioeconomic* costs of this form of recreation, but this 200-plus page document is a comprehensive compilation of the many *environmental* impacts associated with off-highway vehicle use on BLM lands. These impacts are numerous and well-documented and there are already numerous studies on the economic costs of these same environmental impacts. It does not matter how the impacts come about, the costs are the same and should be included in the analysis to provide a realistic picture of the consequences of this PRMP.

Continuing its response to a request to assess the costs of off-road motorized recreation, BLM states:

> The BLM has never implied that OHV use is without costs or impacts most of which result from unrestricted cross-country travel. The Proposed RMP/Final EIS reduces by over 99 % the acreage designated as open to cross-country OHV travel. The BLM's planning process and impact analysis assumes that visitors will not engage in illegal activities of the type described by the commenter.

See Supplement Comments by Commenter (Individuals) at 308.

BLM does not supply any documentation to support the assertion that most of the impacts are the result of cross-country travel. Many of the costs discussed in our original comments apply to trail use as well. Furthermore it is an erroneous assumption that "visitors will not engage in illegal activities…" This has become one of the most important public land law enforcement issues in recent years and the very real possibility that illegal cross-country travel will take place only exacerbates the costs described in our comments.

1. Requested Remedy

BLM must collect and analyze more thorough and accurate data on the costs of the impacts attributed to off-road motorized recreation in order to make an accurate assessment of the impacts of the alternatives.

G. Activities on BLM lands, especially oil and gas operations, will likely result in air quality impacts, which in turn will result in socioeconomic costs which must be accounted for.

BLM's conclusion that oil and gas drilling and other activities in the Vernal planning area will not result in increased emissions of several regulated pollutants including ozone precursors is dubious. *See* Vernal PMRP/FEIS at 4-29 ("…air quality effects specific to BLM emission sources from mineral development are expected to be negligible at most."). As noted by the EPA in comments on the Chapita Wells-Stagecoach Area Natural Gas Development (attached Exhibit Y), oil and gas development is likely to have significant cumulative impacts on air quality under new standards for both particulate matter and ozone. Furthermore the modeling assumptions used to arrive at a conclusion of no impacts to air quality (that is that there will be uncertainty in the numbers of wells) is in direct conflict with the certainty with which the *benefits* of the potential development will have (all of which were based on an assumption of over 6,000 new wells in the planning area). The proposed 43% increase in the total number of wells in the planning area is substantial and will likely result in decreased air quality in the planning area. These declines will have socioeconomic costs which must be analyzed by BLM.

There is a well-established case in support of the economic benefits of clean air and, by symmetry, the economic costs of deteriorating air quality. This case is demonstrated by a review of three major studies of the economic benefits of air quality improvements. These studies indicate that improvements in air quality have resulted in significant benefits, well in excess of the costs of achieving the improvements. The studies, released in 1997, 1999, and 2005, show five patterns clearly, each of which is explained below.

Substantial economic costs are likely to occur if air quality in the areas surrounding BLM lands continues to deteriorate as the result of proposed actions and developments such as increased oil and gas exploration and production. There are tools readily available to assist the BLM in conducting a thorough analysis of the health-related costs of increased ozone exposures for citizens living near and visitors to BLM lands, so that these costs can be given due consideration in land management decisions.

1. Improvements in air quality result in substantial economic benefits well in excess of economic costs

Considering only the health-related benefits of reduced ozone pollution, estimated benefits range from $409 billion over a single decade for ozone reductions resulting from initial implementation of the Clean Air Act (EPA 1997) to $7 billion in benefits for a single year from simply meeting the .80 ppm NAAQS standard for ozone (Hubbell *et al.* 2005). By symmetry, it is likely that deteriorating air quality resulting from accelerated oil and gas development and other pollution-generating activities will result in substantive economic costs

2. **The range of known and scientifically-valid health consequences from polluted air in general, and elevated ozone levels in particular, is increasing.**

Especially notable is the attribution of some premature mortality to elevated ozone exposure. Premature mortality was attributed solely to elevated particulate matter in both EPA studies reviewed here (EPA 1997 and EPA 1999). Yet, improved understanding of the adverse consequences of ozone exposure, and the associated economic costs, has led the EPA to promulgate increasingly strict ozone standards and prompted Hubbell *et al.* (2005) to include reductions in premature mortality as one of the health consequences of meeting the 8-hour NAAQS ozone standard.

3. **The increasing breadth and depth of valuation research in economics provides evidence that can be used to quantify and monetize the health-related benefits of reduced air pollution.**

The research increasingly allows monetization to be specifically targeted to affected populations, both in terms of age and location.

4. **High levels of inflation for goods and services related to health care suggest that the economic costs of ozone exposure will grow rapidly in the future, even if NAAQS standards are not further tightened.**

While all of the monetized values reported here are in constant 2005 dollars, it should be noted that in 2005 the Consumer Price Index for all medical services stood at 323.2 compared to 162.8 in 1990, an increase of nearly 100 percent (U.S. Census Bureau 2008). The costs of medical care are increasing much faster than the costs of other consumer items.

5. **There is a well-stocked tool box available to BLM to use in estimating the economic costs of the increased air pollution likely to result from accelerated energy development.**

Although they differ in details, all three papers use a common methodology to arrive at an estimate of monetized benefits of improved air quality. The methodology consists of four steps (see EPA 1997, p. 29): 1) estimate changes in air quality between a control scenario (e.g. the status quo) and an alternative scenario (e.g. reductions in ozone; 2) estimate the human population exposed to the change in air quality; 3) apply a series of concentration-response equations which translate changes in air quality to changes in physical health and health endpoints (e.g. asthma attacks); and 4) multiply changes in health endpoints aggregated over the affected population by an estimate (or range of estimates) of the monetized value of the health endpoints. BLM could apply the four steps outlined above to estimate the economic costs of its proposed actions. The studies, especially the 2005 study, show how BLM would be able to apply existing and proven methodologies to estimate the economic costs any proposed implementation or expansion of oil and gas development on BLM lands. The software necessary to conduct a

simulation of increased ozone levels (BenMAP) is available from EPA and discussed in Hubbell *et al.* (2005).

6. Detailed review of three studies of the economic benefits of air quality improvements

While improvements in the nation's air quality have been expensive, it is well established that the economic benefits of improving air quality have exceeded the costs of those improvements, in many cases by large multiples. As mandated by Congress in Section 812 of the 1990 Clean Air Act Amendments, EPA has produced two studies examining the benefits and costs of wrought by the Clean Air Act and its later amendments. The first study, EPA (1997) found that the benefits resulting from air quality improvement engendered by the Clean Air Act between 1970 and 1990 totaled $5.6 to $49.4 *trillion*, with a central tendency of $22.2 trillion. The costs of compliance with the Clean Air Act were estimated to be $523 billion. This yields a benefit cost ratio between 10.7 and 94.5.

The measured ozone-related health and worker productivity benefits found in EPA (1997) are summarized in Table 1.

Table 1 Economic Benefits of Ozone-Related Health and Worker-Productivity Effects of the Clean Air Act 1970-1990

Health Consequence*	Affected Population	Number of Cases Prevented	Value Per Case (2005 dollars)	Present Value (billions of 2005 dollars)
Hospital Admissions				
All Respiratory	≥65	89,000	$16,081	$17.9
Cardio Pulmonary and Pneumonia	≥65	62,000	$15,684	$17.9
Respiratory Related Ailments				
Any of 19 Acute Symptoms	18-65	130,000,000	$10.52-$89.34	$91
Asthma Attacks	Asthmatics	850,000	$63.5	$107
Minor Restricted Activity Days (MRAD)	18-65	125,000,000	$75.4	$169
Decreased Worker Productivity	Those in the labor force	Not given	$1.98 per hour for each 10 % reduction in ozone	$5.95
Total Economic Benefits				$408.75

Source: Tables 6, 10, 13, and I-3 of EPA 1997; U.S. Census Bureau, 2008.
*EPA 1997 also attributes improvements in all listed health consequences to reductions in particulate matter (PM) and ozone.

In its 1999 peer-reviewed study, EPA used sophisticated computer models and the latest epidemiological research. EPA (1999) finds that the 1990 Clean Air Act Amendments

will prevent 23,000 Americans from dying prematurely, avert over 1,700,000 incidents of asthma attacks and aggravation of chronic asthma, 67,000 incidents of chronic and acute bronchitis, 91,000 occurrences of shortness of breath, 4,100,000 lost work days, 31,000,000 days of restricted physical activity, due to pollution related illnesses. Moreover, EPA expects the Act to avert 22,000 respiratory-related hospital admissions, 42,000 cardiovascular hospital admissions, and 4,800 emergency room visits related to asthma.

EPA (1999) also used the latest economic research on measuring costs and benefits to conclude that the total benefits of the 1990 Clean Air Act Amendments from 1990 to 2010 would be $110 billion, while the costs of applying the Amendments would be $27 billion. Thus the benefit/cost ratio is 4.07.

The measured ozone-related health and worker productivity benefits found in EPA (1999) are summarized in Table 2.

Table 2 Economic Benefits of Ozone-Related Health and Worker-Productivity Effects of the Clean Air Act 1990-2010

Health Consequence*	Affected Population	V Number of Cases Prevented	Value per Case (2005 dollars)	Annual Value (millions of 2005 dollars)
Chronic Asthma	NA	7,200	$49631	$357.3
Hospitalizations				
All Respiratory	NA	22,000	$13,698	$258.1
All Cardiovascular	NA	42,000	$18,850	$774.3
Asthma Attack	NA	1,700,000	$64	$109.2
Acute Respiratory Symptoms	NA	NA	$36	$2.2
Minor Restricted Activity Days	NA	31,000,000	$75	$2,382.3
Emergency Room Visits for Asthma	NA	4,800	$385	$2.0
Total Economic Benefits				$3,885.4

Source: Tables 5-3, 6-1, 6-3 of EPA 1999; U.S. Census Bureau, 2008.
*EPA 1997 also attributes improvements in some listed health consequences to reductions in particulate matter (PM) and ozone.

EPA (1999) quantified and monetized health benefits related to respiratory symptoms, minor restricted activity days, hospital admissions, asthma-related emergency room visits, and asthma attacks. However, EPA was not able to quantify ozone-related benefits from reduced premature mortality, lung inflammation, chronic respiratory damage, increased susceptibility to respiratory infection, and non-asthma related emergency room visits (EPA 1999, Table 5.1, p. 53). In addition, EPA (1999) included discussions of both monetized and non-monetized benefits accruing from increased agricultural productivity, increased forest productivity, and improved ecological outcomes.

Hubbell, *et al.* (2005) estimate the economic benefits of reducing ozone levels in such manner that there would be compliance with the then-existing NAAQS of .80 ppm for the 4th highest maximum 8-hour ozone concentration at all the >1000 monitoring stations throughout the country. The Hubbell, *et al.* methodology includes spatial modeling of the effects of reduced ozone, allowing for the estimation of ozone exposure for various segments of the population (e.g. ≥ age 65).

Hubbell et al.'s quantification of economic benefits is summarized in Table 3 below.

Table 3 Economic Benefits of Attaining the 8-Hour Ozone Standard

Health Consequence	Affected Population	Economic Value per Case (2005 dollars)	Number of Cases Avoided	Economic Value (2005 dollars)
Premature Mortality	All	$8,055,000	750-840	$5.8-$6.8 billion
Respiratory Hospital Admissions	≥65 years	$22,744	2000-2300	$43-$53 million
	0 to <2 years	$9593	1900-2100	$15-$20 million
Asthma Related Emergency Medical Visits	All	$354.43	460-510	$150,000-$190,000
Minor Restricted Activity Days (MRAD)	Aged 18-65	$64	1,200,000-1,400,000	$64-$84 million
School Days Lost	Aged 5-17	$93	890,000-970,000	$72-$84 million
Total Economic Value				$6.7-$7.1 billion

Source: Hubbell *et al.* (2005) Tables 4 and 6; U.S. Census Bureau, 2008.

As seen in Table 3, the major contributor to the total economic benefits of meeting the former NAASQ ozone standard is the reduction of premature mortality following reduced ozone exposure. The monetized value of the 750-840 cases of premature death avoided as a result of meeting the .80 ozone standard makes up 87 to 96 percent of total monetized health benefits. This health benefit has been not been included as a benefit of reduced ozone in the previous EPA studies (EPA 1997 and EPA 1999).

However, Hubbell *et al.* are convinced that the weight of scientific evidence supports the inclusion of the monetized value of this health consequence:

> Although particulate matter is the air pollutant most clearly associated with premature mortality, recent research suggests that repeated ozone exposure likely contributes to premature death…. Although [recent scientific studies] do not constitute a database as extensive as that for particulate matter, these recent studies provide supporting evidence for including mortality in ozone health benefits analysis

Hubbell et al. 2005 at 75.

The weight of scientific evidence supporting this conclusion has been confirmed in a recent study released by the National Research Council (2008).

Hubbell *et al.* (2005) also note limitations to their study which tend to understate the economic benefits of meeting the ozone standard. First, the authors do not include monetized benefit estimates for endpoints that are not health relate but

> …may significantly contribute to monetized benefits. These include decreased outdoor worker productivity, decreased yields for commercial and noncommercial crops, decreased commercial forest productivity, damage to urban ornamental plants, impacts on recreation demand from forest aesthetics, and damage to ecosystem functions.

Hubbell et al, 2005 at 75.

Second, the authors note that benefits associated with reduced mortality may be much higher than they report.

> Our estimates of mortality-related benefits of attaining the standards may change, based on emerging meta-analyses of the ozone mortality literature. If these meta-analyses confirm [emerging results]…the mean mortality benefits may increase by a factor of 2, suggesting that reductions in premature mortality associated with attainment of the ozone standards might be as high as 1,600 premature deaths avoided annually. This increase would substantially increase the economic value of health impacts as well, potentially up to $10 billion [$12.4 billion in 2005 dollars]

Hubbell et al. 2005 at 81.

Also, the authors note that recent research suggests that reduced ozone exposure would increase the monetized benefits of reduced emergency room care by a factor of 4.5 (Hubbell *et al.* 2005, p. 81).

Third, the estimates used to monetize the value of avoided hospital admissions and emergency room visits are downward biased. In the absence of estimates of willingness to pay to avoid these events, Hubbell *et al.* (2005) used estimates of total medical costs plus the value of lost productivity. These are lower bound estimates of the proper measures, which are willingness to pay to avoid the pain and suffering (see Hubbell *et al.* 2005, p. 78).

This review clearly shows that there are readily available tools to assist BLM in conducting a thorough analysis of the health related economic costs of increased ozone exposures for citizens living near and visitors to BLM lands. It also shows that substantial

economic cost are likely to occur if air quality in the areas surrounding BLM lands continues to deteriorate as the result of proposed actions and developments such as increased oil and gas exploration and production. BLM should take advantage of the existing tools and scientific research to conduct the proper analysis.

7. Requested Remedy

BLM should apply all available tools and analyses, including the studies reviewed above, to assess the cost of increased air pollution associated with the proposed plan and to adjust the proposed management approach to minimize these costs.

H. Attachments

***See* Exhibit Y -** EPA Comments on Chapita Wells-Stagecoach Area Natural Gas Development FEIS February 2008.

I. References

BBC Research and Consulting. November 12, 2001. Measuring the Impact of Coalbed Methane Wells on Property Values, Appendix B of the La Plata County Impact Report (Appendix B: http://co.laplata.co.us/pdf/plan_doc/final_impactrpt/final_ir_appb.pdf, Full report: http://co.laplata.co.us/publications.htm)

BBC Research and Consulting. 2008. Northwest Colorado Socioeconomic Analysis and Forecasts. Final Report, Prepared for the Associated Governments of Northwest Colorado.

Bennett, K. and M.K. McBeth. 1998. Contemporary Western Rural USA Economic Composition: Potential Implications for Environmental Policy and Research. *Environmental Management* 22(3):

Bishop, R. C. and M. P. Welsh. 1992. Existence Values in Benefit-Cost Analysis and Damage Assessment. *Land Economics* 68(4): 405-417.

Bowker, J. M., J. E. Harvard III, J. C. Bergstrom, H. K. Cordell, D. B. K. English, and J. B. Loomis. 2005. The net economic value of wilderness. In: Cordell, H. K., J. C. Bergstrom, and J.M. Bowker (eds), *The Multiple Values of Wilderness*. State College, PA: Venture Publishing.

Brabant, S. and R. Gramling. 1997. Resource extraction and fluctuations in poverty: A case study. Society & Natural Resources 10(1):97-106.

Bureau of Land Management. 2008. West Tavaputs Plateau Natural Gas Full Field Development Plan Draft Environmental Impact Statement UT-070-05-055. February 2008.

Cordell, H.K., M.A. Tarrant, B.L. McDonald and J. C. Bergrstrom. 1998. How the public views wilderness: More results form the USA survey on recreation and the environment. *International Journal of Wilderness* 4(3): 28-31.

Davenport, J. and J. A. Davenport (eds). 1980. *The Boom Town: Problems and Promises in the Energy Vortex*. Laramie WY: University of Wyoming, Department of Social Work.

Deller, S.C., T. Tsai, D.W. Marcouiller, and D.B.K. English. 2001. The Role of Amenities and Quality of Life in Rural Economic Growth. *American Journal of Agricultural Economics* 83(2): 352-365.

Duffy-Deno, K. T. 1998. The Effect of Federal Wilderness on County Growth in the Intermountain Western United States. *Journal of Regional Science* 38(1): 109-136.

Fortmann, L.P., J. Kusel, and S.K. Fairfax. 1989. Community stability: The foresters' fig leaf. Pages 44-50 in: Le Master, D.C., and J.H. Beuter, Eds. *Community Stability in Forest-Based Economies* . Timber Press, Portland, OR.

Freeman, A.M. III, 2003, *The Measurement of Environmental and Resource Values*, 2nd Edition, Resources for the Future, Washington, D.C.

Freudenburg, W.R. 1992. Addictive economies: extractive industries and vulnerable localities in a changing world economy. Rural Sociology 57:305-332.

Freudenburg, W.R. and R. Gramling. 1994. Natural resources and rural poverty: A closer look. Society and Natural Resources 7:5-22

Goldsmith, O.S. 1992. Economic instability in petroleum-based economies. Presented at OPEC/Alaska Conference on Energy Issues in the 1990's. Anchorage AK, July 23-24, 1992.

Gowdy, J. M. 1997. The Value of Biodiversity: Markets, Society, and Ecosystems. *Land Economics* 73(1): 25-4`.

Guilliford, Andrew. 1989. *Boomtown Blues: Colorado Oil Shale 1885-1985*. Niwot, CO: University Press of Colorado.

Hubbell, B., A. Halberg, D.R. McCubbin, E. Post. 2005. Health Related Benefits of Attaining the 8-Hour Ozone Standard. Environmental Health Perspectives. 113(1): 73-82. (electronic or paper copy available upon request)

Jacquet. J. 2005. Index Crimes, Arrests, and Incidents in Sublette County 1995-2004: Trends and Forecasts. Report prepared for the Socioeconomic Analyst Advisory Committee, Sublette County, Wyoming (available at: http://www.pinedaleonline.com/socioeconomic/ accessed March 8, 2007)

Johnson, J. and R. Rasker. 1993. The Role of Amenities in Business Attraction and Retention. *Montana Policy Review 3(2).*

Johnson, J., and R. Rasker. 1995. The Role of Economic and Quality of Life Values in Rural Business Location. *Journal of Rural Studies* 11(4): 405-416.

Johnson, T.G. 2001. The Rural Economy in a New Century. *International Regional Science Review* 24(1): 21-37.

Krieger, D. J. 2001. Economic Value of Forest Ecosystem Services: A Review. Washington D.C.: The Wilderness Society.

Krutilla, J. 1967. Conservation reconsidered. *American Economic Review*. 57: 787-796.

Loomis, J. B. and R. Richardson. 2000. Economic Values of Protecting Roadless Areas in the United States. Washington, D.C.: The Wilderness Society and Heritage Forests Campaign.

Loomis, J. B. and R. Richardson, 2001. Economic values of the U.S. wilderness system: Research evidence to date and questions for the future. *International Journal of Wilderness* 7(1): 31-34.

Lorah, P. 2000. Population Growth, Economic Security and Cultural Change in Wilderness Counties. In McCool, S.F., D.N. Cole, W.T. Borrie, and J. O'Loughlin, comps. Wilderness Science in a Time of Change Conference, Volume 2: Wilderness within the Context of Larger Systems, 1999 May 23-27. Missoula, MT. Proceedings RMRS-P-15-VOL 2., U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Ogden, UT.

Lorah, P. and R. Southwick. 2003. Environmental Protection, Population Change, and Economic Development in the Rural Western United States. *Population and Environment* 24(3): 255-272.

McGranahan, D.A. 1999. Natural Amenities Drive Rural Population Change. U.S. Department of Agriculture, Economic Research Service, Food and Rural Economics Division. Agricultural Economics Report No. 781.

Merrifield, J. 1984. Impact mitigation in western energy boomtowns. Growth and Change 15(2):23-28.

Morton, P. 1999. The economic benefits of wilderness: theory and practice. Denver University Law Review, 76(2): 465-518.

Morton, P. 2000. Wilderness, the Silent Engine of the West's Economy. The Wilderness Society, Washington, DC.

National Research Council. 2008. Estimating Mortality Risk Reduction and Economic Benefits of Controlling Ozone Air Pollution. Washington, DC: National Academies Press.

Nelson, P.B. 1999. Quality of Life, Nontraditional Income, and Economic Growth: New Development Opportunities for the Rural West. *Rural Development Perspectives* 14(2): 32-37.

Nichols, Jeremy et al. June 14, 2008. Citizens Petition to Designate the Sublette County Area of Wyoming as Nonattainment for the 8-Hour Ozone National Ambient Air Quality Standard before the Administration of the U.S. Environmental Protection Agency.

Payne, C., J. M. Bowker, and P. C. Reed. (compilers) 1992. The economic value of wilderness: Proceedings of the conference; 1991 May 8-11; Jackson, WY. Gen. Tech. Rep. SE-78. Asheville, NC: U.S. Department of Agriculture, Forest Service, Southeastern Forest Experiment Station. 330 pp.

Pederson Planning Consultants. 2001. Appendix D in the Wyoming Energy Commission, Preliminary Progress Report to the Wyoming Legislature, Joint Minerals, Business and Economic Development Committee, December 14, 2001. Draft Report commission by the Wyoming Energy Commission. 34 pages.

Pinedale Anticline Working Group. 2005. BLM Pinedale Anticline Working Group PAWG Task Groups' Report.

Power, T. 1995. Economic Well-Being and Environmental Protection in the Pacific Northwest: A Consensus Report by Pacific Northwest Economists. University of Montana, Missoula, MT.

Power, T. M. 1996. Lost Landscapes and Failed Economies. Island Press, Covelo, CA.

Rasker, R., B. Alexander, J. van den Noort, and R. Carter. 2004. Public Lands Conservation and Economic Well-Being. The Sonoran Institute, Tucson, AZ. Available at: http://www.sonoran.org/programs/prosperity.html.

Reeder, R. J. and D. M. Brown. 2005. Recreation, Tourism and Rural Well-Being. U.S. Department of Agriculture, Economic Research Service. Economic Research Report Number 7. 38 pp.

Rudzitis, G. 1999. Amenities Increasingly Draw People to the Rural West. *Rural Development Perspectives* 14(3): 9-13.

Rudzitis, G., and H.E. Johansen. 1989. Amenities, Migration, and Nonmetropolitan Regional Development. Report to National Science Foundation. Department of Geography, University of Idaho, Moscow, ID.

Shumway, J.M. and S.M. Otterstrom. 2001. Spatial Patterns of Migration and Income Change in the Mountain West: the Dominance of Service-Based, Amenity-Rich Counties. *Professional Geographer* 53(4): 492-501.

Smith, E.J. 1986. Boom and bust in energy extraction. Agriculture and Rural Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, DC. Staff Report No. AGES860423.

Snepenger, D.J., J.D. Johnson, and R. Rasker. 1995. Travel-Stimulated Entrepreneurial Migration. *Journal of Travel Research* 34(1): 40-44

Swanson, C. S., and Loomis, J. B. 1996. Role of Nonmarket Economic Values in Benefit-Cost Analysis of Public Forest Management. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, General Technical Report, PNW-GTR-361. 32pp.

U.S. Census Bureau, Consumer Price Index, Medical Care Services, Statistical Abstract, downloaded from http://www.swivel/com/data_sets/show/10021, accessed July 22, 2008.

U.S. Environmental Protection Agency. October 1997. Benefits and Costs of the Clean Air Act, 1970 to 1990, Washington, D.C. available at: http://yosemite.epa.gov/EE/epa/eerm.nsf/vwRepNumLookup/EE-0295?OpenDocument

U.S. Environmental Protection Agency. November 1999. Benefits and Costs of the Clean Air Act, 1990 to 2010. EPA 410-R-99-01. available at: http://www.epa.gov/oar/sect812/1990-2010/fullrept.pdf, last accessed July 22, 2008.

U.S. Environmental Protection Agency. March 18, 2008. Fact Sheet: Final Revision to the National Ambient Air Quality Standards for Ozone.

Walsh, R. G. J. B. Loomis, and R. A. Gillman 1984. Valuing Option, Existence, and Bequest Demands for Wilderness. *Land Economics*, 60(1): 14-29.

Whitelaw, E., and E.G. Niemi. 1989. Migration, Economic Growth, and the Quality of Life. In Proceedings of the Twenty-Third Annual Pacific Northwest Regional Economic Conference, Corvallis, OR, pp 36-38.

X. Water Quality

The Vernal PRMP fails to analyze and model the impacts of the activities that it permits on water quality in the planning area. Both FLPMA and NEPA require that BLM prepare such analysis. BLM must analyze and model pollutant concentrations in order to understand if the PRMP will comply with federal and state water quality standards, as required by FLPMA. Without conducting water quality analyses and modeling, BLM will not understand the effects of the pollutants generated from activities authorized by the PRMP, and will thereby violate NEPA and its requirement that BLM understand the environmental impacts of the activities it is permitting.

A. BLM's Failure to Analyze and Model Water Quality Violates FLPMA

FLPMA, and the Vernal PRMP, require that BLM manage the planning area according to federal and state water quality standards. PRMP at 2-13, Table 2.1.1; 2-55, Table 2.1.17; 43 C.F.R. § 2920.7(b)(3) (requiring that every BLM "land use authorization shall contain terms and conditions which shall … [r]equire compliance with … *water quality standards* established pursuant to applicable Federal or State law") (emphasis added). *See also* 43 U.S.C. § 1712(c)(8) (requiring BLM in land use plans—which would therefore require implementation in daily management—to "provide for compliance with applicable pollution control laws, including State and Federal … *water … pollution standards* or implementation plans") (emphasis added).

The above-mentioned water quality standards and water pollution standards include the Clean Water Act's (CWA's) water quality standards (WQS) and accompanying Total Maximum Daily Loads (TMDL) limits for waters that do not meet WQS, as well as anti-degradation requirements for waters that do meet WQS. WQS are based on ambient water concentrations of various pollutants. Because the Vernal PRMP permits activities (e.g., off-road vehicle travel on designated routes) and analyzes potential future activities (e.g. oil and gas leasing etc.) without modeling the effect that these activities will have on concentrations of pollutants in water, the PRMP fails to satisfy its FLPMA obligation.

Although BLM acknowledges that the activities authorized in the PRMP, including oil, gas, and mining development, and ORV use will adversely affect water quality, BLM fails to quantify the impact these activities will have on water quality. *See* PRMP at 4-398 to -402. Thus, BLM knowingly increases damaging impacts to water quality without providing quantitative analysis as to how these activities will impact water quality. Before permitting activities in the PRMP, and in order to comply with FLPMA, BLM must analyze the baseline water quality for all the water bodies in the planning area. The baseline analysis should provide monitoring of water quality indicators, including temperature, alkalinity, specific conductance, pH, dissolved oxygen, turbidity, hardness, dissolved solids, and suspended solids, as required by the CWA. Knowing the baseline water quality is essential to understanding whether the activities permitted in the PRMP will violate WQS, the CWA, and FLPMA. *See* 43 C.F.R. § 2920.7(b)(3); 43 U.S.C. § 1712(c)(8). In order to comply with FLPMA, the PRMP should provide a summary of water quality analyses and modeling for the water bodies in the planning area. For an

example of appropriate analysis and modeling, see West Tavaputs DEIS, Natural Gas Full Field Development Plan, February 2008, at 3-56 to -64 (attached as Exhibit N).

In order to comply with FLPMA, BLM must also analyze and model the various pollutant levels (e.g. phosphorus, dissolved oxygen, aluminum, nitrate, chloride, ammonia, selenium, etc.), as identified in the CWA, which will result from decisions made in the PRMP. These results should then be compared to the CWA standards for protection of WQS, including TMDLs and anti-degradation standards. *See, e.g.*, Exhibit F. Only in this way can BLM know whether it is complying with federal and state water quality standards, as FLPMA, and the Vernal PRMP, require. BLM must continue to monitor water quality throughout the life of the PRMP. If exceedances occur, BLM must prohibit the exceedance-causing activities until compliance with the CWA and other federal and state water quality standards is met and maintained.

By designating 4,860 miles of routes, BLM opens up water bodies to significant degradation, even in disregard of its own statements in the PRMP that explain the devastating effects of ORV use on water quality. *See* PRMP at 4-419. The PRMP must also quantify contaminant levels to be expected from cumulative effects of any other activity that will cause fugitive dust, run-off, or erosion (e.g. mining, oil and gas development, grazing). BLM must analyze the baseline water quality in order to accurately estimate total dust emissions, run-off, and erosion concentrations that reach the water. Then, BLM must monitor the water quality of streams and rivers that are located near roads, or that are crossed by roads. Finally, BLM must close routes to ORV traffic when violations of water quality standards occur. FLPMA, 43 U.S.C. § 1712(c)(8).

Because BLM failed to analyze water quality baselines and similarly failed to model the water-quality effects of activities in the PRMP, there is no evidence that the Vernal PRMP will comply with federal and state water quality standards, as required by FLPMA and the BLM itself.

i. BLM's Failure to Analyze and Model Water Quality Violates FLPMA and the Safe Drinking Water Act

Although the PRMP states that BLM will "apply and comply" with the Safe Drinking Water Act (SDWA), as required by FLPMA, BLM does not describe *how* it will comply with the SDWA, or how the public will know that BLM is complying with the SDWA. 43 U.S.C. § 1712(c)(8); 43 C.F.R. § 2920.7(b)(3); *See* PRMP at 2-13, 4-398. BLM should list, in the PRMP, the water bodies in the Vernal planning area that are drinking water sources and determine whether any of these sources currently violate Federal Drinking Quality Standards Primary Maximum Contaminant Level and Federal Drinking Quality Secondary Standards as well as the accompanying Utah Drinking Water Standards. SDWA, 42 U.S.C. § 300(f), *et seq.*; Utah Admin. Code R309-200, *et seq.* BLM does not provide any quantitative analysis demonstrating how it will comply with safe drinking water standards, and fails to ensure that drinking water supplies will not be contaminated by activities permitted in the PRMP. By opening 4,860 miles of designated

routes to ORV traffic and permitting other activities like extensive oil and gas leasing, BLM will increase various water contaminants in the planning area that may exceed SDWA standards. To comply with the SDWA and FLPMA, BLM must analyze and disclose what the baseline drinking water quality is for every public drinking water source, and then model the anticipated impacts from activities permitted in the Vernal PRMP. 43 C.F.R. § 2920.7(b)(3); 43 U.S.C. § 1712(c)(8).

B. BLM's Failure to Analyze and Model Water Quality Violates NEPA

NEPA requires that BLM model the impacts from the various activities—and fully inventory the pollutants generated by these activities—permitted by the Vernal PRMP. "NEPA 'prescribes the necessary process' by which federal agencies must 'take a "hard look" at the environmental consequences' of the proposed courses of action." *Pennaco Energy, Inc. v. U.S. Dep't of the Interior*, 377 F.3d 1147, 1150 (10th Cir. 2004) (quoting *Utahns for Better Transp. v. U.S. Dep't of Transp.*, 305 F.3d 1152, 1162-63 (10th Cir. 2002)) (internal citation omitted). The fundamental objective of NEPA is to ensure that an "agency will not act on incomplete information only to regret its decision after it is too late to correct." *Marsh v. Or. Natural Resources Council*, 490 U.S. 360, 371 (1990) (citation omitted).

All of the shortcomings mentioned in the FLPMA section immediately above also constitute NEPA failures on the part of BLM because it does not understand the impacts of the activities it is permitting on water and water quality standards. Without analyzing baseline concentrations and preparing modeling to determine what impacts permitted activities will have, BLM cannot understand or disclose the impacts on water quality from new activities that will increase pollutants. (For an example of water quality analysis and modeling, *see* Exhibit N). Thus, BLM's lack of water quality analysis does not satisfy NEPA's hard look requirement.

Among other things, BLM fails to ensure that mitigation measures, best management practices (BMPs), and NEPA-level review would protect water quality. The surface stipulations and mitigation measures discussed in Appendix K and PRMP Section 4.13.3 entirely fail to explain how water quality will be protected. PRMP at 4-363, Appendix K. The PRMP fails to provide either quantitative analysis of existing water quality or modeling for anticipated water quality impacts from the permitted activities. The PRMP must disclose baseline water quality measurements and then describe how it plans to monitor water quality so that BLM complies with WQS throughout the life of the plan.

Furthermore, BLM has failed to discuss the impacts of fugitive dust, engine fluids, run-off, and erosion from increased travel of ORVs on nearly 5,000 miles of designated routes on water quality. A sizable number of the designated ORV routes in the PRMP are located near rivers and streams, and could significantly impair water quality. *See* PRMP at EIS-Figure 33. The PRMP must explicitly state how many stream crossings BLM proposes to designate because stream crossings will have a devastating effect on water quality. *See, e.g.*, Richfield PRMP at 2-145- to -146. In addition, BLM must

require that surface-disturbing activities stay a minimum distance, e.g. 660 feet, away from all waters. *See, e.g.*, Richfield PRMP at 2-145.

The PRMP has completely failed to consider such pollutants and their impact on the local water bodies. Because dust, engine fluids, run-off, and erosion can all contribute to exceedances of total dissolved and suspended solids counts, as well as increased salinity, it is vital that BLM determine the baseline water quality and quantitative levels of these contaminants, estimate the number of vehicles that will use the proposed designated routes, estimate the level of contaminants generated by that use, and then model those figures to understand the true impacts of fugitive dust emissions, engine fluids, run-off, and erosion on water quality. To comply with NEPA, BLM must take a hard look at the impacts of designating so many new routes, and must provide quantitative water quality analysis and modeling to ensure that its actions will not violate federal and state water quality standards.[60] In addition to analyzing the baseline water quality, BLM must continue to monitor water quality throughout the life of the RMP.

The PRMP discusses several damaging effects of surface-disturbing activities on water quality, but nonetheless permits these activities to occur. *See, e.g.*, PRMP at 3-83, 4-6, 4-397 to -398, 4-400, 4-402, 4-405, 4-407. If monitoring demonstrates that permitted activities result in violations of WQS, TMDLs, or anti-degradation requirements, BLM must close the exceedance-causing areas to ORVs, oil and gas development, mining, or other activities until it can demonstrate that water quality standards are protected and maintained. In addition, BLM must ensure that tailings water from various sites does not migrate beyond the seepage collection systems and into waters and thereby degrade water quality. *See* PRMP at 3-29.

BLM admits that oil and gas leasing are particularly damaging to water quality and that once oil and gas development begins, there will be long-term adverse impacts to water quality that could be prevented by No Surface Occupancy or Closed to Leasing stipulations. PRMP at 4-401, 4-423- to -424. Nevertheless, BLM chooses to open the vast majority of its land to either standard leasing or to leasing with only minor constraints. PRMP at EIS-Figure 12; Vernal Oil & Gas Impacts on Wildlands Map (attached as Exhibit F). Thus, BLM is aware of the impacts of oil and gas leasing on water quality, but chooses to ignore these impacts and instead refuses to close or to require No Surface Occupancy in places where water quality may be affected. This decision violates the CWA and NEPA and must be overturned.

Although BLM admits that, "increasing [ORV] visitor access to certain areas would have long-term, adverse impacts to soils and water," and that, "water resources are greatly affected by runoff from roads and trails," BLM nevertheless proposes to designate nearly 5,000 miles of routes in the Vernal planning area. PRMP at 4-402, 4-407; *See* Vernal RMP Route Impacts Maps (attached as Exhibits D and E). BLM's subsequent assertions

[60] As discussed elsewhere in this protest, ORV impacts such as these are inconsistent with the protective objectives of BLM's Riparian Area Policy. At any rate, it is hard to see how BLM can judge the impact of ORV use on riparian areas without information about the existing and projected level of water contaminants they cause.

that management and education will reduce adverse impacts to water quality, and that travel management will have "long-term benefits" to water quality, are unfounded. *See* PRMP at 4-402, 4-407. In fact, when BLM designates routes, a certain proportion of users *will* violate posted closures and regulations. *See* PRMP at 4-402; *Southern Utah Wilderness Alliance*, 164 IBLA 33 (2004). BLM cannot say that designating routes will benefit water quality. Rather, the designation of nearly 5,000 miles of routes *will* increase runoff, erosion, sedimentation, the introduction of pollutants, etc. that will adversely affect water quality. BLM is aware of the impacts of ORV use on water quality, but chooses to ignore these impacts and designates 4,860 miles of routes, many of which are located in sensitive areas near streams and water bodies.

BLM understands that halting and reducing surface-disturbing activities, especially near streams and rivers, would improve water quality. PRMP at 4-424. Nonetheless, the PRMP authorizes excessive surface-disturbing activities near water; yet BLM has no way of knowing when water quality violations occur. In order to effectively reduce and/or halt surface-disturbing activities, BLM must provide analysis and modeling so that it knows when activities are violating the CWA and when reducing and/or halting these activities is necessary. Without providing quantitative analysis and modeling, there is no certainty that BLM will comply with the CWA and WQS.

Similarly, BLM admits that sedimentation from increased erosion is particularly damaging to water quality because it is an irreversible impact. PRMP at 4-424 to -425. Despite this admission, the activities that BLM permits in the PRMP will lead to vastly increased erosion and sedimentation. Without quantitative modeling and analysis, BLM cannot know how damaging the effects will be and which activities are causing the most harm. With modeling and analysis of water quality, BLM will not know when it is violating the CWA and, consequently, which activities it must defer or withdraw in order to regain compliance with WQS.

BLM declares some commendable goals for water quality, including the achievement of water quality to protect fish, wildlife and recreation; compliance with Utah's and EPA's WQS; increasing public involvement on watershed management; collaborating with counties, Tribes, the Division of Water Rights, and the State to protect watersheds; protecting and restoring critical erosion areas by restricting or mitigating surface disturbance; and reducing sediment and salinity in important watersheds. PRMP at Response to Comments, Sorted by Commenter (Organizations) at 629 – 31. Without modeling and analysis, however, BLM will not even know whether it will achieve its admirable goals.

The implementation of the PRMP will result in water pollution; therefore, modeling and quantitative analysis must be undertaken to ensure compliance with NEPA and the CWA. BLM must prepare a comprehensive water pollutant analysis, which includes fugitive dust, engine fluids, run-off, and erosion rates that will impact water quality, and then model these figures to determine how water quality will be impacted. *See, e.g.*, Exhibit N. Without doing so, BLM cannot know what impacts these activities will have on water quality or whether it is complying with federal and state water quality standards. For

these reasons, BLM violated NEPA by failing to take a hard look at how its activities will impact water quality.

C. BLM's Failure to Analyze and Model Water Quality Violates Several Other Plans

The water quality analysis in the PRMP violates the Duchesne County and Uintah County General Plans, the Uintah County Objectives, and the Public Lands Implementation Plan. *See* PRMP at 5-32, 5-37, 5-50, 5-58. BLM incorrectly states that all of these plans are consistent with the PRMP. PRMP at 5-32, 5-37, 5-50, 5-58. However, all of these plans require that all proposed actions and developments, including the PRMP, include an analysis of the effects of the permitted activities on water quality. PRMP at 5-32, 5-37, 5-41, 5-50, 5-58. As explained in the preceding sections, the PRMP does not provide an analysis of the effects of permitted activities on water quality, but merely states that water quality will be impacted. BLM must provide water quality analysis in order to comply with the Duchesne County and Uintah County General Plans, Uintah County's Objectives, and the Public Lands Implementation Plan.

D. BLM Must Provide a Current and Accurate List of TMDLs for All of the Water Bodies in the Planning Area and Ensure that Activities Permitted in the PRMP Do Not Violate TMDLs, WQS, or Anti-Degradation Standards

SUWA appreciates that BLM listed the water bodies in the Vernal planning area that are on Utah's 303(d) list of impaired waters. PRMP at 3-86. However, BLM should update its outdated 2000 list with current 303(d) data and TMDLs. *See* Utah Approved TMDL List, current as of September 2008 (attached as Exhibit R). A TMDL determines the amount of a specific pollutant that a water body can receive without exceeding water quality standards or impairing beneficial uses. 33 U.S.C. § 1313(d); Exhibit N at 3-63. Browne Reservoir, Dry Gulch Creek and its tributaries from the confluence with the Uinta River to the headwaters, Matt Warner Reservoir, Spirit Lake, and various sections of the Uinta River should be added to the PRMP's list of 303(d) impaired waters. Exhibit R.[61] BLM must conduct water quality analysis and modeling to ensure that the activities it permits in the PRMP do not violate the TMDLs for the above-listed water bodies. BLM must likewise ensure that activities permitted in the PRMP do not violate the CWA by further degrading the water quality of the 303(d) water bodies listed in the PRMP. CWA. *See* PRMP at 3-86.

For each of the water bodies listed on the 303(d) Table on page 3-86 of the PRMP, and for the above-mentioned water bodies with approved TMDLs, BLM should disclose in

[61] In 2003, TMDLs for total phosphorus and dissolved oxygen were approved for Browne Reservoir. Exhibit R at unpaginated 1. In 2002, a TMDL for Total Dissolved Solids (TDS) was approved for Dry Gulch Creek and its tributaries. Exhibit R at unpaginated 2. In 2007, TMDLs for dissolved oxygen and total phosphorus were approved for Matt Warner Reservoir. Exhibit R at unpaginated 3. In 2003, a TMDL for dissolved oxygen was approved for Spirit Lake. Exhibit R at unpaginated 5. In 2002, TMDLs for TDS and sediment were approved for three sections of the Uinta River. Exhibit R at unpaginated 6.

the PRMP what the quantitative TMDL limits are for each pollutant and what the baseline water temperatures and conditions are for the water bodies. For an example of appropriate disclosure, *see* Exhibit N. The PRMP should also address anti-degradation limits for water bodies that meet WQS. BLM must monitor and analyze water quality in these river segments to ensure that PRMP activities do not violate the TMDLs or the anti-degradation requirements for the listed rivers.

XI. Areas of Critical Environmental Concern

When developing a land use plan, such as the Vernal PRMP, FLPMA mandates that BLM "*give priority* to the designation and protection of areas of critical environmental concern." 43 U.S.C. § 1712(c)(3). (emphasis added). Such areas, or ACECs, are areas "where special management is required (when such areas are developed or used or where no development is required) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes." *Id.* § 1702(a).

BLM's ACEC Manual (1613) provides additional detail on the criteria to be considered in ACEC designation, as discussed in the applicable regulations, as well. *See* Manual 1613, Section .1 (Characteristics of ACECs); 43 C.F.R. § 8200. An area must possess *relevance* (such that it has significant value(s) in historic, cultural or scenic values, fish & wildlife resources, other natural systems/processes, or natural hazards) and *importance* (such that it has special significance and distinctiveness by being more than locally significant or especially rare, fragile or vulnerable). In addition, the area must require *special management attention* to protect the relevant and important values (where current management is not sufficient to protect these values or where the needed management action is considered unusual or unique), which is addressed in special protective management prescriptions. 43 U.S.C. § 1702(a). An ACEC is to be as large as is necessary to protect the important and relevant values. Manual 1613, Section .22.B.2 (Size of area to receive special management attention).

For potential ACECs (those that BLM has identified as meeting relevance and importance), management prescriptions are to be "fully developed" in the RMP. Manual 1613, Section .22 (Develop Management Prescriptions for Potential ACECs). If an area is not to be designated, the analysis supporting the conclusion "must be incorporated into the plan and associated environmental document." Manual 1613, Section .21 (Identifying Potential ACECs).

A. BLM Failed to Give Priority to Designation and Protection of ACECs

A critical aspect of the statutory language cited above is FLPMA's requirement that BLM "give priority" to ACEC designation *and* protection. 43 U.S.C. § 1712(c)(3). In essence, FLPMA directs BLM to prioritize protection and designation of ACECs across all alternatives under consideration, not simply the "conservation" alternative. In the Vernal PRMP, BLM has neither recognized nor carried out this statutory mandate. To resolve this, once BLM has determined that certain areas in the Vernal Field Office contain the requisite relevant and important values (R&I values) and that the PRMP does not protect all of the R&I values—which the Vernal Field Office has already done—the agency must give priority to the designation of those areas as ACECs over other competing resource uses and likewise give priority to the protection of those areas over other competing resource uses. BLM has violated FLPMA by failing to give protection to the designation and protection of ACECs.

BLM has determined that 759,901 acres comprising fifteen ACECs meet the R&I criteria for ACEC designation. *See* PRMP 2-57 to -66; PRMP, Appendix G. However, the PRMP proposes to continue ACEC designation for the seven existing ACECs (albeit with reduced acreages) and designate no additional ACECs, just 18% of the acres nominated and found eligible as potential ACECs. By only designating this small fraction of the eligible acreage, BLM violates FLPMA's mandate that "priority" be given to designation of ACECs. Likewise, for the 82% of acreage that BLM did not designate as ACECs, BLM fails to give priority to the adequate protection of the identified R&I values. Instead, BLM prioritizes oil and gas development and ORV route designation over protecting critical R&I values, in direct violation of FLPMA.

B. The Threats from Oil and Gas Leasing and Development and Off-Road Vehicles Highlight the Need to Designate ACECs to Protect Relevant and Important Values

FLPMA requires BLM to prioritize designation and protection of ACECs. Accordingly, as discussed above, where BLM has found special values that meet the R&I criteria, and where impacts could or would occur to these identified values if no special management prescriptions are implemented, BLM then violates its FLPMA obligations by failing to even designate the areas or large enough acreage areas. BLM has improperly ignored or discounted the threats to special places from oil and gas development and off-road vehicle (ORV) use, and so has failed to designate and/or failed to incorporate sufficient protections for proposed ACECs to protect R&I values from the irreparable harm that is likely to result from these other activities.

BLM has repeatedly acknowledged the damage from oil and gas development and improper or excessive ORV use to the values of the public lands that can and should be protected by ACECs (spectacular scenic values, endangered species, geologic formations, cultural resources, and naturalness). *See, e.g.*, PRMP at Appendix G. Furthermore, the Interior Board of Land Appeals (IBLA) has found that even ongoing use of existing motorized recreational routes can lead to more damage to other resources, especially as interest in an area increases. *See Southern Utah Wilderness Alliance*, 164 IBLA 33 (2004). In other words, it is unavoidable and expected that, when BLM establishes routes for ORVs, there will be use beyond those routes, even in violation of route and area designations. As a result, BLM's failure to limit ORV access to the sensitive lands and special places nominated for ACEC protection is likely to endanger their R&I values.

The maps attached as Exhibits D and G show the potential and proposed ACECs overlaid with designated ORV routes and oil and gas designations. These maps illustrate the extent to which BLM disregards the R&I values identified in the potential ACECs, and prioritizes development and ORV use over critical environmental concerns, in direct violation of FLPMA. *See* ACEC and Proposed Routes Map, attached as Exhibit D; Vernal ACEC and Oil and Gas Map, attached as Exhibit G; 43 U.S.C. § 1712(c)(3). Where ACEC or potential ACEC values include unique or rare scenic resources or naturalness, they are even more susceptible to irreparable damage from these activities. In some cases, the PRMP proposes an unconscionably high ORV route density within potential ACECs. *See, e.g.*, Exhibit D; Coyote Basin-Myton Bench Potential ACEC or the western portion of the White River Potential ACEC. These excessive route densities

would impair and potentially eliminate the scenic, wildlife, and other R&I values identified in these critical areas. BLM must develop a manageable travel plan that will protect all of the potential ACECs and their R&I values from the damage directly associated with ORV use or motor vehicle use and route expansion associated with oil and gas drilling. BLM's failures to protect R&I values in the Vernal PRMP may mean that these values are lost forever.

Areas with R&I values that are jeopardized by ORV use and oil and gas drilling should be designated as ACECs and provided with protective management prescriptions that would include road closures, restoration, and closure to oil and gas development, and/or application of best management practices where lands are already leased (such as no surface occupancy stipulations and timing limitations, which can be imposed by the agency and/or negotiated with leaseholders). Without these protections, BLM violates FLPMA's mandate to prioritize the designation *and protection* of ACECs and their identified R&I values.

C. Wilderness Study Area Status and Managing for Wilderness Character Status Are Not a Substitute for ACEC Designation

As discussed above, BLM has acknowledged the threats to lands with wilderness characteristics. However, BLM has failed to designate ACECs to protect these values. In fact, the PRMP points to the existing Winter Ridge WSA and its management prescription as a rationale for not designating the Main Canyon Potential ACEC – the assumption is made that the Interim Management Plan (IMP) will necessarily protect the R&I values and that no further special management attention is warranted. *See* PRMP 4-435. However, ACECs may be designated for a range of other values, as listed in BLM Manual 1613, which may not be protected by focusing on protecting wilderness character (although they will likely benefit). Consequently, BLM cannot dismiss its obligations under FLPMA with regard to ACECs based on the existence of a WSA.

ACEC designation is also important in the event that WSAs are released by Congress. Delaying ACEC designation and thorough consideration until the areas are released by Congress could jeopardize the scientific and R&I values of these potential ACECs. The PRMP must be explicit that BLM will manage released lands to protect their important values, including wilderness characteristics and the other R&I values that the PRMP acknowledges, according to the same standards (IMP) as analyzed and contemplated in the plan.

In addition, there is no *per se* bar to managing and protecting R&I values through overlapping designations such as WSAs and ACECs. For example, BLM's Jarbidge RMP (and subsequent amendments) in southern Idaho designated the Bruneau/Jarbidge River ACEC and the Salmon Falls Creek ACEC, which overlap the Bruneau River-Sheep Creek WSA, Jarbidge River WSA, and Lower Salmon Falls Creek WSA. *See* BLM, Jarbidge Field Office, Idaho, Analysis of the Management Situation for the Jarbidge Resource Management Plan: Resource Management Plan/Environmental Impacts Statement at 206, (July 2007), *available at* http://www.blm.

gov/pgdata/etc/medialib/blm/id/plans/jarbidge_rmp/documents/analysis_of_the_management.Par.59385.File.dat/part13.pdf (attached as Exhibit H); *see also id.* at Figure 39: Locations of Current ACECs, *available at* http://www.blm.gov/pgdata/etc/medialib/blm/id/jarbidge/rmp/maps.Par.16971.File.dat/Locations%20of%20Current%20ACECs.pdf (attached as Exhibit I); Figure 40: Wilderness Study Areas, *available at* http://www.blm.gov/pgdata/etc/medialib/blm/id/jarbidge/rmp/maps.Par.75489.File.dat/Locations%20of%20Current%20Wilderness%20Study%20Areas.pdf (attached as Exhibit J). These overlapping designations ensure that BLM protects R&I values, both through current management and in the event WSAs are released during the life of the plan.

The PRMP and responses to comments evidence a resistance to layering ACEC and other special designations—even when such a layering of protection would make good policy to protect all lands in a potential ACEC and ensure that they are consistently managed (since management of WSAs under the IMP, of non-WSA lands with wilderness characteristics to protect wilderness values, or of a SRMA to support recreation experiences, might differ greatly from the special management attention envisioned for the R&I values of a particular ACEC).

The unnecessary and unsupported omission of R&I values from ACEC protection is particularly visible in the case of Brown's Park, where areas proposed for management to preserve wilderness characteristics are excised from the ACEC. *See* Exhibit C map. This results in confusing management framework for the area and incoherent boundaries. BLM's resistance to layering is also belied by the Vernal Field Office's answer to Uintah County's formal comment that it is opposed to 'layering' or the establishment of ACECs or SRMAs over WSAs and Wild and Scenic Rivers.

To which the BLM responds, appropriately:

> "Layering" is planning tool. Under FLPMA's multiple-use mandate, the BLM manages many different resource values and uses on public lands. Through land use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple-use concept, the BLM does not necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering". The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land use plan, and litigation. Whether or not a particular form of management is restrictive depends upon a personal interest or desire to see that public lands are managed in a particular manner. Not all uses and values can be provided

> for on every acre. That is why land use plans are developed through a public and interdisciplinary process. The interdisciplinary process helps ensure that all resource values and uses are considered to determine what mix of values and uses is responsive to the issues identified for resolution in the land use plan. Layering of program decisions is not optional for BLM, but is required by the FLPMA and National BLM planning and program specific regulations.
>
> The FLPMA directs BLM to manage public lands for multiple use and sustained yield (Section 102(a)(7)). As a multiple-use agency, the BLM is required to implement laws, regulations and policies for many different and often competing land uses and to resolve conflicts and prescribe land uses through its land use plans. The BLM's Land Use Planning Handbook requires that specific decisions be made for each resource and use (See, Appendix C, Land Use Planning Handbook "H-1601-1"). Specific decisions must be included in each of the alternatives analyzed during development of the land use plan. As each alternative is formulated, each program decision is overlaid with other program decisions and inconsistent decisions are identified and modified so that ultimately a compatible mix of uses and management prescriptions result.

Vernal ACEC Comments, at 002-6, p. 12.

SUWA cannot make this argument any better than BLM does in the preceding paragraphs. However, we reiterate that BLM must revise the decisions in the Vernal PRMP to comply with this accurate statement of the agency's policies and obligations.

D. Wilderness Characteristics Can Be Protected Through ACEC Designation

While managing to protect wilderness characteristics will not protect all types of R&I values that may justify designation of ACECs, ACEC designation is a significant option. Conversely, management of most common R&I values would preclude most surface disturbing activities, thereby simultaneously giving a significant level of protection to wilderness characteristics—even if wilderness characteristics are not specifically one of the R&I values warranting designation as ACEC. BLM has admitted that it retains the ability to value wilderness character and protect it, including through ACEC designations. Instruction Memoranda (IMs) Nos. 2003-274 and 2003-275, which formalize BLM's policies concerning wilderness study and consideration of wilderness characteristics, contemplate that BLM can continue to inventory for and protect land "with wilderness characteristics," which are identified as natural or providing opportunities for solitude or primitive recreation, and specifically references ACEC designation.

Indeed, BLM's guidance in IM 2003-275 states that "where ACEC values and wilderness characteristics coincide, the special management associated with an ACEC, if designated,

may also protect wilderness characteristics." Similarly, in a February 12, 2004 letter to William Meadows, President of The Wilderness Society, Assistant Secretaries of the Interior Rebecca Watson and Lynn Scarlett stated that "through the land use planning process, *BLM uses the ACEC designation or other management prescriptions to protect wilderness characteristics* or important natural or cultural resources." (emphasis added) (attached as Exhibit K).

As discussed above, BLM has acknowledged the threats to lands with wilderness characteristics from other activities, including ORV use and oil and gas development. However, the Vernal PRMP fails to support designation of ACECs to protect these values, as FLPMA requires. BLM has identified 277,596 acres of lands with wilderness character. There are an additional 160,699 acres of lands with wilderness characteristics that are included in America's Redrock Wilderness Act; detailed descriptions and supporting data have been submitted to BLM proving the wilderness character of these lands.

All of these lands represent special resources and values that warrant corresponding protection. Proposed ACECs with wilderness characteristics that BLM failed to protect in the PRMP include: Main Canyon, Bitter Creek, Bitter Creek/PR Spring, White River, Upper Desolation Canyon (Lower Green River) and Coyote Basin - Shiner. BLM should designate these ACECs and consider designating others to protect lands with wilderness characteristics; and these ACECs should include protective management prescriptions, such as closure to oil and gas leasing and ORV use, in order to protect wilderness characteristics.

E. Errors in PRMP Figure 30

There are several errors in Figure 30, a map depicting special designations in Alternative A, the Draft preferred alternative. This map is valuable to the public for comparing BLM's preferred alternative with the Proposed RMP, but unfortunately is very inaccurate and misleading:

- Bitter Creek ACEC is depicted by a tiny box (<600 acres) when in Alternative A it is really proposed as 68,834
- White River ACEC, proposed for 17,810 acres in Alternative A, is missing entirely from the map
- Coyote Basin ACEC, proposed for 87,743 acres in Alternative A, is also omitted in entirety
- Browns Park ACEC is incorrectly depicted as smaller than the 52,721 acres proposed in Alternative A – Figure 30 instead shows the scaled down ACEC that belongs in the Proposed PRMP

The discrepancy may be a mapping error, but it obscures the true scale of variance with regard to ACECs between the Draft preferred alternative and the Final PRMP. Either by accident or via a more sinister process, the PRMP depiction of ACECs in the Draft Alternative A seriously misrepresents what is actually proposed in Alternative A. The

PRMP fails to provide accurate data and analyses to the public in violation of NEPA. 40 C.F.R. § 1500.1(b).

F. BLM's Proposed Management Will Not Protect Relevant and Important Values for Potential ACECs Not Proposed for Designation

BLM Manual 1613 requires that, for potential ACECs (those that BLM has identified as meeting relevance and importance), management prescriptions are to be "fully developed" in the RMP. Manual 1613, Section .22 (Develop Management Prescriptions for Potential ACECs). If an area is not to be designated, the analysis supporting the conclusion "must be incorporated into the plan and associated environmental document." Manual 1613, Section .21 (Identifying Potential ACECs). However, BLM has not provided a sufficient explanation as to how the proposed management for this potential ACEC will protect the R&I values and thus cannot justify its decision not to propose designation of the Potential ACECs (or insufficient rationale for acreage reduction of existing ACECs). Because BLM's proposed management would allow development or ORV activities within the potential ACEC, thereby adversely impacting the R&I values, and because BLM failed to *prioritize* the designation of the Potential ACECs and failed to provide a sufficient rationale supporting its decision, BLM must designate the following potential ACECs.

1. Bitter Creek/PR Spring Potential ACEC

The R&I values for the Bitter Creek and Bitter Creek/PR Spring Potential ACECs are old-growth pinyon, cultural, historical and riparian values. The pinyon groves are over 1200 years old and irreplaceable. The historical and cultural significance of this area to the Northern Ute Tribe is incalculably valuable – graves are scattered through the region and the locations are not even known. The area contains a large wetland, unique in the Book Cliffs, that supports wildlife and waterfowl. PRMP at Attachment G-3. Much of this potential ACEC was part of the 1998 Book Cliffs National Conservation Area effort.

Despite this recommendation of special management attention needed to protect the area's R&I values, the PRMP directly threatens these values by applying only minor constraints like timing stipulations, which are also subject to exception, modification and waiver, to oil and gas drilling. Numerous ORV routes would be designated in the area. The VRM rating for the entire potential ACEC in the proposed plan would be Class III, offering no meaningful protection from visual surface disturbances. The explanation at PRMP 4-428 that some of the relevant and important values would still be protected rings hollow. In the non-WSA lands with wilderness characteristics section, the BLM admits that under the proposed plan, 99% of the Bitter Creek wilderness characteristics lands will be affected by surface disturbance, mostly related to oil and gas drilling. *See* PRMP at 4-204. This is inconsistent with protection of the identified R&I values in the area. The ACEC designation is the most powerful tool the BLM has readily available to protect the natural integrity of this area and these lands are the last, best part of the upper Book Cliffs not yet marred by oil and gas development. This was recognized in the Draft Preferred Alternative ("A"), which would designate the Bitter Creek ACEC at 68,834

acres. *See* DRMP at 2-54. The BLM has a unique chance and a statutory responsibility to act to protect these significant natural resources from the near total oblivion that the proposed management would wreak.

2. White River Potential ACEC

The R&I values for the White River are unique geological formations, high value scenery, historical and riparian values. The John Wesley Powell expedition in 1869 traveled up the White River from the Green, naming "Goblin City." According to the BLM, recreational boating in the river corridor is increasing. *See* PRMP at Appendix G-3.

Greatly increased natural gas drilling surrounds this potential ACEC, directly threatening the R&I values. The proposed management of this area is much less protective than the Draft preferred alternative, which would have designated the White River Potential ACEC and would have recommended the White River suitable for inclusion in the Wild and Scenic River system. There is no satisfactory rationale for this rollback of protections from the Draft preferred alternative. Management of a small core of the potential ACEC for preservation of wilderness characteristics and an SRMA do not sufficiently prioritize the protection of the R&I values in this area. In fact, the R&I values identified with this potential ACEC will receive much injury from the BLM's proposed plan:

- VRM Class IV for lands not in the immediate river corridor
- Standard leasing terms for the vast majority of acres outside of the immediate river corridor or the wilderness characteristics area. *See* Attachment F map.
- Routes throughout, *including* the routes that Uintah County bladed illegally to the White River in Saddletree and Atchee Draws.

BLM must correct this inexplicable dereliction of its FLPMA obligations to give priority to these R&I values and return this ACEC designation and WSR suitable determination to the Final RMP and Record of Decision.

3. Middle Green River Potential ACEC

The R&I values for this potential ACEC include riparian ecosystem and high value scenery. The growing numbers of boaters seeking recreation on this section and fragile ecosystem warrant special management attention. *See* PRMP at Appendix G-3.

The proposed management actions of the area contained in the potential ACEC are insufficient to protect the R&I values associated with this world-famous river:

- The entire potential ACEC appears to be open to standard oil and gas leasing terms offering no protection whatsoever from these impacts. The PRMP claims there would be protection in the form of minor timing constraints along the river (PRMP at 4-431), but this is not consistent with Figure 12, the map depicting Oil and Gas Designations, which show the entire potential ACEC as open with standard terms. *See* Attachment F map.

- The entire potential ACEC would be managed VRM Class III or IV – not even remotely consistent with protection of "high value scenery."
- No special care was taken to refrain from designation of routes to or near the river corridor in this area.

Clearly the proposed management is not conducive to the continued existence of the scenery and riparian values that this ACEC would protect. BLM has little alternative to fulfill its statutory obligations under FLPMA and give priority to protecting these R&I values and add this ACEC designation to the Final RMP and Record of Decision.

4. Coyote Basin Complex Potential ACEC

The R&I values of this potential ACEC is an important white-tailed prairie dog complex. It is one of 25 white-tailed prairie dog complexes nominated for ACEC protection in the western United States. The prairie dog is adverse to change from energy development, which is a direct threat to this species in this area. *See* PRMP at G-3.

There is no satisfactory rationale for this rollback of protections from the Draft preferred alternative. Chapter 4 (at 4-429) claims that some protection would derive from VRM Class II management, but a quick reference of the map (*See* Attachment S) reveals that the only part of the potential ACEC with VRM II would be the extreme southern part of the Shiner sub-unit. The vast majority of this potential ACEC complex would be managed as VRM III or IV, providing no meaningful surface disturbance restriction to the prairie dog complexes. The proposed management actions of the area contained in the potential ACEC are insufficient to protect the R&I values associated with this prairie dog complex:

- The entire potential ACEC is open to standard leasing terms – with no constraints to protect the prairie dog complex. *See* Attachment F map.
- Routes are designated all over the area, with no special provision to reduce the impacts of these and future routes on the prairie dog complex.

The proposed management is not protective in any meaningful way to the prairie dog complex values that designation of this ACEC would protect. In order to fulfill its statutory obligations under FLPMA and give priority to protecting these R&I values, BLM must return this ACEC designation to the Final RMP and Record of Decision.

5. Four Mile Wash Potential ACEC

The R&I values of this potential ACEC are the high value scenery, the riparian ecosystem and special status fish species. This potential ACEC overlays an area inventoried and found to possess wilderness characteristics. *See* PRMP at Appendix G-4.

This potential ACEC would not be designated in the PRMP, however the BLM claims that other resource management decisions would protect some of the R&I values, mainly in the river corridor. *See* PRMP at 4-430 to -431.

However, the proposed management will ensure the utter destruction of the R&I values for the vast majority of the potential ACEC. The PRMP envisions that during the life of the plan, wilderness characteristics will be lost on 72% of the acreage in this area. *See* PRMP at 4-211. The proposed management actions of the area contained in the potential ACEC are woefully inadequate to protect the R&I values:

- Almost all of the potential ACEC not in the immediate river corridor will be open to standard leasing terms ensuring continuing encroachment of oil field development into this area. *See* Attachment F map.
- Almost all of the potential ACEC not in the immediate river corridor will be managed at VRM Class IV, which allows the maximum amount of surface disturbance and is the *least* possible protective of the high value scenery that the potential ACEC would protect

The proposed management is not protective in any meaningful way to R&I values that this ACEC would protect. In order to fulfill its statutory obligations under FLPMA and give priority to protecting these R&I values, BLM must add this ACEC designation to the Final RMP and Record of Decision.

6. Main Canyon Potential ACEC

The R&I values of this potential ACEC are important cultural and historical resources and natural systems. These include important Ute historical sites, French fur trapper history, and part of the 1998 Book Cliffs National Conservation Area effort. A large portion of this potential ACEC is within the Winter Ridge WSA. However, the BLM concedes that due to some valid existing leases, there will still be surface disturbing impacts within Winter Ridge WSA. *See* PRMP at 4-444. Special management attention beyond the IMP would help to avoid damage to the R&I both within and outside of the WSA. The proposed management for the area outside of the WSA would be VRM III and only minor constraints on oil and gas drilling. *See* maps in Attachments G & S.

The proposed management is not protective in any meaningful way to R&I values that this ACEC would protect. In order to fulfill its statutory obligations under FLPMA and give priority to protecting these R&I values, BLM must add this ACEC designation to the Final RMP and Record of Decision.

7. Nine Mile Canyon ACEC Potential Expansion

This expansion would protect more of the R&I values associated with Nine Mile Canyon: cultural resources, special status plant species and high quality scenery. *See* PRMP at Appendix G-4. The pressures on this area from expanded gas drilling are damaging the cultural resources. As is well publicized, the dust from trucks associated with gas drilling nearby is damaging rock art along the road in Nine Mile Canyon. The opportunity to protect more of a threatened resource should be embraced by the BLM – BLM must

fulfill its statutory obligations under FLPMA and give priority to protecting these R&I values and add this ACEC designation to the Final RMP and Record of Decision.

8. Brown's Park Existing ACEC

Nowhere in Chapter 4 is there a satisfactory explanation for the massive rollback of acreage in this ACEC (from 52, 721 acres under current management to 18,490 acres in the PRMP). BLM claims that the net protections of the R&I values will be the same due to the management of certain areas to preserve their wilderness characteristics. *See* PRMP at 4-436. However, nowhere is there a rationale of why this is a desirable management scheme. Please refer to the comments above on "layering" and why this type of confusing management decision patterns is not advisable. Why should the public have confidence that the new management category of wilderness characteristic areas will sufficiently protect the R&I values of this area? Management for wilderness characteristics is not the same as the special management attention to specific values of an ACEC. While an ACEC will probably help to preserve wilderness characteristics, the converse is not necessarily true. BLM should restore the existing acreage of this ACEC in the Final RMP and Record of Decision.

XII. Wild and Scenic Rivers

The Wild and Scenic Rivers Act (WSRA) requires federal agencies, including BLM, to consider the potential for national wild, scenic and recreational river areas in all planning efforts, including in the Vernal RMP process. 16 U.S.C. § 1276(d)(1). During the first WSRA review phase, BLM must determine which river segments are "eligible" to be considered part of the National Wild and Scenic Rivers System (NWSRS). 16 U.S.C. § 1273(b). Eligible river segments are those that are free-flowing and have at least one outstandingly remarkable value, including but not limited to "scenic, recreational, geologic, fish and wildlife, historic, and cultural" values. 16 U.S.C. §§ 1271, 1273(b). Eligible segments are then given a tentative classification of "wild," "scenic," or "recreational," based on the level of human development associated with that segment. *Id.* § 1273(b)(1)–(3); BLM Manual § 8351.32 Wild and Scenic Rivers – Policy and Program Direction for Identification, Evaluation and Management (Dec. 22, 1993), *hereinafter* "BLM Manual." Eligibility involves solely river values; no other concerns, e.g. manageability or resource conflicts, are considered at this stage.

BLM has determined that eleven river segments within the Vernal planning area, totaling 216 river miles, are eligible for inclusion in the NWSRS.[62] PRMP at 3-91. Once BLM determines that a river segment is eligible, "its remarkable values shall be afforded adequate protection, subject to valid existing rights, and until the eligibility determination is superseded, management activities and authorized uses shall not be allowed to adversely affect either eligibility or the tentative classification." BLM Manual § 8351.32(C); *see also* BLM Manual § 8351.33(A); PRMP at Response to Comments, Draft Comments Sorted by Commenter at 781.

After determining which river segments are eligible, and protecting them accordingly, BLM must then determine which eligible segments are "suitable" for inclusion in the NWSRS. The PRMP does not recommend a single new suitable segment, and only continues the recommendation from the Diamond Mountain RMP that segments of the Upper Green River and Lower Green River be recommended as suitable. PRMP at Appendix C; Diamond Mountain RMP at 2.22. The "suitability" determination considers tradeoffs between river protection and corridor development, including the environmental and economic results of designation. 16 U.S.C. § 1275(a); PRMP at Appendix C-11. Once BLM determines a segment is suitable, it must manage it so as to preserve the outstandingly remarkable values and not impair any future suitability decision. BLM Manual § 8351.32(C).

After BLM makes its suitability determinations, the agency must coordinate with the State of Utah, local and tribal governments, and other federal agencies to recommend segments to Congress for inclusion in the NWSRS. Only Congress can designate rivers as part of the NWSRS. 16 U.S.C. §§ 1273(a), 1275(a). To date, not a single river segment in Utah has been included in the NWSRS. Despite Utah's critical desert riparian

[62] There is some discrepancy in the PRMP. The text of Appendix C states that only nine river segments were found eligible while Chapter 3 and Table 2. in Appendix C state that eleven segments were found eligible. PRMP at 3-91, Appendix C-4, Appendix C-6 Table 2. BLM must clarify this discrepancy.

habitats and stunning river corridors, Utah is one of only ten states without a single river in the NWSRS. In order to adequately protect Utah's valuable and spectacular rivers, BLM should emphasize the designation of suitable rivers.

A. BLM's Failure to Recommend River Segments that are Regulated Under Other Management Prescriptions Such as ACECs and VRMs Violates the WSRA and the BLM Manual

BLM violates the WSRA by failing to recommend river segments that otherwise qualify for inclusion in the NWSRS simply because the segments are supposedly protected by other laws, regulations, or designations. *See* 16 U.S.C. § 1275(a); PRMP at Appendix C-13. The PRMP states that "other means of protection" such as ACEC designation, VRM Class I or II management prescriptions, oil and gas leasing stipulations, and areas closed to oil and gas leasing will help protect Argyle Creek, Bitter Creek, Middle Green River, Segments A and B of Nine Mile Creek, and Segments A, B, and C of the White River. PRMP at Appendix C-13, C-15, C-23, C-28, C-30, C-33, C-35, C-38. However, BLM also admits that the protections these prescriptions afford are "temporary" and "subject to change." PRMP at Appendix C-13, C-15, C-23, C-28, C-30, C-33, C-35, C-37. Because ACEC and other prescriptions do not offer permanent protection of rivers' outstandingly remarkable values, the fact that the majority of the eligible river segments fall within Proposed ACECs is irrelevant for determining whether to recommend a segment for suitability. *See* DRMP at Draft EIS – Figure 24. By failing to recommend segments that otherwise meet the suitability criteria, BLM allows for the potential degradation of these rivers and their outstandingly remarkable values. Thus, BLM's failure to recommend these otherwise-suitable sections defeats the purpose of the WSRA, which is to protect rivers and their outstandingly remarkable values. 16 U.S.C. §§ 1271, 1272, 1276(d).

As the Moab BLM stated, "BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) [e.g. Wild and Scenic Rivers, ACECs, oil and gas leasing stipulations, etc.] are consistent and compatible for a particular land area." Moab PRMP, BLM Response to Comments, Sorted by Commenter, at 142. Thus, BLM works to protect separate values that are highlighted in separate acts and regulations, such as protecting "outstandingly remarkable values" of Wild and Scenic Rivers, versus "relevant and important values" for ACECs. *Compare* 16 U.S.C. § 1271 et seq., *with* FLPMA, 43 U.S.C. §§ 1702(a), 1712(c)(3), *and* BLM ACEC Manual § 1613. Regardless of whether the goals of the different regulations are complementary, the distinct values must be protected separately under different regulations. The Moab BLM Field Office uses the example of WSAs and ACECs to make this point:

> For example, the BLM has separate policies and guidelines as well as criteria for establishing Areas of Critical Environmental Concern (ACECs) as when the Wilderness Study Areas (WSAs) were established. These differing criteria make it possible that that same lands will qualify for both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies. The values protected by WSA management prescription do not necessarily protect those values found

> relevant and important in ACEC evaluation, and vice versa . . . The ACECs are evaluated and ranked based on the presence or absence of the stated relevant and important. None of these values include wilderness characteristics. Additionally, the management prescriptions for the ACEC are limited in scope to protect the relevant and important values.

Moab PRMP, BLM Response to Comments, Sorted by Commenter at 143. Thus, BLM admits that different designations serve different purposes, and that designations are limited to protect only those values relevant to those particular designations, e.g. outstandingly remarkable values for Wild and Scenic Rivers vs. relevant and important values for ACECs. Therefore, the fact that an eligible river segment lies within a proposed or existing ACEC is not a justification for finding the segment non-suitable.

ACECs and other management prescriptions do not fully protect the eligible river segments and all of their outstandingly remarkable values. As discussed elsewhere in this protest (*see, e.g.*, Water Quality section, Riparian section, and Travel Management section), designated routes and off-road vehicle travel on these routes negatively impact water quality and riparian values, as well as the outstandingly remarkable values of eligible rivers. Therefore, BLM's reliance on other management prescriptions, such as VRMs, ACECs, oil and gas leasing closures and stipulations, to protect rivers' outstandingly remarkable values violates the very purpose of the WSRA which is to protect rivers and their outstandingly remarkable values. 16 U.S.C. §§ 1271, 1272.

B. BLM Should Recommend Additional Suitable Segments

SUWA supports BLM's decision to continue to manage the segments that were recommended suitable in the Diamond Mountain RMP, i.e. the segment of the Upper Green River from Little Hole to the Utah State Line and the segment of the Lower Green River from south of Ouray to the Carbon County line as suitable.[63] PRMP at 2-67 to -68; Diamond Mountain RMP at 2.22. However, the Vernal PRMP does not recommend a single additional segment as suitable for inclusion in the NWSRS. This decision is contrary to the findings expressed in Appendix C of the PRMP, which provides compelling documentation as to why additional stream segments, namely Argyle Creek, Bitter Creek, Evacuation Creek, Middle Green River, Nine Mile Creek Segments A and B, and White River Segments A, B, and C possess outstandingly remarkable values and otherwise meet suitability requirements. PRMP at Appendix C. NWSRS inclusion is the best and only way to adequately protect the identified outstandingly remarkable values of all of these streams.

BLM should recommend Argyle Creek, Bitter Creek, Evacuation Creek, Middle Green River, Segments A and B of Nine Mile Creek, and Segments A, B, and C of the White River as suitable in order to better manage the ecosystems and protect watersheds of the planning area. In conducting a suitability determination, BLM must use only the seven criteria listed in the WSRA and the BLM Manual. SUWA appreciates that BLM listed

[63] In addition, the Lower Green River possesses outstandingly remarkable values that have not been identified in the PRMP, namely, wildlife/habitat and scenic values.

the seven suitability factors that it considered for each segment, in compliance with the WSRA and the BLM Manual. PRMP at Appendix C-12 to -38; 16 U.S.C. § 1275(a); BLM Manual § 8351.33(A). However, the PRMP does not explain how BLM evaluated the factors to determine whether or not to recommend a segment for suitability. Based on the factors that BLM examined for each segment, it appears that all of the segments meet the suitability criteria.

Argyle Creek possesses spectacular scenic values that must be protected. PRMP at Appendix C-12. Bitter Creek possesses a variety of outstandingly remarkable values, including fish, wildlife/habitat, cultural, historic, and recreation values which BLM details in glowing terms, and BLM should protect accordingly by recommending this segment for inclusion in the NWSRS. PRMP at Appendix C-14. Evacuation Creek possesses outstandingly remarkable historic values that BLM states are worthy of inclusion in the NWSRS, and which must be protected. PRMP at Appendix C-16. Middle Green River is home to two endangered fish species that must be protected. PRMP at Appendix C-21.

Segments A and B of Nine Mile Creek possess "excellent" scenic values, as well as cultural values that BLM, as well as archaeologists, call the best site in the world for remains of the Fremont culture. PRMP at Appendix C-26 to -29. Particularly given the traffic that is currently damaging the spectacular rock art in Nine Mile Canyon, and the stress that exponential growth of the oil and gas industry is wreaking on the canyon, BLM must ensure that Nine Mile Creek is recommended suitable and that its outstandingly remarkable values are protected. Like Nine Mile Canyon, the White River may soon be under similar stress, due to the potential placement of a currently permitted dam on the river. PRMP at Appendix C-32. The White River possesses several outstandingly remarkable values, including recreational, scenic/geologic, fish, wildlife/habitat, and historic values that are irreplaceable and unique. PRMP at Appendix C-31 to -39. BLM speaks glowingly of the White River's values, and should abide by its own expressions of the river's worth and recommend Segments A, B, and C for inclusion in the NWSRS. PRMP at Appendix C-31, C-33 to -34, C-36. Because all the segments discussed in the preceding paragraphs have outstandingly remarkable values that must be protected, BLM must give adequate weight to the above-listed outstandingly remarkable values for each river segment and must recommend them as suitable in order to protect their outstandingly remarkable values and comply with WSRA and BLM Manual 8351. BLM Manual § 8351.32(C); 16 U.S.C. § 1273.

These rare desert streams will become increasingly important as the devastating effects of climate change progress. The outlook for the climate of the Southwest, in the context of global climate change, is warmer and drier. Watershed conservation is becoming a paramount concern and wild and scenic river protections are an important tool available to protect watersheds. Perennial and even intermittent streams are a rarity in the desert southwest. The presence of these streams and the riparian ecosystems they support are an outstandingly remarkable value that must be protected.

C. Nine Mile Creek and Middle Green River Possess Additional Outstandingly Remarkable Values

SUWA supports BLM's eligibility findings for Middle Green River and Segments A and B of Nine Mile Creek. However, SUWA requests that the Middle Green River also be found eligible for wildlife/habitat, scenic/geologic, recreational, and cultural outstandingly remarkable values in addition to fish values. Similarly, SUWA requests that Segments A and B of Nine Mile Creek be found eligible for wildlife/habitat values in addition to cultural and scenic values.

D. BLM's Decision-Making Process is Opaque and Violates the Public Disclosure Requirements of the BLM Manual and NEPA

NEPA and the BLM Manual require that BLM fully disclose, summarize, and circulate for public review and comment (i.e. *before* the ROD is issued) all data and information that it used to determine eligibility and suitability. BLM Manual § 8351.06(C); 40 C.F.R. § 1500.1 *et seq*.; *Robertson v. Methow Valley Citizens Council*, 490 U.S. at 349; *Inland Empire Public Lands Council v. U.S. Forest Serv.*, 88 F.3d 754, 757 (9th Cir. 1996). BLM Manual § 8351.06(C) requires that, "[a]ll data and information upon which WSR river determinations (eligibility and suitability) are based shall be included in the planning records and summarized in documents circulated for public review in sufficient detail to permit full disclosure and clear and widespread understanding." BLM violates its own Manual by failing to present, in sufficient detail, and in a meaningful way that the public can understand, the documents upon which it bases its eligibility and suitability determinations. DRMP at Appendix C-11, Table 3. In addition to the BLM Manual, NEPA also requires agencies to fully disclose their decision-making process and prevent "high-quality" information to the public. 40 C.F.R. § 1500.1(b). Unclear and incomplete information is not "high-quality;" and BLM should adopt the suggestions in the following paragraphs to make the PRMP more accessible to the public.

In order to remedy these deficiencies, the Vernal PRMP should include a map that displays all of the eligible river segments and recommends all of them as suitable as one alternative. *See, e.g.*, Moab PRMP at Map 2-15-B; Richfield PRMP at Map 3-15; Price PRMP at Map 2-51; Monticello PRMP at Map 54. In addition, the PRMP should include a separate map simply for Wild and Scenic River segments because the Map that includes all special designations (i.e. WSAs and ACECs) is confusing and difficult for the reader to understand. *See* Vernal PRMP at EIS – Figure 29; Vernal DRMP at Draft EIS – Figure 24; *See, e.g.*, Moab PRMP at Maps 2-15-B and 2-15-C.

The PRMP does not clearly present the reasoning and the changes between the DRMP and the PRMP. For example, the DRMP lists the White River as one segment and gives it a nonsensical classification of both wild and scenic,[64] while the PRMP divides the White River into Segments A, B, and C with Segment B classified as wild, and Segments A and C classified as scenic. DRMP at Appendix C-11, Table 3; PRMP at Appendix C-

[64] The WSRA and the BLM Manual require that each segment have a separate classification as either wild, scenic, or recreational, not two classifications. 16 U.S.C. § 1273(b); BLM Manual § 8351.31(C).

8, Table 3. In the PRMP, BLM variously refers to these segments as Segments 1, 2, and 3, instead of A, B, and C. *See, e.g.*, PRMP at Response to Comments, Sorted by Resource at 535-36. BLM should clarify its classification scheme and refer to each segment by only one name. The BLM Manual requires that BLM divides rivers into segments *before* it evaluates the eligibility of each segment, and thus segmentation should not change between the DRMP and the PRMP. BLM Manual §§ 8351.24, 8351.31. BLM's segmentation process is confusing, and inadequately disclosed in the PRMP.

Finally, BLM's reasoning for determining whether to recommend a segment as suitable is obscured. SUWA appreciates that BLM listed the seven suitability factors that it considered for each segment, per the WSRA and the BLM Manual. PRMP at Appendix C-12 to -38; 16 U.S.C. § 1275(a); BLM Manual § 8351.33(A). However, the PRMP does not explain what weight BLM gave to these different suitability factors nor how it evaluated the factors to determine whether or not to recommend a segment for suitability. Indeed, it is not clear why BLM chose not to recommend any new segments as suitable even though all of the segments satisfied the suitability criteria and many segments face possible or probable degradation by non-inclusion in the NWSRS. *See, e.g.*, PRMP at Appendix C-13. Because BLM did not explain its reasoning for finding that no new segments were suitable, and thus did not fully disclose its decision-making process, the PRMP violates NEPA and the BLM Manual. BLM Manual § 8351.06(C); 40 C.F.R. § 1500.1(b).

E. BLM's Failure to Give Priority to River Segments that Face the Greatest Likelihood of Development Violates the WSRA

The WSRA requires the Secretaries of the Interior and Agriculture to *prioritize* the suitability designation for rivers that face the "greatest likelihood of development which, if undertaken, would render the rivers unsuitable for inclusion in the national wild and scenic rivers system." 16 U.S.C. § 1275(a)(1)(ii). BLM admits that all of the eligible stream segments, i.e. Argyle Creek, Bitter Creek, Evacuation Creek, Middle Green River, Segments A and B of Nine Mile Creek, and Segments A, B, and C of the White River are at risk of development that would threaten their free-flowing nature and thereby render them unsuitable for inclusion in the NWSRS . PRMP at Appendix C-13, C-15, C-17, C-23, C-28, C-30, C-33, C-35, C-37. In particular, Segments A, B, and C of the White River face imminent damage from the potential development of a dam that would destroy the river's free-flowing nature and render it unsuitable for inclusion in the NWSRS. PRMP at Appendix C-33, C-35, C-37. BLM's failure to recommend Segments A, B, and C of the White River as suitable violates the WSRA. 16 U.S.C. § 1275(a)(1)(ii). Precisely because the free-flowing nature of these eligible stream segments are at greater risk, BLM must recommend these segments as suitable in order to protect their outstandingly remarkable values. 16 U.S.C. § 1275(a)(1)(ii).

F. BLM's Failure to Give Priority to River Segments that Have the Greatest Proportion of Private Land Violates the WSRA

The WSRA requires the Secretaries of the Interior and Agriculture to *prioritize* the suitability designation for rivers that run through private land. 16 U.S.C. § 1275(a)(1)(ii). The Act states that federal agencies "shall give priority to those rivers . . . which possess the greatest proportion of private lands within their areas." 16 U.S.C. § 1275(a). Nonetheless, BLM has *deprioritized* the designation of rivers that run through private lands. For example, among the reasons BLM offered for not recommending Argyle Creek was the significant amount (60%) private land in the area. PRMP at Appendix C-12- to -13. This reasoning violates the WSRA's priority requirements for private lands and Argyle Creek should be designated suitable. 16 U.S.C. § 1275(a). Likewise, BLM indicated that, in part because 62% of the land along Evacuation Creek is private, BLM would not recommend Evacuation Creek as suitable. PRMP at C-16 to -17. Again, this reasoning violates the WSRA's priority requirements for private lands and Evacuation Creek should be designated suitable. 16 U.S.C. § 1275(a). BLM cannot use the presence of private land as a justification to decline appropriate management of rivers with wild and scenic values. Instead, BLM must obey the mandates of the WSRA and prioritize the suitability designations and classifications of river segments that run through private land.

XIII. Wilderness Study Areas and Lands with Wilderness Characteristics

A. Wilderness Study Area

BLM is obligated to manage the wilderness study areas (WSAs) in accordance with the Interim Management Policy (IMP) for Lands Under Wilderness Review (BLM Manual H-8550-1), which requires that WSAs be managed to protect their wilderness values. The IMP requires management of the WSAs in the Vernal Field Office in accordance with the non-impairment standard, such that no activities are allowed that may adversely affect the WSAs' potential for designation as wilderness. As stated in the IMP, the "overriding consideration" for management is that:

> . . . preservation of wilderness values within a WSA is paramount and should be the primary consideration when evaluating any proposed action or use that may conflict with or be adverse to those wilderness values. (emphasis in original)

H-8550-1.I.B.

The IMP also reiterates FLPMA's mandate for public lands, including WSAs, that they must be managed to prevent unnecessary or undue degradation. H-8550-1, Introduction at 2. In order for an activity to meet FLPMA's non-impairment mandate, and thus be permitted to proceed in a WSA, two criteria must be met. First, the activity must be temporary and not cause surface disturbance. H-8550-1.I.B.2.a. ("Surface disturbance is any new disruption of the soil or vegetation requiring reclamation within a WSA. Uses . . . necessitating reclamation (i.e., recontouring of the topography, replacement of topsoil, and/or restoration of native plant cover) are definitely surface disturbing and must be denied."). Second, after the activity ends, "the wilderness values must not have been degraded so far as to significantly constrain the Congress's prerogative regarding the area's suitability for preservation as wilderness." H-8550-1.I.B.2.b. Thus, the non-impairment test is not an "either/or" proposition and a proposed activity must meet *both* criteria to be permitted to take place. H-8550-1.I.B.2.

Chapter I, section B(6) of the IMP directs that proposed actions may be implemented only if they enhance wilderness values, providing:

> If the proposed action would result in a positive or beneficial change in the state or condition of the wilderness value(s) as described, assessed, or calculated on the date of approval of the intensive inventory, then the wilderness value would be enhanced by the proposed action. Conversely, if the proposed action would result in a negative or detrimental change in the state or condition of the wilderness value(s) then that wilderness value would be degraded or impacted and the proposed action must not be allowed.

Additional directives regarding management of ORVs in WSAs can be found in BLM's regulations, which require BLM to ensure that areas and trails for ORV use are located "to minimize damage to soil, watershed, vegetation, air, or other resources of the public lands, and *to prevent impairment of wilderness suitability*." 43 C.F.R. § 8342.1(a)

(emphasis added). BLM is also obligated to close routes to ORV use if ORVs are causing or will cause considerable adverse effects on wilderness suitability. 43 C.F.R. § 8341.2.

1. PRMP must Include an Alternative Designating new Wilderness Study Areas.

As discussed in SUWA's comments on the Vernal DRMP and Supplements, BLM violated FLPMA and NEPA when it failed to consider and fully analyze an alternative that would designate new wilderness study areas pursuant to the agency's broad authority under 43 U.S.C. § 1712. *See* SUWA DRMP Comments at 2. This is a reasonable alternative that was repeatedly proposed in public comments and BLM was required to thoroughly evaluate it in the Vernal RMP. The agency's current policy regarding creation of new WSAs does not relieve BLM from the responsibility of considering this alternative.

2. WSAs Should Not be Excluded from other Management Designations

In designating WSAs, the BLM has recognized that these areas have wilderness characteristics. If Congress releases WSAs from management, then such areas can and should be managed to protect these wilderness characteristics. The PRMP provides that if any of the WSAs are released from wilderness consideration by Congress:

> [S]uch released lands would be managed in accordance with the goals, objectives, and management prescriptions established in this RMP, unless otherwise specified by Congress in its releasing legislation. The BLM would examine proposals in the released areas on a case-by-case basis, but would defer all actions that are inconsistent with RMP goals, objectives and prescriptions, until it completes a land use plan amendment.

PRMP at 2-73 – 2-76.

Since released WSAs would retain their wilderness characteristics (naturalness, outstanding opportunities for solitude and/or primitive recreation), the PRMP must recognize these values and state clearly that released lands would be managed to protect their wilderness characteristics, as in Alternative E. As currently drafted, the PRMP fails to protect the wilderness characteristics of these areas.

"[W]ilderness characteristics are a value which, under the FLPMA, the Bureau has the continuing authority to manage, even after it has fulfilled its 43 U.S.C. § 1782 duties to recommend some lands with wilderness characteristics for permanent congressional protection." *Oregon Natural Desert Ass'n v. Bureau of Land Management*, 531 F.3d 1114, 1142 (9th Cir. 2008). Therefore, BLM must consider WSAs (in whole or in part) for designation as ACECs, primitive SRMAs, Natural Areas, and Wild and Scenic River segments, in addition to stating that if released, WSAs would be managed to preserve the wilderness characteristics of the areas. As part of these designations, BLM must also

provide appropriate management prescriptions to protect wilderness characteristics, including closure to ORV use and oil and gas development.

In responding to comments on the Vernal PRMP, BLM has acknowledged that WSAs can have additional "layers" of management prescriptions to protect the wilderness and other resource values inherent in these areas:

> "Layering" is planning. Under FLPMA's multiple use mandate, BLM manages many different resource values and uses on public lands. Through land use planning BLM sets goals and objectives for each of those values and uses, and prescribes actions to accomplish those objectives. Under the multiple use concept, the BLM doesn't necessarily manage every value and use on every acre, but routinely manages many different values and uses on the same areas of public lands. The process of applying many individual program goals, objectives, and actions to the same area of public lands may be perceived as "layering." The BLM strives to ensure that the goals and objectives of each program (representing resource values and uses) are consistent and compatible for a particular land area. Inconsistent goals and objectives can lead to resource conflicts, failure to achieve the desired outcomes of a land use plan, and litigation. Whether or not a particular form of management is restrictive depends on a personal interest or desire to see that public lands are managed in a particular manner. All uses and values cannot be provided on every acre. That is why land use plans are developed through a public and interdisciplinary process . . . . *Layering of program decisions is not optional for BLM, but required by the FLMPA and National BLM planning and program specific regulations.*
>
> For example, the BLM has separate policies and guidelines as well as criteria for establishing ACEC as when the WSAs were established. *These differing criteria make it possible that the same lands will qualify for both an ACEC and a WSA but for different reasons. The BLM is required to consider these different policies.*
>
> The values protected by the WSA management prescriptions do not necessarily protect those values found relevant and important in ACEC evaluation, and vice versa . . . . The ACECs are evaluated and ranked on the presences and absence of the stated R&I values. None of these values include wilderness characteristics. Additionally, the management prescriptions for the ACECs are limited to the scope to protect the R&I values and the BLM maintains that the size of the ACEC areas is appropriate to the R&I values identified (emphasis added).

Vernal PRMP Response to Comments at 553-555, sorted by Resource,

Thus, in order to ensure ongoing protection of the wilderness characteristics in the WSAs, the PRMP should provide for the WSAs to be managed to protect wilderness characteristics in the event that all or part of any WSA is released by Congress, and

should include layering of ACEC and other protective management designation on lands included in WSAs.[65]

B. Wilderness Character Areas

Pursuant to FLPMA, "The Secretary shall prepare and maintain on a continuing basis an inventory of all public lands and their resource and other values (including, but not limited to, outdoor recreation and scenic values), giving priority to areas of critical environmental concern. This inventory shall be kept current so as to reflect changes in conditions and to identify new and emerging resource and other values." 43 U.S.C. §1711(a). Wilderness character is a resource for which BLM must keep a current inventory. As the U.S. Court of Appeals for the Ninth Circuit recently held: "wilderness characteristics are among the 'resource and other values' of the public lands to be inventoried under § 1711. BLM's land use plans, which provide for the management of these resources and values, are, again, to 'rely, to the extent it is available, on the inventory of the public lands, their resources, and other values.' 43 U.S.C. § 1712(c)(4)." *Oregon Natural Desert Ass'n v. Bureau of Land Management*, 531 F.3d at 1119. Therefore, BLM is required to consider "whether, and to what extent, wilderness values are now present in the planning area outside of existing WSAs and, if so, how the Plan should treat land with such values." *Id*. at 1143.

BLM has identified "wilderness characteristics" to include naturalness and providing opportunities for solitude or primitive recreation. *See* Instruction Memoranda 2003-274, 2003-275, Change 1. These values are to be *identified and protected* in the land use planning process. *See* BLM Land Use Planning Handbook (H-1601-1, 2005); *Oregon Natural Desert Ass'n v. Bureau of Land Management*, *supra*. Further, BLM's national guidance provides for management that emphasizes "the protection of *some or all* of the wilderness characteristics as a priority" over other multiple uses. (emphasis added). This guidance does not limit its application to lands suitable for designation of WSAs; for instance, the guidance does not include a requirement for the lands at issue to generally comprise 5,000-acre parcels or a requirement that the lands have *all* of the potential wilderness characteristics in order to merit protection.

As SUWA explained in its comments on the Vernal DRMP and Supplements, BLM should recognize the wide range of values associated with lands with wilderness character, including scenic values, recreation, wildlife habitat, riparian areas, and cultural resources, as well as manage for a balanced use of the lands and resources. *See* SUWA DRMP Comments at 3-5; SUWA Comments on Wilderness Characteristics Supplement at 23-25; *see also* 43 U.S.C. § 1711(a), § 1702(c), and § 1712.

[65] BLM notes that the BLM Manual states "ACEC designation shall not be used as a substitute for wilderness suitability recommendation." PRMP Response to Comments at 224, sorted by Commentor. This may be correct. However, SUWA is not requesting that ACEC designation be used as a substitute for wilderness suitability recommendation, SUWA is merely requesting that BLM designate ACECs in areas that have wilderness characteristics, including WSAs, in order to protect those characteristics.

1. PRMP Ignores Significant New Resource Information Provided by SUWA

BLM's failure to consider and/or the agency's rejection of numerous SUWA provided wilderness character areas that were submitted to BLM during the planning process with supporting narrative, maps, photographs, and other information is arbitrary and capricious.

In *Oregon Natural Desert Association v. Rasmussen*, CV 05-1616-AS, Findings and Recommendations (D. Or. April 20, 2006); Order (D.Or. Dec. 12, 2006), the court found that BLM's failure to re-inventory lands for wilderness values and to consider the potential impact of decisions regarding management of a grazing allotment violated its obligations under NEPA and FLPMA, then enjoined any implementation of the decision until the agency re-inventoried the lands at issue and prepared an environmental document taking into account the impacts of its decisions on wilderness values. In *Oregon Natural Desert Association v. Rasumussen,* the district court found that BLM had violated NEPA by failing to consider significant new information on wilderness values and potential impacts on wilderness values, and had also failed to meet its obligations under FLPMA by failing to engage in a continuing inventory of wilderness values. It concluded:

> The court finds BLM did not meet its obligation under NEPA simply by reviewing and critiquing [a local environmental group's] work product. *It was obligated under NEPA to consider whether there were changes in or additions to the wilderness values* within the East-West Gulch, *and whether the proposed action in that area might negatively impact those wilderness values*, if they exist. The court finds BLM did not meet that obligation by relying on the one-time inventory review conducted in 1992. *Such reliance is not consistent with its statutory obligation to engage in a continuing inventory so as to be current on changing conditions and wilderness values*. 43 U.S.C. § 1711(a).
>
> BLM's issuance of the East-West Gulch Projects [environmental analysis] and the accompanying Finding of No Substantial Impact (FONSI) in the absence of current information on wilderness values was arbitrary and capricious, and, therefore, was in violation of NEPA and the [Administrative Procedure Act].

Id. (emphasis added).

Prior to the release of the DRMP, SUWA provided to the VFO detailed narratives, maps, and photographic documentation that demonstrated that the full extent of lands with wilderness characteristics in the VFO had not been identified as required by 43 U.S.C. §1711(a) for the following areas/units: Bourdette Draw, Bull Canyon, Cold Spring Mountain, Bitter Creek, Desolation Canyon, Diamond Breaks, Diamond Mountain, Dragon Canyon, Goslin Mountain, Hells Hole, Lower Bitter Creek, Lower Flaming

Gorge, Moonshine Draw, Rat Hole Canyon, Red Creek Badlands, Sweet Water Canyon, White River, and Wild Mountain wilderness character units.

BLM's "Evaluation of New Information Suggesting That an Area of Public Land has Wilderness Characteristics" and subsequent Vernal 2007 Wilderness Character Reviews (included in the administrative record located at the VFO) addressed some, but not all of the previous shortcomings of the VFO's wilderness characteristics inventory. Most notably, SUWA provided new wilderness characteristics information demonstrating BLM used arbitrary boundaries in multiple locations. As explained in SUWA's comments on the Vernal DRMP and Vernal Supplemental DRMP, BLM's rejection of contiguous wilderness character areas that are separated merely by natural features such as rims, cliffs, washes or by imaginary straight ½ or ¼ or full section lines was, and is arbitrary. SUWA's new information demonstrates that wilderness values extend beyond these boundaries to human-caused impacts, and that due to BLM's arbitrarily drawn boundaries the agency fails to identify the full range of wilderness characteristics these areas posses. The PRMP fails to confirm that the agency addressed this new information prior to the PRMP release. BLM must correct this error, and use human-caused impacts as boundaries, rather than imaginary map lines that run directly across the natural and unimpacted landscape, to account for all lands with wilderness characteristics as required by FLPMA.

In addition to the above mentioned locations, SUWA provided substantive new wilderness character information during the DRMP comment period on areas that have and retain wilderness character, but no BLM documentation is available demonstrating BLM performed a wilderness character review, inventory or evaluation of this information. *See* SUWA's DRMP Comments, Attachment F – Supplemental and New Information. This supplemental and new information, including maps, documents areas contiguous with Forest Service roadless and RARE II areas that have wilderness values. These areas include the Badland Cliffs, Red Mountain and Unita Mountain. *See id.*

Throughout the PRMP process, SUWA has submitted significant new wilderness resource information documenting wilderness characteristics that are present but remain unidentified by the VFO. BLM has improperly and illegally ignored this resource information.

a. PRMP Failed to Consider Significant New Resource Information Regarding Boundaries

One of the more common issues SUWA raised, and submitted corroborating evidence in support of, concerned BLM's erroneous and arbitrary use of a natural feature (i.e. ridge, cliff face), a section line, ½ section line, ¼ section line, or a "BLM-created" line across the natural landscape, as a wilderness characteristic boundary. As a result of these errors, BLM failed to include the full extent of BLM lands with naturalness and a wilderness resource.

SUWA's detailed wilderness character information clearly demonstrated that the Vernal BLM utilized *arbitrary natural features for wilderness characteristic boundaries* for the following areas:

> Bitter Creek – BLM's wilderness character boundary currently proceeds off of McCook Ridge down into Bitter Creek along an arbitrary line, presumably to exclude intrusions on McCook Ridge. Natural lands, including the southwestern cliff and canyons of Bitter Creek are arbitrarily excluded. *See* SUWA Supplemental DRMP Comments at Bitter Creek Wilderness Character Unit, Comment A and B.
>
> Cold Spring Mountain – BLM's wilderness character boundary utilizes an arbitrary point-to-point boundary near the ridges at the head of Cottonwood. Natural lands of the north slope are arbitrarily excluded from the contiguous lands within Cold Spring Mountain. *See* SUWA Supplemental DRMP Comments at Cold Spring Mountain Wilderness Character Unit, Comment A.
>
> Desolation Canyon - BLM recently adjusted the wilderness character boundary on the extreme northeast corner in the 1999 Utah Wilderness Inventory. Now, BLM's boundary follows the natural wash of Kings Canyon. Oil and gas development is planned for the area, and it appears BLM's decision to adjust the wilderness character boundary was not due to human impacts, but one of planned future development. *See* SUWA Supplemental DRMP Comments at Desolation Canyon Wilderness Character Unit, Comment A.
>
> Lower Flaming Gorge – BLM currently utilizes the natural feature of the Green River as the unit's most northern wilderness character boundary. Lands farther north onto the mesa appear natural in appearance. BLM's utilization of this natural feature for a boundary is arbitrary. *See* SUWA Supplemental DRMP Comments at Lower Flaming Gorge Wilderness Character Unit, Comment A.
>
> Mountain Home – BLM's 2007 Wilderness Character Review identified the majority of the area as retaining wilderness characteristics. However, on the south, BLM uses a natural cliff base boundary that is not located on an impact, thereby erroneously excluding the natural lands along the benches of the mountain and into Brown's Park. *See* SUWA Supplemental DRMP Comments at Mountain Home Wilderness Character Unit, Comment A.

SUWA's Supplemental DRMP comments addressed several areas where *arbitrary ¼, ½ or section lines were used for wilderness characteristic boundaries* which did not correctly account for the contiguous wilderness characteristics lands in the following areas:

> Bourdette Draw – BLM documents that "Unit 1" is not of sufficient size to stand alone, and incorrectly states that that "Unit 1" is separated from the remaining wilderness character lands. However, nothing separates these two areas, other than a straight section line; there are no human impacts separating these areas.

See SUWA Supplemental DRMP Comments at Bourdette Draw Wilderness Character Unit, Comment A.

Lower Flaming Gorge – Along the west and central southern portions of the wilderness character area, several BLM used straight and arbitrary lines, rather than human impacts for boundaries. For each erroneous boundary, SUWA provided new information that documents wilderness character beyond BLM's 2007 Wilderness Character Review assessed lands. Each area is contiguous and retains wilderness values that have never been assessed in context of the RMP planning process. *See* SUWA Supplemental DRMP Comments at Lower Flaming Gorge Wilderness Character Unit, Comment B.

Mexico Point – In conjunction with the MFO, BLM arbitrarily and unjustly excludes the northwestern corner of this wilderness character area with section line boundaries. The excluded lands are entirely natural in appearance and character. *See* SUWA Supplemental DRMP Comments at Mexico Point Wilderness Character Unit, Comment A.

Moonshine Draw – Contiguous with the WSA, a small piece of BLM lands retains wilderness characteristics, but is currently separated by a ¼ section line that crosses the natural terrain. *See* SUWA Supplemental DRMP Comments at Moonshine Draw Wilderness Character Unit, Comment A.

White River – Along the southern and eastern boundaries, BLM's uses straight and arbitrary lines for boundaries, thereby excluding unimpacted lands that are contiguous to the larger wilderness character unit. *See* SUWA Supplemental DRMP Comments at White River Wilderness Character Unit, Comment A, B and C.

SUWA's significant new wilderness characteristic information included the Dragon Canyon area, a stand-alone area that has not yet been identified by BLM as retaining wilderness characteristics. BLM's assessment noted that several routes are prominent along the outer edges of the area. However, BLM erroneously fails to draw the boundaries to exclude these impacts, in order to identify the wilderness characteristics that remain in the large core area. The information provided by SUWA clearly documents where boundary adjustments should be made in order to accurately inventory and identify the area's wilderness values. *See* SUWA Supplemental DRMP Comments at Dragon Canyon Wilderness Character Unit, Comment A for details.

The Vernal PRMP fails to evaluate, assess or account for SUWA's significant new wilderness resource information. Only in the Response to Comments, Supp. by Commenter at 174-3 does BLM even acknowledge this new information:

A BLM Interdisciplinary Team conducted an internal review of non-WSA lands with wilderness character and concluded that not all areas proposed in the 1999 inventory met the wilderness criteria.

This response, however, misses the mark. The 1999 Utah Wilderness Inventory for the VFO failed to include all of the wilderness character areas in the VFO. In fact, most of the new information that SUWA submitted to BLM during the PRMP process is for areas that were not included in the 1999 inventory, including Badland Cliffs, Bitter Creek, Bourdette Draw, Dragon Canyon, Goslin Mountain, Lower Flaming Gorge, Mexico Point, Mountain Home, Moonshine Draw, Red Creek Badlands, Red Mountain, Split Mountain Benches, Stone Bridge Draw, and Unita Mountain wilderness character areas. In addition the 1999 inventory is 10 years old, and FLPMA requires BLM to keep and maintain on a continuing basis a current inventory of the public lands and their resources. *See* 43 U.S.C. 1711(a). Nevertheless, the VFO appears to mistakenly rely on the 1999 inventory as a representation of all of the possible non-WSA lands with wilderness characteristics.

The BLM's one-size fits all response fails to address particular wilderness character lands and fails to state if or how the agency assessed the substantive new wilderness character information provided by SUWA. Rather than using this new information to ground-truth and assess the specific areas for wilderness characteristics, BLM chose to disregard this new information and continued to rely on its flawed, and outdated inventory data.

BLM's failure to consider SUWA's new information was arbitrary and capricious and must be reversed, as it violates FLPMA's mandate to maintain a current inventory of resources and NEPA's requirement to use accurate information in evaluating and making management decisions. BLM must revisit each of these proposed wilderness units and consider SUWA's new information concerning BLM's flawed boundaries and consider whether the areas—after appropriate boundary adjustments using human impacts—have the requisite attributes to be wilderness character areas (including areas of less than 5,000 acres).

In *Committee for Idaho's High Desert*, 85 IBLA 54, 57 (1985), the Interior Board of Land Appeals discussed the standard of review for challenges to factual BLM determinations regarding the wilderness qualities of inventory units (i.e. naturalness, solitude, opportunities for primitive and unconfined recreation), stating:

> Suppose an appellant establishes that BLM failed to follow its guidelines, or otherwise creates doubt concerning the adequacy of BLM's assessment, and the record does not adequately support BLM's conclusions. In such a situation the BLM decision must be set aside and the case remanded for reassessment. We must point out that evidence of failure to follow guidelines alone is insufficient to require reassessment. An appellant must also point out how the errors affect the conclusions and show that a different determination might result from reassessment.

(quoting *Utah Wilderness Ass'n.*, 72 IBLA 125, 129 (1983)) (internal citations omitted). SUWA meets this standard in regard to the Vernal PRMP because SUWA has demonstrated that not only did BLM arbitrarily draw *ad hoc* boundaries using natural

features, section lines, and/or BLM-created lines, but also that these decisions had a real and immediate effect on BLM's conclusion that hundreds of thousands of acres of public lands documented by SUWA and listed above, lack wilderness characteristics. If remanded to the Vernal Field Office, with instructions to reevaluate the areas found not to have wilderness character, it is likely BLM would determine that the areas do retain their wilderness character.

b. BLM Failed to Consider Significant New Resource Information Regarding Wilderness Character Areas Adjacent to Federal Lands Managed by Other Federal Agencies

As discussed in SUWA's DRMP comments and Supplemental DRMP comments, several BLM wilderness quality lands in the VFO are adjacent to lands managed by the Forest Service, National Park Service or other BLM field offices (Badlands Cliffs, Red Mountain, Unita Mountain, Goslin Mountain, Red Creek Badlands, Split Mountain Benches, and Stone Bridge Draw).

The PRMP states that "[n]on-WSA lands with wilderness characteristics are areas having 5,000 acres, or areas less than 5,000 acres that are contiguous to designated wilderness, WSAs, or other lands administratively endorsed for wilderness; or in accordance with the Wilderness Act's language, areas "of sufficient size as to make practicable its preservation and use in an unimpaired condition."" PRMP at 4-175. The Wilderness Act, however, has no requirement that areas less than 5,000 acres be contiguous to designated wilderness, WSAs, or other lands administratively endorsed for wilderness. The Act states that wilderness has "…at least five thousand acres of lands or is of sufficient size as to make practicable its preservation and use in an unimpaired condition." 16 U.S.C. 1131(c)(3). Thus, contrary to the PRMP, the Wilderness Act does not preclude BLM from identifying areas of 5,000 acres or less as having wilderness character if the lands are contiguous to roadless lands managed by the USFS or NPS that are *not* administratively endorsed for wilderness.

As noted in SUWA's Supp. DRMP comments, the Bureau's Manual, Wilderness Inventory and Study Procedures (H-6310-1), from which this practice is derived was rescinded and the current guidance (IM 2003-275) does not contain a requirement for lands to be managed for their wilderness characteristics to comprise a unit of 5,000 acres. Thus, the PRMP's statement – that contiguous lands must be "administratively endorsed" for wilderness designation in order to permit the agency to consider cumulative areas with wilderness characteristics – is not valid. *See* SUWA DRMP Supp. Comments at 55.

BLM wilderness character review should be based on the Wilderness Act and FLPMA, neither of which contain any requirement that adjacent agency lands must be "administratively endorsed for wilderness" in order to permit BLM to find wilderness characteristics in areas less than 5,000 that are adjacent to roadless lands managed by other federal agencies. The Wilderness Act's requirement is discussed above; FLMPA Section 201 directs the BLM to inventory its landscape for wilderness character, and Section 603 mandates that the BLM inventory "those roadless areas of five thousand

acres or more and roadless islands of the public lands, identified during the inventory required by section 201(a) of this Act as having wilderness characteristics described in the Wilderness Act of September 3, 1964." 43 U.S.C. §1782(a).

SUWA provided new information for Badlands Cliffs, Red Mountain, Unita Mountain areas, but it appears the VFO completely failed to address this new wilderness character information as there is no acknowledgement within the Vernal PRMP that BLM assessed or inventoried these areas for their wilderness values. *See* SUWA DRMP Comments – Attachment F and SUWA Supplemental DRMP comments. BLM's Response to Comments fails to acknowledge SUWA's new information for these wilderness character areas and/or identify these areas as retaining wilderness characteristics.

Other wilderness character areas contiguous with Forest Service, National Park Service or Wyoming BLM lands for which SUWA submitted new information (Goslin Mountain, Red Creek Badlands, Split Mountain Benches, and Stone Bridge) were arbitrarily determined by VFO as not possessing a wilderness resource due to VFO's flawed interpretation of the Wilderness Act.

BLM must revisit each of these proposed wilderness units and consider whether standing alone they have the requisite attributes to be wilderness character areas of less than 5,000 acres *and* whether together with adjacent public lands – administratively endorsed or not – they constitute 5,000 acres of wilderness quality lands, and appropriately identify these wilderness characteristics as required by 43 U.S.C. §1711(a).

2. Proposed Management of Wilderness Character Lands Does Not Provide Sufficient Protection under FLPMA

The PRMP states that 106,178 acres out of 277,596 acres currently identified as having wilderness characteristics will be managed "…with *emphasis on protection* of the areas [sic] wilderness characteristics" (emphasis added). PRMP at 4-175. The PRMP acknowledges that "actions that create surface disturbances adversely affect the natural characteristics of these areas and the setting for experiences of solitude and primitive recreational activities. *Motorized uses in these areas detract from the opportunities for both solitude and primitive forms of recreation.*" *Id*. (emphasis added). Nevertheless, BLM proposes to designate 113 miles of ORV routes in identified non-WSA lands with wilderness characteristics, including areas BLM is purporting to manage with "emphasis on protection" of their wilderness characteristics. *See* PRMP at 4-239, -241, and Maps Fig. 26 and 33. Although BLM admits that the presence and noise of vehicles using routes in wilderness character areas "would reduce the opportunity of visitors to find solitude," it contends that limiting ORV use to designated routes "would confine disturbance to soils and vegetation caused by motor vehicle use to the existing 113 miles of routes and result in no additional degradation of the natural characteristics of the non-WSA lands with wilderness characteristics." *Id.* at 4-239.

If, in fact, BLM's statements were accurate, then any route, no matter the extent of vehicle use, would retain natural values and thus, and would not preclude an area from

being identified as non-WSA lands with wilderness character. Obviously, that is not the case. Vehicle use on routes leads to a visual impact on the "naturalness" of the area, which is described in the Wilderness Act as meaning affected primarily by the forces of nature and " . . . the imprint of man's work [is] substantially unnoticeable." 16 U.S.C. § 1131(c)(1). Designating routes in non-WSA lands with wilderness character will lead to increased use, which will lead to the routes becoming more noticeable and impacting the area's naturalness.

Clearly, not designating routes in wilderness character areas—especially the areas BLM proposes to manage "with emphasis on protection"—would minimize impacts from ORV use on wilderness characteristics, based on BLM's own acknowledgement that motorized uses impact opportunities for both solitude and primitive recreation. BLM must take a hard look and quantify the loss or the potential loss of naturalness due to the increased ORV use on these routes.

Although SUWA agrees with BLM's decision to prohibit cross-country travel in a 600-foot corridor along all designated routes (300 feet on either side) within the 106,178 acres of non-WSA areas to be managed with "emphasis on protection," SUWA questions BLM's decision to allow such unmitigated cross-country travel in the remaining 171,418 acres of non-WSA lands with wilderness character. The PRMP fails to analyze the impacts of this decision and how it complies with FLPMA's UUD requirement, or to show how this minimizes impacts from ORV use in the wilderness character areas.

The PRMP is ambiguous as to whether the development and/or improvement of an additional 800 miles of motorized trails would be allowed within the 106,178 acres of non-WSA lands with wilderness character that are being managed with an emphasis on protection, but it is clear that some of these newly constructed routes, which do not appear on any map in the PRMP, will be developed in the 171,418 acres of non-WSA lands with wilderness character that are not being managed to protect their wilderness values. *See id.* at 4-239 to -240, and 2-50. The PRMP states that such development would "create surface disturbance that would have direct, adverse impacts on the landscape and natural quality of the non-WSA lands with wilderness characteristics," that motorized trails would conflict with the primitive recreation, reduce opportunities for solitude, and detract from the natural characteristics of the area. *Id.* at 4-240 to -241. In addition, "[i]ndirect, long-term adverse impacts would be produced by soil erosion, trail widening, and unmanaged extension of the trail system by OHVs." *Id.* BLM must modify the PRMP to specifically exclude all non-WSA lands with wilderness characteristics from consideration for additional miles of ORV routes in order to protect these resources and comply with FLPMA's unnecessary and undue degradation requirement, and to minimize impacts to these wilderness resources from ORV use as required by BLM's ORV regulations.

The PRMP states that 400 miles of new non-motorized trails will be developed, many within non-WSA lands with wilderness characteristics that are being managed to protect wilderness characteristics, even though [d]evelopment of trails for mountain bikes would be in conflict with the primitive forms of recreation" and could impact the "visitor's

ability to find and experience solitude" in addition to creating surface disturbance that would "detract from the natural characteristics of the landscape." *Id.* at 4-239. BLM must modify the PRMP so that mountain bike trails would not be developed in non-WSA lands with wilderness characteristics in order to protect this wilderness value, especially since these lands make up such a small fraction of the VFO.

3. FLPMA's Unnecessary or Undue Degradation Standard Applies to Wilderness Character Lands

Finally, as noted in SUWA's DRMP comments, until the question of wilderness on BLM lands in Utah is settled by legislative means, BLM must, at a minimum, manage all areas with identified wilderness characteristics in a manner so as to prevent actions causing *unnecessary or undue degradation* to those wilderness characteristics. This management strategy should apply to both non-WSA lands identified as possessing wilderness characteristics by the BLM and non-WSA lands with wilderness characteristics included in wilderness proposals that have been introduced before Congress (i.e. America's Red Rock Wilderness Act). This type of management would include oil and gas development restrictions that would preclude surface disturbing activities (such as no surface occupancy stipulations)[66] and would preclude motorized route designations in areas with wilderness characteristics. Routes greatly impact the sense of naturalness within wilderness character areas, and designating routes for motorized use within these areas will have grievous effects on the wilderness character, unnecessarily and unduly damaging this resource. The PRMP also acknowledges that bicycle trails would be in conflict with wilderness characteristics. Thus, the PRMP must prohibit construction of bike trails in non-WSA lands with wilderness characteristics, to prevent causing unnecessary or undue degradation to the naturalness and other wilderness characteristics.

[66] The PRMP states that between 14% and 100% of non-WSA lands with wilderness character "would lose their wilderness characteristics due to the development of oil and gas resources" over the life of the plan. PRMP at 4-201 to -227.

XIV. Visual Resources

BLM is directed by federal statutes and BLM policies to protect visual resources. FLPMA directs BLM to prepare and maintain inventories of the visual values of all public lands, 43 U.S.C. § 1711(a), and manage public lands "in a manner that will protect the quality of . . . scenic . . . values," §1701(a)(8). NEPA further requires BLM to "assure for all Americans . . . aesthetically . . . pleasing surroundings." 42 U.S.C. § 4331(b)(2). BLM has interpreted these mandates as a "stewardship responsibility" to "protect visual values on public lands" by managing all BLM-administered lands "in a manner which will protect the quality of the scenic (visual) values." BLM, BLM Manual 8400 – Visual Resource Management .02, .06(A).

BLM utilizes visual resource inventories during the RMP process to establish management objectives, organized into four classes. These objectives are as binding as any other resource objectives contained in the RMP. *See Southern Utah Wilderness Alliance*, 144 IBLA 70, 84 (1998). BLM may not permit any actions that fail to comply with these objectives. *See* PRMP at 4-510 ("All surface-disturbing activities, regardless of alternative or management action, would be subject to the VRM Class objectives of the area within which the activity takes place.").

These statutory and regulatory responsibilities are especially important to the areas managed by the Vernal Field Office, which includes lands world famous for their scenic vistas. BLM should establish Visual Resource Management (VRM) objectives that limit surface disturbance within these special viewsheds.

All WSA lands and non-WSA lands managed for wilderness characteristics should be managed as Class I, and other non-WSA lands with wilderness characteristics, such as those contained in the proposed America's Red Rock Wilderness Act, should be managed as Class II. BLM guidelines for assigning VRM Inventory Classes clearly states that

> Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. This includes areas such as national wilderness areas, the wild section of national wild and scenic rivers, and other congressionally and administratively designated areas where decisions have been made to preserve a natural landscape.

BLM, BLM Manual 8410 – Visual Resource Inventory at V(A)(1).

Lands with popular and easily accessible vantage points should be managed for visual resources, such as VRM Class II, to "retain the existing character of the landscape," including clear provisions dealing with oil and gas development and other human disturbance. Indeed, the BLM guidelines for assigning VRM Classes include distance zones as one of the three factors considered when assigning VRM Classes. *Id.*

ACECs and other special management designations and prescriptions should be used to protect scenic landscapes and viewpoints within the resource area with stipulations

specifically addressing and managing human development impacts, including VRM Class I to "preserve the existing character of the landscape" or VRM Class II to "retain the existing character of the landscape" as appropriate. Without such classification assignments, the PRMP fails to protect the viewsheds in ACECs.

We commend BLM for designating Wilderness Study Areas as Class I and non-WSA lands managed for wilderness characteristics as Class II. PRMP at 4-520; Figure 29: Special Designations – Proposed RMP; Figure 39: Visual Resource Management - Proposed RMP. However, BLM failed to adequately protect the visual resources in ACECs, proposed Wild and Scenic River Suitable Segments, and other areas throughout the Field Office. Comparing Figure 39: Visual Resource Management – Proposed RMP and Figure 29: Special Designations – Proposed RMP reveals that only part of one ACEC—Browns Park ACEC— is designated as Class I and the remainder are designated as mostly Classes III and IV. For example, Nine Mile Canyon ACEC—which is an area currently attracting national attention due to ongoing threats to its fragile archeological resources—is designated partly as Class III and partly as Class IV. Because Classes III and IV allow significant disturbance, they are improper classifications for areas within ACECs. We agree with the comment submitted by Bill Walsh and Shirley Weathers that "Nine Mile Canyon in its entirety deserves a VRM class I." BLM Response to Comments, sorted by Commenter, Individuals, at 12. These Class III and IV designations conflict with the priorities articulated in BLM Manual H-8410-1 – Visual Resource Inventory, which explains that a "sensitivity" analysis is one of the three major factors considered when conducting a VRM Inventory, including whether the area is "of concern to local, State, or National groups" and whether it is subject to "[p]ublic controversy." BLM, BLM Manual H-8410-1 – Visual Resource Inventory at III(A)(3). While this Manual focuses on VRM Inventories rather than management classifications, the factors and priorities it emphasizes are instructive. As the Manual explains, "[m]anagement objectives for special areas such as . . . ACEC[s] frequently require special consideration for the protection of the visual values." *Id.* at III(A)(5).

Also contrary to the concerns addressed in BLM's Visual Resource Inventory Manual is the PRMP's designation of proposed Wild and Scenic River Suitable Segments as Class II. *See* Figure 29: Special Designations – Proposed RMP; Figure 39: Visual Resource Management – Proposed RMP. As discussed above, the BLM Manual clearly states that "Class I is assigned to those areas where a management decision has been made previously to maintain a natural landscape. This includes areas such as . . . the wild section of national wild and scenic rivers." *Id.* at V(A)(1). Wild and Scenic River Suitable Segments should be designated as VRM Class I.

Additionally, the PRMP provides only minimal protections for visual resources outside of Wilderness Study Areas and non-WSA lands managed for wilderness characteristics. In response to a comment, BLM asserted

> VRM Class I can be designated for other areas that are not national wilderness areas, wild and scenic river segments, and other congressionally and administratively designated areas. The language of

> H-8410-1 states that in areas where the natural landscape is to be maintained includes areas such as WSAs, wild and scenic rivers, etc. This does not eliminate other naturally scenic areas from designation as VRM I. The BLM can designate other areas as VRM I . . .

BLM Response to Comments, sorted by Commenter, Form Letters & Government, at 111. This assertion not only supports designating Wild and Scenic River Segments as Class I—which BLM failed to do in the Vernal PRMP—but also suggests that BLM can and should provide stronger protections than it has selected in the Proposed Alternative. As BLM explained in another response to a comment, VRM Classes I and II merely "mean that the BLM has to try harder to accommodate both the visual concerns as well as the valid existing rights." BLM Response to Comments, sorted by Commenter, Form Letters & Government, at 111–12. Given the unique, spectacular visual resources found in the Vernal Field Office, BLM has failed to adequately protect visual resources or explain why it has chosen against "trying harder" to protect such important resources.

Aside from Class designation decisions that fail to adequately protect visual resources, there are major deficiencies in how BLM conducted its analysis of visual resource management in the RMP process. First, BLM's analysis is plagued by incorrect assumptions. For example, the PRMP claims that the negative impacts to visual resources that will be caused by the modification and construction of the 800 miles of motorized trails authorized by the Proposed Alternative will be mitigated by "visual contrast rating analysis and conformance to the area's VRM Class objectives." PRMP at 4-524. This claim assumes that OHV trails will be subject to a deliberate consideration of VRM Class objectives. However, unlike projects such as the construction of energy development infrastructure, an individual OHV trail is not subject to a BLM permit process. OHV routes are often created and modified by many individual OHV users, without any awareness or consideration of the applicable VRM Class. The PRMP's assumption that the visual resource impacts of OHV routes will be mitigated is unfounded.

Second, the PMRP does not indicate when the visual resource inventory on which BLM's visual resource management decisions are based was conducted. The PRMP states that "[t]he entire VPA has been visually inventoried and classified according to the VRM classification system." PRMP at 3-124. But the PRMP fails to provide any information about when this inventory took place. In its response to comments, BLM explains that "[a]n interdisciplinary team reviewed the existing VRM inventory to identify proposed VRM objectives, Classes I – IV, and how they relate to the management objectives for each alternative." BLM Response to Comments, sorted by Commenter, Form Letters & Government, at 273–74. Again, BLM failed to indicate when the "existing inventory" was conducted.

BLM's omission about the date of the latest Visual Resources Inventory raises concerns about BLM's compliance with FLPMA and NEPA, and deprives the public of information necessary to fully understand BLM's VRM decisions. FLPMA requires BLM to maintain up-to-date inventories. Further, information about when the inventory

was conducted is important to inform the public about how the PRMP's visual resource management decisions relate to the current state of the Field Office's visual resources. If the inventory was old and outdated, then BLM's management decisions contained in the PRMP process could be based on an inaccurate assessment of visual resources.

Third, without providing the inventory itself to the public, it is impossible to understand the changes made by BLM's visual resource management decisions and whether they "[m]aintain or improve the scenic quality of the landscape," as mandated by the PRMP. *See* PRMP at 2-86. The State of Utah highlighted several problems raised by this omission in its comments to the Draft RMP:

> We are concerned about the apparent lack of an updated visual inventory. This ties in with the rationale for the "Sensitivity Level Analysis" required by BLM Manual Handbook H-8410-1.III.A. – Factors to Consider. Many of these factors change over time, and a simple rollover of an older inventory would not accurately reflect these adjustments. In addition, the lack of updated inventory information makes interpretation of the differences between the inventory and management classes impossible to determine.

BLM Response to Comments, sorted by Commenter, Form Letters & Government, at 59.

The most recent visual resource inventories for several BLM Field Offices, nationwide, date back to the 1970s. The Vernal Field Office must reveal in the PRMP process whether its inventory was also conducted several decades ago or whether it has been updated to reflect current, accurate conditions. Relying on an inventory conducted over three decades ago to make management decisions that will impact visual resources for the next several decades is arbitrary and capricious and violates FLPMA and NEPA. Much has changed since the 1970s. NEPA requires BLM to understand the consequences of the decisions it makes during the RMP process. BLM cannot possibly fully understand the consequences of its visual resource management decisions without knowing the current conditions of the Field Office's visual resources. If the inventory is outdated, BLM must conduct a new visual resources inventory to assess actual modern day conditions. Once BLM possesses such information, it can understand the real consequences of any future disturbance and can make new, informed visual resource management decisions.

BLM explained in response to a comment that "it is management's calculated decision based on FLPMA's policy to protect the scenic qualities as well as other resource issues which determine the amount of latitude they wish to manage for." BLM Response to Comments, sorted by Commenter, Form Letters & Government, at 275. Without information about the timeliness of the Visual Resource Inventory or details of how the visual resources were classified in the Inventory, the public cannot understand the BLM "management's calculated decision" or "the amount of latitude" contained in the RMP.

XV. Wildlife Resources and Habitat Fragmentation

A. BLM has failed to adequately address the issue of habitat fragmentation

The greatest risk to wildlife populations in the Vernal Field Office (VFO) is from habitat fragmentation, which many conservation groups identify as one of the chief causes of lack of population persistence, species rarity and extirpation in the West. Although BLM acknowledges the importance of protecting species habitat and establishes this as one of its management objectives, it does not take the necessary steps to ensure that the goal is met.

1. BLM must not only conduct a thorough analysis of the impacts of habitat fragmentation, but also use this information to adopt a management alternative that mitigates these impacts.

BLM states, "The RMP is at the landscape level, and therefore a more detailed review of individual species is out of the scope of analysis for this RMP." BLM Response to Comments on the Supplemental EIS, Sorted by Commenter at 208. However, in order to comply with the requirements of NEPA to conduct a thorough analysis of the direct, indirect and cumulative impacts of the management alternatives, BLM must thoroughly analyze the *specific impacts* of habitat fragmentation on affected species and provide a comparison of the management alternatives. Only by thoroughly analyzing reasonably foreseeable future impacts can BLM take protective measures to preserve habitat.

We reiterate our comments on the Draft RMP, and also incorporate the comments of wildlife expert Michael Wolfe, both of which include species-specific recommendations for protection of wildlife and habitat. Simply identifying impacts as probable or unavoidable is not sufficient for habitat fragmentation analysis. BLM must take steps to mitigate these impacts so as to ensure that species within the VFO have adequate habitat, including unfragmented tracts and corridors where necessary.

2. BLM should protect wildlife habitat and reduce fragmentation by managing more lands to protect wilderness characteristics.

BLM states that mitigation of habitat fragmentation is a project-specific decision and cannot be established at the programmatic level. PRMP, Response to comment GC117. However, broad-scale management prescriptions can be the best way to ensure that large tracts of important habitat remain intact.

VFO proposes to make available 93 percent of wilderness quality lands to ORV use, despite the fact that roads and ORV routes are widely recognized in the scientific community as having a range of direct, indirect, and cumulative effects on habitats and wildlife. Furthermore, 96 percent of all lands managed by VFO will be available to ORV use, and 90 percent will be open to oil and gas. This does not represent a balanced approach to land management, and does not fulfill FLPMA's multiple use mandate.

As evident from the comments provided by Michael Wolfe on the Supplemental EIS, there are far-reaching benefits to wildlife from the management of wilderness quality lands and the accompanying protections these lands receive from impacts from ORVs and oil and gas development. Unfortunately, it is apparent from the lack of such protections in the PRMP that BLM did not give the thorough consideration due to Professor Wolfe as an established expert in his field and his thoughtful comments based on sound science and expertise. We recommend BLM study Professor Wolfe's comments carefully and provide his recommendations with the deference and thorough response that they deserve under NEPA. The comments of Professor Wolfe were also incorporated in SUWA's comments by reference, and, therefore, we have similar concerns with the PRMP as those detailed in Professor Wolfe's protest, as well.

The Proposed RMP differs from Alternative E in its approach to management of non-WSA lands with wilderness characteristics not only in the amount of acreage managed for wilderness characteristics, but also in the management prescriptions for those lands. In addition to managing more lands with wilderness characteristics to protect these values, BLM should also adopt the more rigorous management prescriptions set out in Alternative E, some of which are omitted from the Proposed RMP. Lands being managed to preserve their wilderness characteristics should be closed to ORV use and new road construction, and should be exclusion areas for ROWs, as opposed to avoidance areas. Allowing ORVs in areas managed for wilderness characteristics, even if they are limited to designated routes, greatly distresses wildlife and contributes to habitat destruction and fragmentation. In addition, these lands must be managed as VRM Class I, which BLM describes as intended to "preserve the existing character of the landscape" PRMP Appendix I at I-1. Only by adopting the management practices in Alternative E will BLM truly be able to carry out its stated goal of protecting, preserving, and maintaining the undeveloped character of these lands (PRMP at 2-39).

i. Requested Remedy

BLM must incorporate the results of its habitat fragmentation analyses into reconsideration of the selected management approach and mitigation measures in the Proposed RMP. The Proposed RMP should also include managing more lands outside of WSAs to protect wilderness characteristics, thereby improving habitat and reducing fragmentation. The management prescriptions for these lands should be those listed in Alternative E.

BLM should also reconsider the scientific recommendations of expert Michael Wolfe and provide an adequate and thorough response to Professor Wolfe's comments.

B. BLM has failed to utilize public comment and the best available scientific information

During scoping for the RMP, we presented several reasonable alternatives for proper management with respect to wildlife that were not given serious consideration, incorporated, or even referenced into this plan. *See generally* Comments of The Wilderness Society, et al., on the Draft RMP. Before issuing the record of decision,

BLM must seriously consider the proposed alternatives that we provided and either incorporate aspects of these alternatives to improve management of wildlife habitat or provide an adequate response as to why these alternatives were not given adequate consideration.

BLM is required under NEPA to consider and respond to comments that "present reasonable alternatives other than those analyzed in the EIS or EA." 40 C.F.R. § 1503.4. In addition, courts have required that a detailed environmental analysis must "utiliz[e] public comment and the best available scientific information." *Colorado Environmental Coalition v. Dombeck*, 185 F.3d 1162, 1171-72 (10th Cir. 1999) (citing *Robertson v. Methow Valley Citizens' Council*, 490 U.S. at 350); *Holy Cross Wilderness Fund v. Madigan*, 960 F.2d 1515, 1521-22 (10th Cir. 1992). BLM has not given our alternative, the *Heart of the West Conservation Plan* serious consideration, even though it is a reasonable approach to management and also incorporates the best available scientific information on rangeland health for the planning area.

As stated in the comments submitted by The Wilderness Society, Center for Native Ecosystems and Wild Utah Project on the Draft RMP (TWS Comments), the *Heart of the West Conservation Plan* provides a science-based spatial analysis of the relative importance of various wildlife habitat cores and linkages throughout the Heart of the West ecoregion, which includes lands in the Vernal Field Office. This plan contains vital information for considering the impacts and developing appropriate management for wildlife and their habitat.

Not only are impacts to the planning area discussed in *Heart of the West*, but the cumulative impacts to the entire ecoregion and potential solutions and mitigation of those impacts. Unfortunately, despite the BLM's direct mandate to consider such impacts as well as high-quality scientific data and alternatives provided by the public, the compelling findings of this plan were given short shrift. Nowhere in the PRMP is *Heart of the West* or its data even mentioned – it is only in response to comment section that BLM simply states, "BLM considered this document in preparation of the Draft and PRMP/FEIS." BLM Response to Comments, Sorted by Commenter at 1032. BLM can and must do better than this to utilize public comment and scientific data within this process as directed and intended by NEPA.

Professor Michael Wolfe also proposed that, if the agency was not adopting an alternative to maximize benefit to wildlife habitat by protecting all lands with wilderness characteristics, then BLM should assess the benefits of each individual area identified in the Supplement for wildlife. This approach would be consistent with establishing a baseline of resources and considering a reasonable range of alternatives, as mandated by NEPA, and inventorying the resources of the public lands and managing for multiple use, including wildlife habitat, as required by FLPMA.

Likewise, BLM should take a hard look at the alternative management practices we provided for livestock grazing. TWS Comments on the Draft RMP at 45. Our alternative had supported from both experience and scientific literature. Designed for the semi-arid

climates, this alternative specifically addresses a management approach for both lands that are at their potential (that meet rangeland standards and guidelines) and for lands that need to be restored. This PRMP does not report or indicate that BLM has analyzed either what the productivity for specific habitat locations and if that productivity has been impaired. Similarly, the PRMP fails to assess for locations within the planning area if the quality of the environment is impaired. Based on our site visits and knowledge of similar ecological sites, most of the VFO habitat is impaired. BLM must go back and take a hard look at our alternative under NEPA and provide adequate data for rangeland management that will not cause unnecessary or undue degradation under FLPMA.

The PRMP lists the amount of grazing to be allowed under this plan and the utilization standard to apply. PRMP at 2-5. BLM admits that this is based largely on adjudication completed nearly fifty years ago. There is no analysis in this plan that shows that this is consistent with (a) current carrying capacity of the land (2) will allow the recovery of lands that need it. This decision, unsupported by data and analysis, is arbitrary. The alternative set out in TWS Comments on the Draft RMP offered a step-by-step process that should be followed to determine the amount of grazing that can be conducted and still meet grazing standards. The PRMP offers no supporting evidence that the amount of grazing to be allowed is contingent on meeting rangeland health standards.

This PRMP proposes range management that differs from our recommendation in several ways. First the base assumptions made for range management are unsupported by current range science and especially inappropriate for lands where annual productivity from native plants is significantly impaired. A utilization standard of 50% is too high for these kinds of habitat even for lands at their ecological potential. BLM offers no scientific or field experience that substantiates their belief of the 50% utilization standard. For lands that are degraded, an even lower utilization level is required.

While the PRMP fails to provide this information, most rangelands in the Vernal planning area have seen significant loss of productivity and as a result have lost much of their resilience to stress. As result, this PRMP fails to offer planning guidance that will meet BLM's requirement of managing its rangelands to meet rangeland health standards.

1. Requested Remedy

BLM should seriously consider and provide adequate responses to the scientific and highly relevant information provided in the *Heart of the West Conservation Plan*. This plan not only provides the agency with a cumulative impact analysis of the ecoregion, but also provides reasonable alternative management practices that BLM can and should implement to provide true protection of the wildlife resources in the planning area. BLM should also assess the values of non-WSA lands with wilderness characteristics for wildlife habitat.

BLM should also consider equally the grazing practices previously submitted in our proposed alternative with the TWS Comments and make this the preferred alternative. Such practices include:

- Providing adequate information that an RMP must have in order to make a rational decision. This includes the current ecological condition of habitat relative based on its ecological site description. This also includes producing at the soil map unit scale, current and natural potential range productivity data. Rangeland health assessments as well as lentic and logic PFC assessments should also be presented in the context of range management on an allotment level. Historic grazing use and range projects for each allotment should be part of this information package.
- Based on the current productivity and quality of the environment, determining those lands (by use of a map) that are impaired and those that are not. For those that are impaired, apply our recommended grazing management guidelines in order to restore these lands.
- Analyzing the impacts of grazing at an appropriate scale. (e.g. soil map unit scale). Develop mitigation that will lead to all rangelands meeting range land health standards.

C. BLM has failed to respond to comments provided on the Draft RMP in violation of NEPA

The regulations implementing NEPA require that BLM respond to all substantive comments. 40 C.F.R. § 1503.4. BLM has failed to respond to several of our substantive comments provided for the Draft RMP. This is in violation of the law and must be remedied before the issuance of the record of decision.

The BLM states that one of our comments was "The assessment of grazing in the DEIS is deficient and must be improved." *See* BLM Response to Comments, sorted by Commenter, at 1014. The BLM responds by saying "Without specific identification of the perceived deficiencies, the BLM cannot address this comment." *Id*. However, the perceived "comment" was merely a subheading to a highly detailed section explicitly describing why the Draft RMP was deficient. BLM ignored many of these comments and recommendations. The following are substantive comments provided on the Draft RMP that BLM has not responded to in any way in clear violation of 40 C.F.R. § 1503.4:

- The use of the term "seral" when describing range conditions is in conflict with current range science, and, for this reason, this definition fails to meet current rangeland health requirements. The term "seral" reflects range theory that was refuted long ago. Should BLM decide to continue using this term to define range management, we ask that the BLM provide the scientific basis for using the seral plant community theory in range management. Comments on the Draft RMP at 49.
- We recommend that one of the key parts in the definition of range condition reflect forage plant productivity, measured as a percent of its potential. As such, we offer the alternate wording: "Range condition shall be classified as 'Poor' for 25% forage plant production relative to its potential, 'Fair' for forage plant production between 25-50% of its potential, 'Good" for 50% to 75% of its

potential, and excellent for 75% to 100% of potential." Comments on the Draft RMP at 49.

- On page F-5 of Appendix of the DEIS, quoting the *Standards for Rangeland Health and Guidelines for Grazing Management for BLM Lands in Utah*, it states: "On rangelands where a standard is not being met, and conditions are moving toward meeting the standard, grazing may be allowed to continue. On lands where a standard is not being met, conditions are not improving toward meeting the standard or other management objectives, and livestock grazing is deemed responsible, administrative action with regard to livestock will be taken by the Authorized Officer pursuant to CFR 4180.2(c)." Comments on the Draft RMP at 40-50.
- The term "other management objectives" needs to be precisely described for each allotment in this land use plan. Should these not be provided, we recommend that the words "or other management objectives" be deleted from the above statement. Also, as clearly required by the Standards and Guidelines, this standard must be applied to all allotments. Please note that these guidelines were prepared without independent scientific or public review and should be open to comment and revision as they are applied. Comments on the Draft RMP at 50.
- The preferred alternative (Alternative A) would fail to meet agency requirements and lead to a continued impairment of the productivity and health of the land. Table 2.5 outlines many of these impacts, including for Alternative A:
    - "245,649 AUMS allotted with 30% riparian utilization would cause more adverse impacts to riparian resources than Alternative C."
    - "Riparian decisions would be the most beneficial under this alternative, with the lowest riparian utilization." As implied, many riparian areas will continue to fail to meet agency standards. The DEIS should include in this table if riparian areas will meet riparian health standards or not.
    - "30% forage utilization of riparian areas would adversely impact soils through loss of cover and trampling and subsequent sedimentation."
    - "245,649 AUMs allotted could result in short-term impacts that include loss of vegetative cover and biomass, and trampling, with long-term impacts such as reductions in plant productivity and regenerative ability and increases in weeks; through 50% upland vegetation utilization by livestock, and 30% riparian vegetation utilization would set limits on grazing impacts."

  However, these limits will allow permanent impairment of the productivity and health of the land. Comments on the Draft RMP at 50.
- The DEIS states that upland forage utilization will be limited to 50% for livestock in Alternative A. Riparian areas will allow 30% utilization by livestock. As stated earlier, such utilization levels are not supported by scientific research and, in fact, are in conflict with a broad number of studies in range management science and ecology. The DEIS should provide the specific studies and on the ground validations studies that support these utilization numbers. Comments on the Draft RMP at 50.

- As part of this analysis, the DEIS should provide a map showing those rangelands that today meet rangeland health standards and those that do not. Comments on the Draft RMP at 51.
- We recommend that the DEIS describe the methods used to determine that "resource production is moderate to high." (Category M). Define these terms and present the data used to determine current range productivity. For Category I, describe which allotments have low forage productivity, which have resource conflicts (and what those conflicts are), and which have both low productivity and resource conflicts. Explain how these category criteria are consistent with Rangeland Health Standards. Describe and present the data and analysis used to assess resource production for each allotment, and present this information on a BLM website. Follow NRCS standards for assessing range condition based on forage production. Comments on the Draft RMP at 52.
- The DEIS seems to confuse the following terms: "authorized use" 3-34, "permitted use" 2-35 "active preference," "active use," "demanded use" 3-34, and "suspended use" 3-35. The confusing use of these various terms makes it extremely difficult to determine what analysis applies to which interpretation of each term, what decision the plan is making, and what changes are proposed. Does the environmental impact analysis apply to average actual use, permitted use, or active use? Will the grazing permit for an allotment be based on the AUMs described in Appendix L? If so which column will appear on the permit? Comments on the Draft RMP at 52.
- Page 3-36 describes grazing management categories. This description makes it unclear whether these categories are based on the rangeland health standards or not. We argue that they should and this section of the DEIS clearly state so. This category classification uses mixed conditions some ecological some social (land ownership patterns). We recommend that these just be based on ecological condition and not confuse management. Category C should be clarified that such habitat is classified because current and potential vegetation production is low.

  Should BLM not make these changes, we ask that the categories given to each allotment (Appendix L) include the specific reasons supporting this determination. Comments on the Draft RMP at 53.
- The DEIS fails to present any information on the condition, rangeland health status, or productivity of rangelands.
  Chapter 3 is perhaps the best place for this. We recommend that, for each allotment, BLM use GIS to provide a map that displays current data on range condition and RHS assessments to show that the plan's decisions are consistent with the data. The DEIS should report by allotment rangeland health assessments for each allotment. Comments on the Draft RMP at 53.

In addition to these comments, there were many other instances in the PRMP where the BLM did not respond as required under 40 C.F.R. §1503.4. For instance, in response to a comment recommending that stocking numbers be reduced to a level that can be supplied by 25 percent of the forage grown during a drought, the BLM directed us to simply "see comment response LG195." BLM Response to Comments, Comments, sorted by

Commenter, at 1015. Unfortunately, this very response was LG195. BLM must correct this mistake.

For many of our substantive comments, the response was simply "comment noted." This is not one of the five options provided for responding to comments in 40 C.F.R. § 1503.4. BLM must respond to each of these comments by one of the following means:

> 6. Modify alternatives including the proposed action.
> 7. Develop and evaluate alternatives not previously given serious consideration by the agency.
> 8. Supplement, improve, or modify its analyses.
> 9. Make factual corrections.
> 10. Explain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position and, if appropriate, indicate those circumstances which would trigger agency reappraisal or further response.

40 C.F.R. § 1503.4(a).

1. Requested Remedy

BLM must correct its oversights in responding to our comments and must respond to each of our substantive comments pursuant to 40 C.F.R. § 1503.4.

XVI. Special Status Species

1. The PRMP Fails to Meet BLM's Endangered Species Act Obligations

Throughout the response to comments, BLM reveals that it fails to grasp and meet its Endangered Species Act obligations. For example, response LR21 states, "All leases granted after the establishment of the ESA, CWA, CAA, and other federal legislation are subject to the requirements of these laws and regulations." However, these laws actually apply to all leases regardless of their date of issue. The Endangered Species Act trumps existing rights. BLM's flawed interpretation of the Act's reach may have resulted in the agency's failure to impose necessary restrictions like No Surface Occupancy stipulations throughout the range of a listed species because BLM mistakenly assumed that these could only affect more recent leases.

In response SS47 BLM asserts that it must balance the requirements of FLPMA and the Endangered Species Act, and suggests that endangered species conservation must accommodate resource extraction: the agency is "trying to resolve resource conflict (TES species vs. oil and gas development)." Again, BLM fails to understand that endangered species must be conserved, and that in their habitats oil and gas development must be modified so that jeopardy and adverse modification of critical habitat do not occur, and the agency does not contribute to the need to list other species under the Act through its oil and gas program.

A striking example of BLM's cavalier approach to its Endangered Species Act obligations is its response to our comment O-38 which BLM summarized in part:

> the BLM admits later that at least Alternative B won't just fail to recover the species, it would place Bookcliffs soil endemics at substantial risk and potentially result in jeopardy to listed species and/or the listing of previously candidate or sensitive species as T or E (4-243), and even Alt C would maintain the current condition that is one of continued risk for endemics (4-244).

In response, rather than justifying how the plan would comply with the Act, BLM simply replied, "Comment noted" (response SS45), with no change to the PRMP.

In response SS44, BLM again acknowledges that it is aware that the PRMP may result in the extirpation or extinction of some species: "The RMP states that there will be a potential for a loss of some habitat and individual species cumulatively for all activities." This is completely unacceptable.

In the response to comments on the Supplement, BLM repeatedly punts to the U.S. Fish and Wildlife Service, claiming that deficiencies in proposed management of imperiled species will be addressed later because the agency is required to consult with the Service before the ROD is issued. The fact that BLM chose not to fix these shortcomings itself, even after public comments pointed them out, confirms that the agency cannot be trusted

to self-consult. Many of these comments involved species that the Service is now reviewing for protection or that have been found to warrant additional protection, so the Service may not yet have authority to require the needed changes. By failing to voluntarily improve management for these species, BLM is contributing to their at-risk status and thus their need for additional protection under the Act.

Table 2.1.7 still allows for the disposal of habitat for species listed under the Endangered Species Act, but this is contrary to the BLM Manual; therefore, this exception must be removed.

2. The PRMP Fails to Comply with NEPA

The PRMP/FEIS fails to take a "hard look" at many of the issues raised by the public with regard to . A quick scan of the response to comments reveals that very little was altered between the DEIS and FEIS, and BLM routinely responded with a simple "Comment noted" rather than actually considering the comment. The PRMP remains extremely vague and defers most management decisions to some later date; therefore, it is impossible to determine whether mitigations are likely to be effective.

For example, consider Supplement comment 174-14:

> It is unclear what protection from oil and gas drilling the BLM intends to provide in the Coyote Basin ACEC. The Supplement states (at both p. 2-13 and p. 4-82) that: "This area would be subject to standard lease terms, and managed with timing and controlled surface use or NSO for oil and gas leasing." This is an extremely broad range of options and does not provide any actual commitments to protective management for this alternative. The BLM must clearly identify which stipulations it will apply and what level of surface disturbance will be permitted under each alternative.

BLM's response acknowledges that no decision about what lease terms would be appropriate has been made, and that the agency has not actually analyzed what management would be necessary to conserve the values of the potential ACEC:

> The BLM has Identified a wide range of alternatives, contained within that range of alternatives are the options for management to choose from while formulating a site specific Activity Level plan for the Coyote Basin ACEC.
>
> Should the ACEC be designated the management tools chosen would have to be sufficient to protect the Relevance and Importance criteria identified for the ACEC and is not specifically based on surface disturbance.

In many cases the responses to comments refer back to sections of the PRMP that either do not exist or are not germane. For example, response SS49 states, "Information concerning the taxonomic changes to Sclerocactus glaucus has been addressed in Section

4.15.2.3.1.1 of the PRMP/FEIS." No such section exists, and we found no discussion of this taxonomic change. SS61 states, "Section 4.14.1.3.2 in the PRMP/FEIS describes the range of protection measures for the white-tailed prairie dog." Again, there is no such section. Response SS63 directs the reader to what is actually a section on soils and water instead of impacts to black-footed ferrets as the response claims. In response to our concerns about lack of analysis of impacts of grazing on sage-grouse, response SS65 points to a section again that is instead about impacts to soils and water.

Perhaps some of these issues are indeed addressed, but BLM has made it extremely difficult to locate this information, if it does exist.

3. BLM Fails to Provide Adequate Management for Graham's Penstemon and Pariette Cactus

BLM still has not acknowledged the nominations for ACECs we have submitted for Graham's penstemon and Pariette cactus. Response to comment 174-7-ACE just points back to Appendix G which makes no mention of these nominations. The BLM Manual requires that ACEC nominations be evaluated for relevance and importance criteria and there is no evidence that BLM has done this for these nominations. BLM therefore is in violation of its own Manual as well as FLPMA's requirement to give priority to the designation and protection of ACECs in the planning process.

We have obtained numerous emails through the Freedom of Information Act indicating that BLM staff believe that No Surface Occupancy stipulations for Graham's penstemon are not only appropriate but necessary, and that these should be included in the Vernal RMP revision. The agency's failure to take this action is arbitrary and capricious and fails to consider the best available science. BLM is contributing to the need to list the penstemon under the Endangered Species Act by failing to make use of its own regulatory mechanisms that could provide substantial benefits to the penstemon.

Similarly, we understand that the Service and BLM are still trying to find a way to provide No Surface Occupancy protections to Pariette cactus, albeit through Conditions of Approval for APDs rather than through the RMP revision. However, conservation of listed cacti in the Field Office must be incorporated in the RMP revision. BLM needs to adopt NSO stipulations for occupied and potential habitat for Pariette and Uinta Basin hookless cactus because the APD by APD approach fails to conserve habitat or minimize habitat fragmentation, and does not allow for the consideration of cumulative and indirect effects. NSO stipulations, No Ground Disturbance restrictions, and Right of Way exclusions would also help protect against disturbance from sources besides wells like pipelines and roads.

In the response to comments, BLM points to the Graham's penstemon Conservation Agreement and the Conservation Plan for Uinta Basin endemics written by Sylvia Torti to document that adequate management has been provided for these species. However, the Conservation Agreement mostly focuses on inventory and monitoring, and the Plan

makes no commitment to actual conservation actions. The RMP revision is the place to actually change penstemon and cactus management for the better.

4. BLM Fails to Use the Best Available Science

In response to comment 174-10 to the Supplement, BLM attempts to defend its failure to incorporate **any** of the recent literature regarding impacts of oil and gas drilling on sage-grouse by stating:

> By using the BLM's library in Denver, staff have access to the most recent peer-reviewed literature. There is a great amount of data available that presents the best scientific information concerning impacts on wildlife. Although the BLM may not have used the specific article listed by the commenter in development of the SRMP/SEIS, the BLM appreciates the commenter supplying the recommended articles. The BLM will review and use them as needed in the development of NEPA analysis.

The BLM then notes that the PRMP has **not** been altered in response to this comment.

Evidently although staff have access to the literature, they are not using it. At this point the Holloran study is three years old, and the BLM's failure to consider its results or any of the work by Naugle or his coauthors must be considered deliberately turning a blind eye to the whole body of literature documenting that BLM's approach to mitigating the impacts of oil and gas development on sage-grouse has been a complete failure.

The PRMP's sage-grouse management is clearly not based on the best available science.