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March 11, 2014

Ms. Christina Stark  
Bureau of Land Management, Grand Junction Field  
2815 H Road  
Grand Junction, CO 81506  
Via Email: BLM\_CO\_GJ\_Public\_Comments@blm.gov

**Re: Scoping Comments of Conservation Colorado et al. on the Book Cliffs Coal Lease by Application**

Dear Ms. Stark:

On behalf of Conservation Colorado, Sierra Club, Western Colorado Congress, Rocky Mountain Wild, The Wilderness Society, Natural Resources Defense Council, the Center for Biological Diversity, and WildEarth Guardians, Earthjustice submits these comments on scoping for the Book Cliffs Coal Lease by Application (“Book Cliffs LBA”). Thank you for this opportunity to comment.

We appreciate that BLM recognizes that the Book Cliffs LBA proposal is a “major federal action,” one deserving the rigorous “hard look” the National Environmental Policy Act (“NEPA”) requires. As BLM apparently recognizes in its scoping notice, it is reasonably foreseeable that leasing the Book Cliffs tract will lead to the construction and operation of a large new coal mine, with impacts on a variety of resources.

To address the likely construction of a new coal mine, we request that in developing the draft EIS that BLM pay particular attention to the following potential impacts.

- Wilderness lands. Approximately 5,200 acres proposed for future leasing underlie the Hunter Canyon Citizens Proposed Wilderness, an area proposed for wilderness designation by Colorado conservationists and recognized as Lands with Wilderness Characteristics by BLM. Much of the rest of the area overlaps lands with wilderness characteristics inventoried and identified by conservationists. Underground coal mining within the Book Cliffs lease will require bulldozing access roads and drilling pads for methane degasification wells at scores of locations, thus potentially destroying the area’s wilderness character, as well as the natural character on thousands of acres of adjacent lands.
- Recreation. Coal mine facilities will likely be built in or near the face of the Book Cliffs, resulting in train and truck traffic, noise, and dust. Construction and operation of the mine could interfere with world-class mountain biking, as well as hunting, hiking, and motorized recreation opportunities in the area, by turning what is now a largely natural area into densely-roaded industrial landscape.

- Wildlife. Much of the area mined due to the lease includes important winter range for elk and mule deer, and habitat for golden eagles and peregrine falcons. Mining made possible by the lease could destroy or degrade this habitat. Mine construction could also harm water quality, thereby degrading habitat for imperiled Colorado River fish.
- Air pollution. Air pollution levels are rising in the Grand Valley; the area has experienced unhealthy days for particulate matter and is approaching violations for ozone. A coal mine in the Book Cliffs will worsen both particulate and ozone pollution. Mining will cause increased rail traffic, and raise emissions from equipment and from pollutants vented from the mine itself. Increased air pollution threatens public health and quality of life in the Grand Valley.
- Climate. Uncontrolled methane venting at the area leased could cause a 3% increase in Colorado's greenhouse gas emissions, or an amount equivalent to the annual carbon dioxide emissions of a new coal-fired power plant. Furthermore, the greenhouse gas emissions resulting from combustion of the leased coal could exceed 150 million tons over the life of the mine. At a time when climate change is becoming more evident with prolonged drought and reduced snowpack in Colorado, it makes no sense to use America's public lands to subsidize dirty energy.
- Coal exports. BLM must address the economic and environmental impacts of potentially exporting the coal that would be produced from the proposed lease. Rhino Resources, the parent company of CAM Colorado, the proponent of the proposed lease, has indicated an interest in increasing exports among its operations and other coal miners in the region are currently exporting coal. BLM must ascertain the extent to which coal from the lease will be exported and fully disclose the associated reasonably foreseeable economic and environmental impacts.

We also request that BLM analyze a range of reasonable alternatives and mitigation measures that will protect these values from damage.

However, because of the values at stake and the virtual certainty of significant, irreparable harm, we urge BLM to use its discretion to reject the Book Cliffs LBA, or to select the "no action" alternative.

As discussed in detail below, the Book Cliffs LBA proposal involves the same lands as those proposed for development as the Red Cliff coal mine, which BLM analyzed in a draft environmental impact statement (EIS) published in January 2009. Earthjustice, on behalf of Colorado Environmental Coalition, Sierra Club, WildEarth Guardians, the Center for Biological Diversity, Center for Native Ecosystems, The Wilderness Society, Western Colorado Congress, Western Organization of Resource Councils, submitted comments on that draft EIS on March 17, 2009. See Earthjustice letter (Mar. 17, 2009), attached as Ex. 1.<sup>1</sup> Earthjustice also submitted supplemental comments that spring. See Earthjustice letter (Apr. 29, 2009), attached as Ex. 2;

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<sup>1</sup> Exhibits attached to that March 17, 2009 letter are voluminous and already on file with BLM. We omit them here, but request that they be made a part of the administrative record for the Book Cliffs LBA.

Earthjustice letter (May 18, 2009), attached as Ex. 3; and Earthjustice letter (June 4, 2009), attached as Ex. 4, attached. These letters identify many of the issues BLM should address in any analysis of the Book Cliffs LBA. We therefore incorporate by reference those comments on the Red Cliff draft EIS, and will summarize and refer to those comments rather than reproduce them wholesale here.

**I. BLM MUST ADDRESS ALL COMMENTS ON THE RED CLIFF MINE DRAFT ENVIRONMENTAL IMPACT STATEMENT.**

The Book Cliffs LBA proposal grew out of and is interrelated to the Red Cliff Mine proposal. Rhino proposed the Book Cliffs LBA in 2012 after BLM concluded that the agency would undertake a revised draft EIS for the Red Cliff Mine proposal, and Rhino withdrew the Red Cliff proposal. See BLM PowerPoint, Book Cliffs Coal Lease by Application (Dec. 2012) (from BLM project files), attached as Ex. 5. Substantially the same public lands and mineral are proposed for leasing within the Book Cliffs proposed LBA (serial number COC 70538) as were within the proposed LBA proposed with the Red Cliff Mine which is identified by the same serial number (COC 70538). Compare Map, Book Cliffs Coal Lease By Application (from BLM website), attached as Ex. 6, and 79 Fed. Reg. 3243 (Jan. 17, 2014) with BLM, Red Cliff Draft EIS (Jan. 2009) at 1-1 and Figure 1-2. In fact, the boundaries of the two LBAs appear to be identical. Id.

Because the land to be leased and mined in the Red Cliff Mine proposal and that to be leased for the Book Cliffs LBA appear to be identical, we urge BLM to make use of the analysis prepared by the agency for the Red Cliff draft EIS in preparing any NEPA document for the Book Cliffs LBA.

But while the Red Cliff draft EIS contained much valuable information, it failed to address sufficiently key impacts, mitigation measures, and alternatives. Any subsequently prepared NEPA document for the Book Cliffs LBA must address and remedy deficiencies in the Red Cliff draft EIS identified by the public and other agencies. Specifically, we request that BLM, in preparing the Book Cliffs LBA, address and respond to the issues raised in the following comment letters on the Red Cliff Draft EIS:

- Earthjustice's letters of March 17, April 29, May 18, and June 4, 2009 (Exs. 1-4);
- the letter submitted by Thomas Remington, Director, Colorado Division of Wildlife on March 17, 2009 (attached as Ex. 7);
- the letter submitted by James Martin, Director, Colorado Department of Public Health and Environment, and Harris Sherman, Colorado Department of Natural Resources on March 17, 2009 (attached as Ex. 8);
- the letter submitted by Larry Svoboda of the Environmental Protection Agency on March 31, 2009 (attached as Ex. 9); and
- the letter submitted by Jeff Addison, Arch Coal Inc. on March 17, 2009 (attached as Ex. 10).

Public comments on the Red Cliff draft EIS are particularly relevant because those comments apparently led BLM to prepare new NEPA documentation, and were a factor in Rhino's decision to withdraw its Red Cliff proposal and instead submit the Book Cliffs LBA.

## **II. BLM MUST SET A SCOPE FOR THE DRAFT EIS THAT ADDRESSES THE IMPACTS OF COAL MINING, COAL MINE FACILITIES, COAL TRANSPORT, AND COAL COMBUSTION.**

NEPA mandates that an agency disclose all reasonably foreseeable impacts of a proposed action. 40 C.F.R. § 1502.22; Idaho Sporting Cong. v. Rittenhouse, 305 F.3d 957, 963 (9th Cir. 2002) (“NEPA regulations and caselaw require disclosure of all foreseeable direct and indirect impacts” of a proposed action.”). Further, as part of scoping, an agency must identify the “scope” of the action which “consists of the range of actions, alternatives, and impacts to be considered” in an EIS. 40 C.F.R. § 1508.25. Agencies must consider in one document “connected actions,” which include actions that “[a]re interdependent parts of a larger action and depend on the larger action for their justification.” Id. at (a)(1)(iii).

Here, BLM must address the foreseeable impacts of the coal lease which include, most importantly, coal mining. The purpose of leasing coal is to make it available for mining, so mining must be considered a foreseeable impact of leasing. BLM has apparently recognized this, because the agency's scoping notice states it has identified the following “preliminary issues: Air quality; water quality, supply and rights; wildlife and wildlife habitat; soils; recreation and visual resources; socio-economics; oil and gas development; paleontology; cultural resources; riparian habitat; livestock grazing; and transportation.” 79 Fed. Reg. 3244 (Jan. 17, 2014). See also BLM, Powerpoint, Scoping Meeting, February 25, 2014, attached as Ex. 11 (listing same issues and in addition listing “geology (subsidence).”<sup>2</sup>

Few impacts to any of these resources would likely occur if the lease were merely a paper transaction with no chance of leading to mining. At the point that a leasing decision is made, environmental impacts of mining are foreseeable and must be disclosed.

We appreciate that the BLM has stated that “[t]he EIS [will] analyze a *Reasonably Foreseeable Mine Operations and Surface Use Plan*, which would include assumptions such as: Longwall and room and pillar mining; Portals; Methane drainage wells; Access roads and buildings; Coal/waste storage piles; [and] Facilities to transport coal to market.” Id. We urge BLM to analyze these and additional foreseeable impacts of coal mining discussed below. The EIS's scope must be broad enough to encompass analysis and disclosure of numerous potential mining impacts, including the following:

*Mine Facilities.* First, BLM must include within the scope of its NEPA analysis the construction of mine facilities at at least two locations. It is reasonably foreseeable that if the LBA area is leased, coal will be mined there. And if coal is to be mined, facilities will be required to remove, prepare, clean, store, and transport the coal, and store waste rock. It is foreseeable that development and operation of these facilities will require

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<sup>2</sup> Conspicuously absent from this list are two resources likely to be significantly impacted by mining the LBA: wildlands and climate.

infrastructure, including numerous buildings and conveyors, as well as roads, electricity, and water. These facilities will occupy and eliminate habitat across hundreds of acres. BLM cannot decline to disclose these likely impacts because the agency does not have a specific, complete proposal in hand from a prospective leaseholder. BLM already knows the nature and scale of impacts such facilities can have because it attempted to disclose such impacts in the Red Cliff draft EIS. In addition, BLM already knows where and how Rhino would place mine portal facilities because of Rhino's prior proposal. Further, BLM understands that likely rival bidder Arch Coal proposed specific placement of mine portal facilities in its comments on the Red Cliff draft EIS. Arch stated: "Ark suggests areas potentially supporting competitive (economically equivalent to the CAM location) alternative portal access be included in the BLM's Preferred Alternative analysis. One such location is illustrated on the attached drawing." Letter of Jeff Addison, Arch Coal (Ex. 10) at 3. Arch explains that evaluating its alternate mine portal proposal will "shore-up environmental impacts evaluation." *Id.* For these reasons, BLM should include within the scope of its analysis the construction of mine portal facilities at least at: (1) the site Rhino proposed for the Red Cliff Mine; and (2) the site Arch proposed in its comments on the Red Cliff Mine.

*Mining on Adjacent Parcels.* BLM must include within the scope of its NEPA analysis the foreseeable impacts of mining on parcels adjacent to the Book Cliffs LBA. Rhino made clear in its Red Cliff Mine proposal that it sees the two adjacent parcels it has already leased – COC0125515 and COC0125515 – together with the Book Cliffs LBA as a single large area it hopes to mine. See Red Cliff draft EIS at Chapter 2; *id.* at Figure 2-8 (depicting "Initial Mine Plan"); Rhino website, <http://www.rhinolp.com/colorado.html> (last viewed Mar. 11, 2014) ("we currently control three nearby federal leases consisting of approximately 7,600 acres, two of which have the potential to support a future underground coal mining operation with procurement of an adjacent federal leasehold" (emphasis added)), attached as Ex. 12. The mine portal that Rhino proposed to construct to access the LBA parcel in 2009 did not directly access the LBA parcel but directly abutted coal lease COC0125516. See Red Cliff draft EIS at Figure 2-8. It is thus reasonably foreseeable that if Rhino wins the lease – one likely outcome given Rhino's nearly decade-long quest to establish a mine in the area and its repeated nomination of this parcel for lease – lands outside the LBA area will be mined.<sup>3</sup>

Arch has also expressed an interest in mining lands outside the proposed LBA area. See Addison letter (Ex. 10) at 4 (complaining that the LBA proposal as configured "sterilizes known coal reserves south and east of Coal Gulch"). In any subsequently prepared NEPA document, BLM must establish a reasonably foreseeable development scenario that discloses the potential for mining outside the LBA area.

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<sup>3</sup> It does not matter that Rhino has withdrawn its right-of-way application for the mining facilities. To our knowledge, the best information BLM has is that Rhino would choose to build its mine facilities in the area identified in the Red Cliff draft EIS. Further, NEPA does not require agencies to wait until they have full-blown, step-down proposals before they disclose reasonably foreseeable impacts.

Surface Impacts of Underground Mining. Because coal mining is a reasonably foreseeable impact of granting a private company the right to mine the LBA tract, the scope of any subsequently prepared NEPA document must include the impacts of coal mining within the LBA tract. Although the Book Cliffs LBA will certainly be mined through underground means, given the depth of the overburden, two types of surface impacts are certain to occur: subsidence, and construction associated with methane drainage wells.

As the Red Cliff draft EIS recognized, underground mining of the tract will cause subsidence. See, e.g., BLM, Red Cliff Draft EIS at Appendix D.<sup>4</sup> Due to the Book Cliffs' steep, erosive geology, subsidence may have significant effects. See also infra at 40-41.

In addition, numerous BLM and Forest Service NEPA analyses in the North Fork Valley have concluded that coal mining in the Mesa Verde coal formation releases methane in sufficient quantities to require the construction of methane drainage wells (MDWs) above the mine panels. As discussed below, the construction of MDWs at the Book Cliffs LBA area – also within the Mesa Verde formation – will likely require the bulldozing of dozens of half- to one-acre drilling pads per square mile, and the creation of a road network on roadless lands to access the drill sites. See infra at 17-18; Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 50-56.

For these reasons, BLM must include within the scope of its analysis the impacts to the surface of any mined land due to: (1) subsidence; and (2) the construction of roads and drill pads for MDWs.

Impacts of Coal Transport and Combustion. BLM should include within the scope of its analysis the impacts of coal transportation and coal combustion.

It is reasonably foreseeable that the coal sold in the LBA will be burned. We are unaware of any commercial use for federal coal besides combustion. Because burning the coal will have direct impacts on air quality and the release of climate change pollution, these impacts must be disclosed in any subsequently prepared NEPA document. Mining the 78 million tons of coal within the LBA will likely result in the release of more than 150 million tons of CO<sub>2</sub>, or more than all of the GHG emissions from anthropogenic sources in Colorado in a year. By contrast, keeping the coal in the ground will prevent those, or at least a portion of those, emissions from occurring. Federal agencies, including BLM, have included in EISs estimates of the CO<sub>2</sub> released from coal combustion due to coal leases. See, e.g., U.S. Forest Service, FEIS, Federal Coal Lease Modifications COC-1362 & COC-67232 (Aug. 2012) (“West Elk FEIS”) at 80, excerpts attached as Ex. 13.<sup>5</sup>

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<sup>4</sup> This is not to endorse the Draft EIS's analysis of subsidence as complete or accurate. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 95-96.

<sup>5</sup> The signatories to this letter do not endorse the mere disclosure of the quantity of CO<sub>2</sub> emissions as sufficient to disclose the climate change impacts of coal combustion, or otherwise endorse the sufficiency of the analysis in the cited EIS.

In addition, the coal will need to be transported to a remote destination for the coal combustion to occur. Coal transport – via trucks or rail – for hundreds and perhaps thousands of miles, will result in coal dust escaping train cars and being distributed over wide areas, including in streams, and will result in the combustion of diesel fuel (with attendant air pollution) to move the coal.<sup>6</sup> Coal may also be shipped overseas where more lax pollution standards will make pollution even worse than if the coal were burned in the U.S. Rhino Resources, the parent company of CAM Colorado, has indicated an interest in exporting coal from operations in the Illinois Basin coal producing region. See, e.g., Rhino Resources Press Release, “Rhino Resources Partners Announces Fourth Quarter 2013 Financial and Operating Results” (Feb. 27, 2014), available online at <http://online.wsj.com/article/PR-CO-20140227-908021.html> (last viewed Mar. 11, 2014). Furthermore, other producers, including Arch Coal, already export bituminous coal mined in western Colorado. See, e.g., Seeking Alpha, “Arch Coal Q4 2013 Results—Earnings Call Transcript” (Feb. 4, 2014) (Ex. 13A) at unnumbered page 3 (Arch Coal reports it exports 50% of the coal produced from the West Elk mine in Gunnison County). Given that Arch Coal in particular could be the successful bidder for the Book Cliffs lease, if it is ultimately approved, such impacts appear all the more reasonably foreseeable.

Thus, BLM should include within the scope of its analysis the impacts of coal combustion, coal transportation and coal export, all reasonably foreseeable impacts of approving this lease.

### **III. BLM MUST ANALYZE ALL REASONABLE ALTERNATIVES AND STIPULATIONS TO PROTECT THE AREA’S RESOURCES.**

NEPA requires agencies to “study, develop, and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternatives uses of available resources.” 42 U.S.C. § 4332(2)(E), (2)(C). Every EIS must “[r]igorously explore and objectively evaluate all reasonable alternatives.” 40 C.F.R. § 1502.14(a). The alternatives analysis is “the heart” of any environmental review. 40 C.F.R. § 1502.14.

Without substantive, comparative environmental impact information regarding other possible courses of action, the ability of an EIS to inform agency deliberation and facilitate public involvement would be greatly degraded. See Baltimore Gas & Elec. Co. v. Natural Res. Defense Council, 462 U.S. 87, 97 (1983). While NEPA “does not require agencies to analyze the environmental consequences of alternatives it has in good faith rejected as too remote, speculative, or impractical or ineffective,” it does require the development of “information sufficient to permit a reasoned choice of alternatives as far as environmental aspects are concerned.” Colorado Environmental Coalition v. Dombeck, 85 F.3d 1162, 1174 (10th Cir.

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<sup>6</sup> BLM may not argue that it is too complex to model impacts of coal dust on air quality since equations and models have been developed that do just that. See, e.g., Puget Sound Clear Air Agency, The Kent, Seattle, and Tacoma, WA Second 10-year Limited Maintenance Plan for PM-10 (Nov. 4, 2013) at C-16, available at [http://www.ecy.wa.gov/programs/air/sips/pdfs/Seattle\\_Kent\\_Tacoma\\_Limited\\_Maintenance\\_Plan\\_for\\_PM10.pdf](http://www.ecy.wa.gov/programs/air/sips/pdfs/Seattle_Kent_Tacoma_Limited_Maintenance_Plan_for_PM10.pdf) (last viewed Mar. 11, 2014).

1999) (quotations and alteration omitted). See also New Mexico ex rel. Richardson v. BLM, 565 F.3d at 708.

Further, BLM guidance requires that “[i]n an EIS, all relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the agency.” BLM NEPA Handbook H-1790-1 (2008) at Sec. 6.8.4 (quotations and citations omitted). BLM’s duty to address mitigation is further bolstered by regulations governing leases by application, which require that the applicant provide to BLM a “description of the proposed measures to be taken to control or prevent fire and to mitigate or prevent soil erosion, pollution of surface and ground water, damage to fish and wildlife or other natural resources, air and noise pollution, adverse impacts to the social and infrastructure systems of local communities, and hazards to public health and safety; reclaim the surface; and meet other applicable laws and regulations.” 43 C.F.R. § 3425.1-7(b)(v).

In any NEPA document prepared for the Book Cliffs LBA proposal, BLM should consider and analyze in full the following alternatives/mitigation measures:

- the “no action” or no leasing alternative. Consideration of this alternative – to establish a baseline – is required by law. See 40 C.F.R. § 1502.14(d). This is also reasonable alternative for BLM to adopt, and indeed is the environmentally preferable alternative given the impacts a coal mine in this area will cause. BLM has the authority to reject this lease by application “for environmental or other ... reasons” if the lease “would be contrary to the public interest.” 43 C.F.R. § 3425.1-8(a).
- at least one action alternative that protects citizen-inventoried wilderness-character lands. BLM could achieve this goal by analyzing in full an alternative that:  
(1) removes from the LBA all citizen-inventoried wilderness-character lands; and/or  
(2) includes non-waivable no surface occupancy stipulations for all citizen-inventoried wilderness-character lands. The potential for coal mining in the LBA to degrade wilderness character lands is described below and in prior comment letters on the Red Cliff Mine. See infra at 33-36; Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 83-87). Further, BLM has authority to consider and adopt alternatives that reduce the area proposed for lease. See 43 C.F.R. § 3425.1-9 (“The authorized officer may add or delete lands from an area covered by an application for any reason he/she determines to be in the public interest.” (emphasis added)).<sup>7</sup>
- at least one action alternative that protects lands BLM has found to have wilderness characteristics. BLM could achieve this goal by analyzing in full an alternative that:  
(1) removes from the LBA all BLM-identified “lands with wilderness character”

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<sup>7</sup> We note that courts have overturned BLM decisions where the agency failed to fully analyze a “no surface occupancy” alternative. See, e.g., The Wilderness Society v. Wisely, 524 F. Supp. 2d 1285, 1311-12 (D. Colo. 2007) (finding that a decision to lease a wilderness-quality area for oil and gas development violated NEPA because BLM failed to consider an alternative that would have imposed no surface occupancy stipulations requiring that all drilling occur from outside the area’s boundaries).



(LWCs); and/or (2) includes no surface occupancy stipulations for all BLM-identified LWCs. See id.

- at least one action alternative that offsets the impacts of allowing road construction and other surface disturbance on wilderness character lands by enhancing protection for wildlands in the region. We suggest BLM consider utilizing its interim regional mitigation guidance in offsetting potential impacts to lands with wilderness characteristics from issuing a coal lease in this area. This type of alternative should only be evaluated once the RMP revision is completed and management of lands with wilderness characteristics in the Grand Junction Field Office has been determined. If BLM defers this EIS until that point and then resumes evaluating a coal lease for the same area at that time, impacts to lands with wilderness characteristics would be unavoidable due to the entire lease area overlapping proposed lands with wilderness characteristics (LWCs). In that case, regional mitigation may be an appropriate consideration for this lease.<sup>8</sup>
- at least one action alternative that significantly reduces the climate change impacts of methane emissions caused by mining the LBA. BLM could achieve this goal by analyzing in full an alternative that: (1) requires the lease-holder to use best available technology to capture and/or combust the vast majority of methane to be emitted from the mine; and/or (2) requires the lease-holder to use best available technology to capture and/or combust a set amount (e.g., 33%, or 50%) of methane to be emitted from the mine. While BLM has previously predicted that for coal mining in the LBA

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<sup>8</sup> Instruction Memorandum 2013-142 issues a change in BLM's approach to mitigation in which the agency formally states that it can condition approval of uses on sufficient off-site mitigation and provides detailed standards for designing appropriate mitigation. BLM will implement mitigation through overarching regional mitigation strategies (which will be aimed at a landscape level vision), regional mitigation planning (to incorporate into plans), and mitigation implementation (where requirements are incorporated into project approvals). By looking at a landscape approach to design effective mitigation and ensure mitigation benefits other resources, including lasting as long as those other resources are affected, BLM can develop a more strategic and successful approach to incorporating compensatory mitigation into land management.

By way of example, the McCoy Solar Project was approved to be constructed on approximately 4,600 acres of public lands in the California Desert Conservation Area. The EIS for the project found that it would damage approximately 1,089 acres that BLM had identified as having wilderness characteristics and proposed a general approach to mitigation. The record of decision incorporated more specific requirements for removal and restoration of unauthorized vehicle routes, conversion of routes into a hiking trail, and installation of vehicle barriers and signing along wilderness boundaries in designated wilderness areas near the project, and set a timeline for completion. These efforts were consistent with BLM's Solar PEIS, which defines a suite of potential mitigation measures for impacts to lands with wilderness characteristics, including acquisition, restoration, management of adjacent lands, and contribution to a "mitigation bank."

The undersigned prefer avoiding damage to lands with wilderness characteristics, but where impacts cannot be avoided, BLM should require mitigation.

will cause huge amounts of methane pollution, and such pollution will worsen climate change, technology in use today abroad and in the United States could reduce or virtually eliminate such emissions. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 42-48).<sup>9</sup>

- at least one action alternative that offsets some or all of the climate change impacts of mining, and combusting the coal from, the LBA. BLM could achieve this goal by analyzing in full an alternative that: (1) includes as a mitigation measure a requirement that the lease-holder offset all of the carbon emissions caused by mine operations, coal transport, and coal combustion, thereby making the mine “carbon neutral;” (2) includes as a mitigation measure a requirement that the lease-holder offset a set amount (e.g., 33%, or 50%) of the carbon emissions caused by mine operations, coal transport, and coal combustion; (3) factors in the cost of greenhouse gas emissions and global warming when determining the fair market value of the coal to be leased; (4) includes as a mitigation measure a requirement that any coal mined from the lease modification can only be sold to those facilities using Integrated Gasification Combined Cycle (IGCC) technology or verified carbon capture and

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<sup>9</sup> Any EIS for the Book Cliffs coal lease should include alternatives to reduce the mine’s methane emissions not just because such controls are reasonable, but because the mine will likely be required to install methane pollution controls under the Clean Air Act’s Prevention of Significant Deterioration (PSD) program and the greenhouse gas Tailoring Rule. As a result, methane reduction measures at a Book Cliffs mine are not “too remote, speculative, or ... impractical or ineffective” for an alternatives analysis. WildEarth Guardians v. Nat’l Park Serv., 703 F.3d 1178, 1183 (10th Cir. 2013).

The Tailoring Rule requires new sources that emit, or have the potential to emit, 100,000 tons per year or more of carbon dioxide-equivalent (CO<sub>2</sub>e) to obtain a PSD permit prior to construction. See, e.g., 77 Fed. Reg. 14,226 (Mar. 8, 2012). This PSD permit must include Best Available Control Technology (BACT) pollution controls for methane and other greenhouse gases, reflecting the “maximum degree of reduction.” 42 U.S.C. §§ 7475(a)(4), 7479(3). The Book Cliffs coal lease will require a new mine to access the leased coal. Similar underground coal mines in Western Colorado accessing coal in the Mesa Verde formation emit methane in quantities far above 100,000 tons per year of CO<sub>2</sub>e. Specifically, in 2012 the Bowie mine emitted 278,000 tons CO<sub>2</sub>e of methane, the Elk Creek mine emitted 983,000 tons CO<sub>2</sub>e of methane, and West Elk mine emitted 775,000 tons CO<sub>2</sub>e of methane. See <http://ghgdata.epa.gov/ghgp/main.do> (last viewed Mar. 11, 2014) for Gunnison and Delta counties, Colorado. Consequently, the new Book Cliffs mine’s methane emissions will almost certainly trigger the Tailoring Rule’s threshold requiring PSD permits for greenhouse gases. This is particularly so given that BLM predicted that Red Cliff mine would emit 3.9 million tons CO<sub>2</sub>e per year of methane at full production. Red Cliff Mine Draft EIS at 4-72. When the State of Colorado issues the mine’s PSD permit and determines the “best available” controls for the mine’s methane pollution, it will likely consider the many well-established and proven methane controls, such as methane capture, methane flaring, and ventilation air methane combustion. Accordingly, the EIS for the Book Cliffs coal lease should analyze these reasonable methane controls, which have been successfully employed at similar coal mines throughout the world to reduce methane pollution.

storage (CCS) technology to significantly reduce the GHG emissions of downstream coal; (5) requires any coal mined from the lease modification to be combusted in the U.S., or in a country with environmental standards for coal combustion that are equal to or stronger than those in the United States. Numerous tools exist to reduce or offset the harmful effects of greenhouse gas pollution. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 42-48.

- an action alternative that requires the mine to be a “net zero” carbon emitter. This alternative would require the operator to secure offsets, reduce carbon emissions either on-site or off-site or take other measures to ensure that the impacts of coal mining, including the direct impacts and the impacts of coal combustion, produce a net of zero carbon emissions. We request that in developing and analyzing in detail this alternative, that BLM utilize the Interior Department’s guidance regarding offsetting the impacts of large development projects through the use of landscape-level planning, banking, in-lieu fee arrangements, or other possible measures, as called for by Secretarial Order No. 3330 issued on October 31, 2013.
- a “no surface occupancy” stipulation for slopes greater than 30%.
- a stipulation that will provide that livestock will be fenced out for one growing season after re-seeding and reclamation to assist in the re-establishment of vegetation.
- a “no surface occupancy” stipulation for winter range for elk and/or mule deer.

If BLM declines to analyze in detail any of these proposed alternatives and mitigation measures it must provide in the Draft EIS a reasonable basis for doing so. This is particularly true for the alternatives related to greenhouse gas pollution in light of Interior Department policy on climate change. That policy states that the Department is “taking the lead in protecting our country’s water, land [and] fish and wildlife ... from the dramatic effects of climate change ....” and “is responsible for helping protect the nation from the impacts of climate change.”<sup>10</sup> It is difficult to understand how the Department can fulfill its goal of “taking the lead” on climate change if it refuses to analyze alternative that could limit the climate impacts of facilitating a major new coal mine.

#### **IV. BLM MUST POSTPONE ANY DECISION ON THE BOOK CLIFFS LBA UNTIL THE REVISED GRAND JUNCTION RMP IS FINALIZED.**

The Book Cliffs LBA proposal is being considered concurrently with the revision of the Grand Junction Resource Management Plan (RMP), which is analyzing management alternatives for energy development and protection of natural resources across the entire field office. The RMP analysis includes various administrative designations for the lands included in the LBA boundary to protect wilderness characteristics and wildlife resources. Proceeding with the EIS at this time

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<sup>10</sup> Secretary’s Order No. 3289 (Sept. 14, 2009) at Sec. 1, available at <http://www.doi.gov/whatwedo/climate/cop15/upload/SecOrder3289.pdf> (last viewed Mar. 11, 2014).

therefore could preclude meaningful consideration of those alternatives in development of the RMP because issuing a coal lease for the area would foreclose BLM's ability to appropriately manage wilderness and wildlife values.

While all action alternatives under consideration in the Grand Junction Draft RMP would allocate the lands within the Book Cliffs LBA as suitable for coal leasing, suitability is not the only factor BLM must take into account in determining whether to issue a coal lease or under what conditions a lease and eventual project could move forward. BLM must also analyze the resources that may be affected and whether those impacts are allowable and can be justified under BLM's governing laws, regulations and policies. The RMP revision is evaluating more than coal leasing suitability for lands managed by the Grand Junction Field Office; it is also an avenue through which BLM gathers information and updates inventories of the resources of the public lands per FLPMA and makes management decisions that serve the public interest.

Moving forward with the Book Cliffs LBA would therefore undermine the ongoing RMP revision by foreclosing management alternatives that might otherwise protect the wilderness and wildlife values of the area in violation of NEPA, which provides that:

(a) Until an agency issues a record of decision as provided in Sec. 1505.2 (except as provided in paragraph (c) of this section), no action concerning the proposal shall be taken which would:

1. Have an adverse environmental impact; or
2. Limit the choice of reasonable alternatives.

....

(c) While work on a required program environmental impact statement is in progress and the action is not covered by an existing program statement, agencies shall not undertake in the interim any major Federal action covered by the program which may significantly affect the quality of the human environment unless such action:

1. Is justified independently of the program;
2. Is itself accompanied by an adequate environmental impact statement; and
3. Will not prejudice the ultimate decision on the program. Interim action prejudices the ultimate decision on the program when it tends to determine subsequent development or limit alternatives.

40 C.F.R. § 1506.1 (emphases added). While the agency has discretion in determining where this standard applies, in this context approving a coal lease will limit the choice of alternatives and prejudice the ultimate decision in the ongoing Grand Junction RMP revision. We recommend BLM abandon this EIS or select the no action alternative until the RMP revision is complete and the LBA EIS can be informed by updated resource information and management decisions.

## V. BLM MUST ADDRESS THE IMPACTS OF THE COAL LEASE AND MINE OPERATION ON GLOBAL CLIMATE CHANGE.

NEPA is our “basic national charter for the protection of the environment.” 40 C.F.R. § 1500.1. Congress passed NEPA in 1969, casting the statute as a landmark national effort to “encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man; to enrich the understanding of the ecological systems and natural resources important to the Nation.” 42 U.S.C. § 4321.

To accomplish these goals, federal agencies must assess the environmental impacts of their proposals before taking any action to implement them. The preparation of an Environmental Impact Statement (“EIS”) lies at the heart of NEPA, and must provide a “full and fair discussion” of impacts like greenhouse gas emissions and global warming implications, fully informing “decisionmakers and the public of the reasonable alternatives which would avoid or minimize” these impacts. 40 C.F.R. § 1502.1. The purpose of the NEPA review process is two-fold: “First, it places upon [the action] agency the obligation to consider every significant aspect of the environmental impact of a proposed action. Second, it ensures that the agency will inform the public that it has indeed considered environmental concerns in its decisionmaking process.” Kern v. United States Bureau of Land Management, 284 F.3d 1062, 1066 (9th Cir. 2002); see also Columbia Basin Protection Ass’n v. Schlesinger, 643 F.2d 585, 592 (9th Cir. 1981) (“the preparation of an EIS ensures that other officials, Congress and the public can evaluate the environmental consequences independently.”). In short, an EIS does not satisfy NEPA unless “its form, content, and preparation substantially (1) provide decision-makers with an environmental disclosure sufficiently detailed to aid in the substantive decision whether to proceed with the project in light of its environmental consequences, and (2) make available to the public, information of the proposed project’s environmental impacts and encourage participation in the development of that information.” Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974).

To comply with these mandates, any subsequently prepared NEPA document for the Book Cliffs LBA must adequately describe climate change as part of the environmental setting, and account for the direct, indirect and cumulative impacts to climate change of mining the LBA and combusting the coal from the lease.

Earthjustice’s March 17, 2009 comment letter on the Red Cliff Mine described how BLM’s draft EIS on that proposal failed to adequately address and disclose impacts of that proposal to climate change. Among other things, the Red Cliff draft EIS:

- failed to adequately address greenhouse gas emissions and climate change by:
  1. failing to adequately describe global warming as part of the environmental setting (Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 3-11);
  2. failing to adequately address climate tipping points (id. at 11-15);

- failed to take a hard look at the proposal's reasonably foreseeable environmental consequences to climate change by:
  1. failing to adequately explain all the proposal's direct and indirect impacts on GHG emissions and climate change (id. at 15-25); including
    - a. failing to disclose all of the projects climate change pollution, including black carbon emissions (id. at 16-18);
    - b. underestimating methane emissions (id. at 19);
    - c. failing to explain, and likely underestimating, the proposal's carbon dioxide emissions (id. at 19-21);
    - d. failing to address the end-use or life-cycle impacts of the proposal on climate and or other resources, including the impacts of coal combustion (id. at 21-24); and
    - e. failing to provide a quantitative analysis of the proposal's impact on GHG emissions and climate change (id. at 24-25).
  2. Failing to adequately assess and explain the proposal's cumulative impacts on GHG emissions and climate change, including relying upon a qualitative analysis that improperly understated the proposal's cumulative impacts to climate, and therefore its impacts to human health, socioeconomics, biodiversity, and water resources (id. at 26-42).

We request that BLM ensure that any EIS prepared for the Book Cliffs LBA fully address the LBA's potential to worsen climate change and that it not repeat the errors of the Red Cliff Mine draft EIS.

*BLM Should Use The Social Cost Of Carbon To Disclose And Compare Climate Change Impacts.* We further request that BLM use the Interagency Working Group's social cost of carbon as the most effective way to disclose the scale of climate impacts. Although scientists and agencies have a broad understanding of the global implications and impacts of climate change, estimating the impacts of a relatively small increase (or decrease) in greenhouse gas emissions is more difficult. Making such estimates requires some extrapolation and prediction. But federal agencies and economists have developed methods to do so. One such method evaluates the environmental, social, and economic harm wrought by the addition of greenhouse gases to the atmosphere from a particular project by estimating the "social cost" of the incremental carbon pollution. The social cost of carbon is an estimate of the dollar value of damages associated with an increase in carbon emissions in a given year. It is intended to include changes in net agricultural productivity, human health, property damages from increased flood risk, and the value of ecosystem services, all of which can be degraded due to climate change. Interagency Working Group on Social Cost of Carbon, Technical Support Document

(Feb. 2010) at 1, attached as Ex. 14.<sup>11</sup> As such, the social cost of carbon is not merely an estimate of financial costs, but a metric that includes the value of harms to the environment as well.

A dozen departments and agencies working together developed a protocol in 2010 for evaluating the social cost of carbon to effectively measure the costs and benefits of proposed regulations, as required by Executive Order 12866. *Id.* at 1-3. Because estimating the social cost of carbon requires predictions of complex systems, the interagency working group concluded that the best way to estimate that cost is to present a range of values. *Id.* at 1 (“main objective” of interagency cooperation in estimating social cost of carbon (SCC) “was to develop a range of SCC values using a defensible set of input assumptions grounded in the existing scientific and economic literatures. In this way, key uncertainties and model differences transparently and consistently inform the range of SCC estimates used in the rulemaking process.”).

The purpose of models estimating the social cost of carbon is to permit decisionmakers to address, and the public to understand, the broad benefits of reducing carbon emissions, or the costs of increasing emissions, in analyses of actions that may have small, or “marginal,” impacts on cumulative global emissions. Interagency Working Group, at 1. Legal commentators have concluded that, despite the difficulty inherent in making such predictions, estimating the social cost of carbon “allow[s] agencies to consider those GHG emissions that result from their actions in a meaningful way.” M. Squillace & A. Hood, NEPA, Climate Change, and Public Land Decision Making, 42 *Envtl. L.* 469, 510 (2012). “[A]ssigning a price to carbon emissions – even a conservative price – makes the cost of those emissions concrete for agency decision makers, and thus meaningful in the context of their decisions.” *Id.* at 517. The social cost of carbon, these commentators concluded, “seems to offer the best basis for estimating the climate-related costs associated with agency actions.” *Id.* at 516. The Office of Management and Budget recently noted that the protocol developed by the interagency working group “has been developed over many years, using the best science available, and with input from the public.”

At least one federal court has specifically set aside agency action because the agency failed to account for the social cost of carbon. *See, e.g., Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1200 (9th Cir. 2008) (agency cost-benefit analysis violated Energy Policy and Conservation Act where the agency assigned a monetary value of zero to the benefits of reduced greenhouse gas emissions). The Ninth Circuit, in weighing a challenge to a federal agency cost-benefit analysis of fuel economy regulations, noted that numerous studies – including one by the National Academy of Sciences – put a price on the value of CO<sub>2</sub> emissions reduced. *Id.* at 1199. The court found that while those studies identified a range of values, none assigned a value of \$0 per ton of CO<sub>2</sub> emissions reduced, the value implicitly chosen by the agency. *Id.* at 1200.

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<sup>11</sup> BLM should use the most up-to-date protocol for the social cost of carbon, which was revised in 2013. *See* [http://www.whitehouse.gov/sites/default/files/omb/inforeg/social\\_cost\\_of\\_carbon\\_for\\_ria\\_2013\\_update.pdf](http://www.whitehouse.gov/sites/default/files/omb/inforeg/social_cost_of_carbon_for_ria_2013_update.pdf) (last viewed Mar. 11, 2014).

In sum, the social cost of carbon is a useful tool to evaluate and compare the impacts of GHG pollution. To comply with NEPA, we urge BLM to disclose the social cost of carbon in any subsequently prepared environmental analysis.

*BLM Must Disclose The Market Impacts Of A New Source Of Coal.* BLM has an obligation under NEPA to disclose to the public and decisionmakers the climate impacts of its coal leasing decisions related to coal markets and coal combustion. BLM cannot simply assume that if it were to select the “no action” alternative, other coal mines would increase production to completely replace the Book Cliffs coal in the U.S. energy market. Nor can BLM assume that the overall level of GHG emissions from coal mining and burning would remain unchanged based on selection of proposed action vs. the no action alternative. The decision to authorize or reject the proposed Book Cliffs coal mine is not carbon neutral. Because the likely result of approving the project would be more coal mined, more coal burned, more carbon dioxide emitted, and more methane released into the atmosphere, the choice is not carbon neutral.

Mining the 78 million tons of coal in the proposed Book Cliffs lease area could result in release of more than 150 million tons of CO<sub>2</sub> when this coal is burned to generate electricity.<sup>12</sup> Because the lease will sell coal in the Mesa Verde formation, one of the gassiest coal formations in the country, the project would need to vent or flare methane during mining operations in order to ensure worker safety. Methane is a potent greenhouse gas. The Intergovernmental Panel on Climate Change’s Fifth Assessment Report, released in September 2013, estimates that methane has 34 times the global warming potential of CO<sub>2</sub> over a 100 year time frame and at least 86 times the global warming potential of CO<sub>2</sub> over a 20-year time frame.<sup>13</sup> In order to fully analyze the climate impacts of proposed coal mine, and give decisionmakers the information necessary to evaluate whether to approve the project, BLM must analyze and disclose all of these emissions, as well as the overall change in both CO<sub>2</sub> and methane that will result from a decision to approve the project.

The U.S. Supreme Court has called the disclosure of impacts the “key requirement of NEPA” and held that agencies must “consider and disclose the actual environmental effects” of a proposed project in a way that “brings those effects to bear on [an agency’s] decisions.” Baltimore Gas & Elec. Co. v. NRDC, 462 U.S. 87, 96 (1983). NEPA regulations require agencies to provide “a clear basis for choice among options by the decisionmaker and the public.” 40 C.F.R. § 1502.14. The only way for BLM to comply with these obligations is to fully evaluate the market response to the “no action” and action alternatives and present those findings to the public.

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<sup>12</sup> Federal agencies have disclosed the quantity of CO<sub>2</sub> emissions from coal combustion when analyzing a federal coal lease. See, e.g., U.S. Forest Service, FEIS, Federal Coal Lease Modifications COC-1362 & COC-67232 (Aug. 2012) at 80, excerpts attached as Ex. 13. The signatories to this letter do not endorse the mere disclosure of the quantity of CO<sub>2</sub> emissions as sufficient to disclose the climate change impacts of coal combustion, or otherwise endorse the sufficiency of the analysis in the cited EIS.

<sup>13</sup> Intergovernmental Panel on Climate Change (IPCC), Climate Change 2013, p. 714, available at <https://www.ipcc.ch/report/ar5/wg1/#.Uxs205zpiqY> (last viewed Mar. 11, 2014).



If BLM were to reject the proposed Book Cliffs lease, it is likely that some of the coal would be replaced on the U.S. energy market from other coal mines outside of Colorado increasing production. If this were to happen, the overall GHG emissions from mining and combustion would likely decrease because coal mines in other regions emit far less methane. Moreover, a reduction of 78 million tons of coal supply would likely cause an increase in coal price and a reduction in overall coal demand and coal consumption in the U.S. If this were to happen, and some other source of electricity generation such as natural gas, wind, solar, or geothermal were to increase its market share as a result of the “no action” alternative, overall GHG emissions from the U.S. electricity sector would decrease.

BLM cannot ignore these basic principles of economic supply and demand, nor the effect of these principles on overall GHG emissions. The Eighth Circuit has recognized, for instance, that approval of a rail line that would increase coal supply would similarly increase coal demand and long-term U.S. coal consumption. Mid States Coal. for Progress v. Surface Transp. Bd., 345 F.3d 520, 549 (8th Cir. 2003). The Eighth Circuit reasoned that the increased availability would make coal “a more attractive option to future entrants into the utilities market when compared with other potential fuel sources, such as nuclear power, solar power, or natural gas” and that increased availability of a cheaper and more plentiful supply of coal would “most assuredly affect the nation’s long-term demand for coal.” Id.

The Department of Energy has a computer model that could undertake precisely the kind of analysis that would be useful to decision-makers here. DOE’s Energy Information Administration (“EIA”) has a National Energy Modeling System (“NEMS”) that can be used to project future energy production, consumption, and price and can be used to predict project-specific results. Other models also exist that may be more appropriate to use. At least one federal court has recognized the value of using NEMS in order to give decision makers the necessary information to evaluate the impacts of a proposed project under NEPA. After the Eighth Circuit rejected the Surface Transportation Board’s (“STB’s”) market impact analysis and accompanying railroad decision in Mid States, on remand the STB used the NEMS model in order to forecast the effects of the proposed project on overall U.S. coal consumption. Mayo Found. v. Surface Transp. Bd., 472 F.3d 545, 555 (8th Cir. 2006). Unlike the approach of simply assuming that there would be no market impact, the Eighth Circuit held that this revised approach, and the market impact it documented, satisfied NEPA. Id. at 556. We urge BLM to take a lawful approach and disclose the market response to all action alternatives as well as no action.

## **VI. BLM MUST DISCLOSE THE IMPACTS OF METHANE DEGASIFICATION WELLS.**

The construction of road and drill pads for methane degasification wells (MDWs) is a reasonably foreseeable impact of the Book Cliffs LBA. The Red Cliff draft EIS recognized that mining coal within the LBA and on adjacent leases would likely require the construction of numerous MDWs. Red Cliff DEIS at 2-30 (“The Proposed Action is to vent methane using a ventilation fan and 2 to 3 methane wells per longwall panel”); 4-70. See also Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 50-52.

Because BLM can forecast that MDWs will be constructed, BLM can, as it has elsewhere in NEPA documents for leases, estimate the number, size and location of MDWs and the roads needed to access them. BLM therefore must disclose the potential impacts of road and drill pad construction for MDWs in any subsequently-prepared NEPA document. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 50-56. It is especially important that BLM analyze and disclose the likely impacts of road and drill pad construction within the LBA and adjacent leases because sensitive resources – proposed wilderness areas, big game winter range, sensitive plant habitat – are located there and will likely be significantly impacted by coal mining. See id. at 66-87.

BLM cannot fail to address the impacts of road and drill pad construction on the basis that there are “unknowns” surrounding the precise timing and location of such construction. BLM certainly understands the type of impacts and the general location of impacts from methane degasification wells, even if it does not know the precise location of each well pad. Further, BLM can predict now that hundreds of such well pads will be necessary; it knows their general concentration and location; and it can disclose the likely impacts given such assumptions. BLM needn’t know the precise location of each MDW down to the last inch to analyze and disclose the likely impacts of roads and well pads to soils, vegetation, wildlife, water quality, and the destruction of wilderness character. NEPA requires agencies to prepare their environmental analyses “at the earliest possible time,” 40 C.F.R. § 1501.2, and there is nothing in the statute or regulations to suggest an agency can turn a blind eye to an action’s potential impacts whenever a better analysis may be possible at a later date. See Kern v. United States Bureau of Land Management, 284 F.3d 1062 (9th Cir. 2002) (holding agency must engage in forecasting, and cannot defer to later site-specific analysis). BLM and the Forest Service have regularly purported to disclose the potential impacts of MDWs at the lease stage. See, e.g., West Elk FEIS (Ex. 13) at 54 (describing reasonably foreseeable mine plan). We do not endorse the sufficiency of such NEPA documents; we cite them to point out that the land management agencies in Colorado have regularly purported to analyze such impacts either by providing precise location data for likely roads and MDW pads or by developing a reasonably foreseeable mine plan that permits the agency to estimate MDW and road impacts over a broad area. BLM can do no less here.

## **VII. BLM MUST ADEQUATELY ANALYZE IMPACTS TO WILDLIFE AND ENDANGERED SPECIES.**

### **A. Threatened, Endangered and Sensitive Fish Species**

Mining the proposed Book Cliffs LBA may result in depletion of water or diminished water quality and thus adversely affect the four endangered Colorado River fish: the Boneytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), Humpback chub (*Gila ccypha*), and Razorback sucker (*Xyrauchen texanus*), and negative impacts on sensitive fish species, including, but not limited to flannelmouth sucker. BLM must provide a thorough analysis of the potential impacts of the proposed project on these fish species. In addition, given that the proposed project may result in depletion of water or diminish water quality in habitat for the four endangered Colorado River fish BLM must undergo USFWS consultation. See Section IX, below.

The Colorado River fish are natives of the Colorado River system and have been decreasing in numbers “due to decreased flow in the rivers, loss of suitable habitat, and diminished water quality likely resulting from human uses.” BLM, Red Cliff Coal Mine 2009 DEIS (Jan. 2009) at 3-137. The fish exist in the “portion of the Colorado River downstream from the proposed project,” which is designated as critical habitat for the four fish. Id. Additionally, the fish, “at times,” use Mack Wash and Salt Creek, which are located in the project area and will be directly degraded by the project. See id. The Biological Assessment provided to BLM and FWS by the project proponent for the proposed Red Cliff Coal Mine contains information that must be considered in in analysis of the impacts of the Book Cliffs Coal LBA.

As discussed in detail in our comments on the draft Red Cliff Coal Mine DEIS, BLM failed to provide an adequate NEPA analysis of the potential impacts of the proposed project on endangered and sensitive fish species, including both an adequate description of the status of and threats to the species, and an adequate analysis of the direct, indirect and cumulative impacts of the proposed project on these species. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 66-70. This analysis should include: 1) determination of the fish species and habitat present in streams and the Colorado River downstream from the project area, 2) accurate description of the current status of endangered and sensitive fish species that may be present downstream from the project area, 3) adequate information on recovery plans and other conservation plans for any such species, and 4) a thorough discussion of the potential direct, indirect and cumulative impacts of the proposed project on these species.

It is critical for the analysis of impacts of the proposed project to include adequate baseline data on fish species and habitat present in Colorado River and its tributaries downstream from the project area. BLM should obtain fish species occurrence data from the Colorado Parks and Wildlife Aquatic Data Management System. If that does not provide complete information on fish species occurrence in the streams downstream from the project area, then BLM should conduct additional fish species surveys in the relevant stream reaches. Flannelmouth sucker, roundtail chub and speckled dace and other sensitive fish species may all be present downstream of the proposed project, and flannelmouth sucker spawn in Mack Wash. BLM must consider the impacts of the proposed project on these sensitive species, as well as any other sensitive species present in the Colorado River and its tributaries downstream from the proposed project.

This analysis must include basic baseline data regarding water quantity and quality in the Colorado River and its tributaries, and baseline data regarding climate change, against which impacts of the proposed mine may be analyzed. Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level.<sup>14</sup> Continued and increased warming in the Colorado River Basin will very likely result in increased severity of future droughts, while demand for water also continues to increase.<sup>15</sup> The four endangered

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<sup>14</sup> See Ex. 55 (IPCC Working Group II (2007)) attached to Earthjustice letter (Mar. 17, 2009) (in BLM files).

<sup>15</sup> See Bureau of Reclamation, Colorado River Basin Water Supply and Demand Study Technical Report B – Water Supply Assessment (June 2011), available at

Colorado River fish (and other fish species) will be negatively impacted by climate change and a drying Colorado River. These factors are likely to increase the threats to the four endangered Colorado River fish species, and other sensitive fish species in the Basin. As BLM proposes facilitating coal mining that will lead to significant increases in GHG emissions, this baseline data, discussed above, must be included in the analysis of the impacts of the proposed Red Cliff coal mine. Further, BLM must provide a thorough analysis of the likely direct, indirect and cumulative effects of warming, Colorado River drying, and the proposed Red Cliff Coal mine on these species.

The proposed Mine's construction and production activities alone will impact the Colorado River and, thus, the four endangered Colorado River fish species and a large number of other sensitive fish species. The indirect and cumulative effects may prove more damaging, as population growth, energy development and energy demands continue to grow. So too will these activities contribute to depleting the Colorado River, thus acting synergistically and cumulatively with impacts from Mine development. All these activities, in addition to others, will act synergistically and cumulatively to increase GHG pollutants' concentrations in the earth's atmosphere, contributing further to the climate change's adverse impacts on the Colorado River's hydrological system and the species that depend on the River for survival.

Any subsequently prepared NEPA document must include this basic information, so that the environmental consequences of the proposed action may be meaningfully considered. Without establishing these baseline conditions, neither BLM nor the public can fully understand the environmental effects of the proposed action.

Water Depletion. BLM must provide a thorough analysis of the direct, indirect and cumulative impacts of water depletion on endangered and sensitive fish species in the Colorado River and its tributaries downstream from the project area. If the project proponent proposes to withdraw water from Mack Wash (or any other stream), BLM must detail the potential impacts on endangered and sensitive fish species. Withdrawal of water from Mack Wash and other streams could result in little or no flow in such streams during low flow periods. This could also occur due to other water diversions upstream from the proposed action. Water depletion, particularly during low flows, could impact TES fish species that inhabit Mack Wash, and other stream reaches downstream from the project area. BLM must detail the volume of water that will be withdrawn, the timing of water withdrawals, and the direct, indirect and cumulative impacts of water withdrawals. Analysis of impacts must include consideration of whether water depletion will result in changes in water temperature, changes in sediment supply and sediment deposition patterns, and concentration of contaminants. BLM must consider not only potential direct impacts on fish, but also potential impacts on spawning habitat and macro-invertebrate production. Further, BLM must provide an analysis of the likely effectiveness of any mitigation measures proposed to mitigate such impacts.

BLM's analysis must carefully consider whether diversion of water associated with the proposed project combined with other upstream water diversions may have cumulative impacts on

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<http://www.usbr.gov/lc/region/programs/crbstudy/Report1/TechRptB.pdf> (last viewed Mar. 11, 2014).

threatened, endangered or sensitive (“TES”) fish species. BLM must estimate the magnitude of depletions that may result from other diversions, and describe the potential negative effects that may result from cumulative depletions. If BLM does not estimate the magnitude of likely water depletions from past, present and reasonably foreseeable activities in the area, it will be impossible to gauge the potential cumulative impacts on fish species.

In addition, BLM must provide adequate analysis of the potential impacts of the proposed project on water quality and TES fish species. The proposed project may harm fish species due to introduction of sediment and other contaminants, particularly selenium, into waterways. BLM must provide a thorough analysis of the impacts. If BLM proposes mitigation measures to protect surface water and fisheries from increased sedimentation and runoff of selenium and other contaminants, BLM must also provide an analysis of the likely effectiveness of mitigation measures.

Selenium. The Red Cliff DEIS disclosed that the mining of the Book Cliffs LBA area may result in discharge of selenium to the Colorado River and tributaries. Selenium contamination of the Colorado River system may have been an important factor in the decline of the four endangered Colorado River fish species, and may be impeding the recovery of populations of these species at the current time. In addition, selenium contamination may be contributing to the ongoing decline of roundtail chub and flannelmouth sucker.

Selenium may have both acute and chronic toxicity to aquatic life. The acute aquatic toxicity benchmark for selenium set by the EPA is 20 ug/L, and the chronic aquatic toxicity benchmark for selenium set by EPA is 5.0 ug/L. Elevated selenium can be taken up not only directly from water by aquatic organisms, resulting in acute toxicity at relatively high concentrations, but also from food, and has a propensity to accumulate in the aquatic food chain, causing adverse effects on fish and waterfowl populations, including impaired reproduction, deformities, reduced survival and other problems.

Selenium contamination may have played a major role in the decline of the four Colorado River endangered fish species, and is currently adversely affecting these species and impeding their recovery throughout the Colorado River Basin.<sup>16</sup> In addition, laboratory studies of the effects of selenium on endangered razorback sucker revealed that selenium readily accumulated in adults and eggs, increased deformities in larvae, and that selenium laden food chains reduced larval survival. Selenium contamination has been demonstrated to result in fish kills, deformities, and reproductive failures in a large number of species. In addition, some studies have shown that a short pulse event can quickly load an aquatic environment with selenium, and that selenium could then be conserved in the ecosystem for long time periods.<sup>17</sup> Water depletion may increase problems with acute selenium toxicity by concentrating selenium in waterways.

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<sup>16</sup> S. Hamilton, Review of selenium toxicity in the aquatic food chain, Science of the Total Environment 326 (2004), attached as Ex. 121 to Earthjustice letter (Mar. 17, 2009) (in BLM files).

<sup>17</sup> P. Chapman, Selenium - A Potential Time Bomb or Just Another Contaminant, Human and Ecological Risk Assessment 5:6, 1123 - 1138 (1999), attached as Ex. 122 to Earthjustice letter (Mar. 17, 2009) (in BLM files).

Runoff of very small amounts of selenium could result in accumulation of selenium contaminated sediments in waterways over time, and cumulatively significant impacts on aquatic life through accumulation and bio-magnification in the food chain. BLM must analyze the potential negative impacts of selenium contamination from the proposed project on TES fish species.

## **B. White-Tailed Prairie Dog**

BLM must provide an adequate analysis of the direct, indirect and cumulative impacts of the proposed project on white-tailed prairie dogs.

A petition to list the white-tailed prairie dog as an endangered species was filed in 2002. FWS determined that the species did not warrant protection under the Endangered Species Act (ESA) in 2010. This finding is currently being challenged in court.

The white-tailed prairie dog is a BLM sensitive species. BLM should carefully consider the potential impacts of the proposed project on the white-tailed prairie dog.

The 2009 DEIS for the proposed Red Cliff Coal Mine indicated that 13 white-tailed prairie dog colonies were found within the project area for that mine. However, surveys done for the proposed Red Cliff Coal Mine were not conducted throughout the entire project area. BLM must survey the entire proposed project area and adjacent areas where prairie dog colonies could be impacted by indirect and cumulative impacts. For example, population decline or displacement of animals from prairie dog colonies within the project area could impact the population dynamics of colonies outside the project area through changing the rates of dispersal of animals between colonies. Thus it is essential that NEPA analysis for the proposed project provide information about prairie dog colonies both within and in the vicinity of the project area. In addition to providing information regarding the overall extent of white-tailed prairie dog colonies in and adjacent to the project area, BLM should provide information on the quality of these colonies relative to other colonies in the Grand Junction Field Office.

NEPA analysis of the proposed project should include a discussion of the current status of white-tailed prairie dogs and an overview the major threats to the species, both across their range and in the Grand Junction Field office. This information is essential to evaluation of the potential direct and indirect impacts of the proposed project, and to consideration of the potential cumulative within the context of both the overall status of the white-tailed prairie dog, and the factors that are contributing to the ongoing decline of the species across its range. Much of the relevant information can be found in the 2002 petition to list the white-tailed prairie dog as an endangered species, and in the 2006 White-tailed Prairie Dog Conservation Assessment prepared by the Western Association of Fish and Wildlife Agencies.<sup>18</sup>

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<sup>18</sup> Western Association of Fish and Wildlife Agencies, White-Tailed Prairie Dog Conservation Assessment (January 2006), attached as Ex. 123 to Earthjustice letter (Mar. 17, 2009) (in BLM files); Center for Native Ecosystems, *et al.*, ESA Petition to List the White-tailed Prairie Dog (July 11, 2002); attached as Ex. 124 to Earthjustice letter (Mar. 17, 2009) (in BLM files).

BLM must analyze the direct, indirect and cumulative impacts of the proposed project on white-tailed prairie dogs. The analysis should include discussion of direct habitat loss, reduction in usable habitat, and any direct mortality of prairie dogs that may result from the proposed project. In addition to these direct impacts, BLM must consider whether construction or improvement of roads associated with the proposed project will result in increased access to the area, increased recreational shooting of prairie dogs, increased noise, and increased illegal dumping in prairie dog colonies. BLM must also consider whether the proposed project will facilitate the spread of cheatgrass already in the project area, and/or increase the risk of fire, resulting in negative impacts to prairie dog habitat. Further, BLM should consider the potential impacts of any noise associated with the proposed project on prairie dog communication. Prairie dogs rely on communication, particularly to avoid predation. Increased noise can impact the ability of prairie dogs to communicate and thus avoid predators and engage in other important social behaviors. Finally, raptors may perch on structures associated with the proposed project, which could result in increased predation on prairie dogs. All of these potential direct, indirect and cumulative impacts of the proposed project on white-tailed prairie dogs must be disclosed, considered, and analyzed through the NEPA process for the proposed project. It is important to note that there is potential for these types of impacts to affect prairie dog colonies that are well outside of the project area.

Analysis of impacts to prairie dogs and other sensitive species must consider impacts of all reasonably foreseeable actions that are associated with the proposed project.

Finally, the analysis must provide a thorough discussion of the cumulative impacts of the proposed project and other past, present, and reasonably foreseeable future activities in the region on white-tailed prairie dogs. Vague, general discussion of the cumulative impacts of the proposed project on prairie dogs or wildlife in general will not be adequate.

Energy development in the Grand Junction Field Office and across the range of the white-tailed prairie dog is a major threat to the species and has contributed significantly to the species' ongoing decline. The Western Association of Fish and Wildlife Agency's conservation assessment for the white-tailed prairie dog states:

[Energy development] has the potential to rise to the level of a threat to the continued existence of the species, and therefore has the potential to justify listing under the ESA in the foreseeable future. Oil and gas exploration is occurring at a phenomenal rate on public lands. Since BLM manages 55% of the land in the WTPD [white-tailed prairie dog] predicted range, significant impacts are possible, primarily during development of oil and gas fields with close well spacing and associated roads. As previously stated in this Conservation Assessment, recent data from Colorado, Wyoming, and Utah indicate that WTPD complexes shift on a landscape scale, possibly in response to plague or other factors not currently identified. Therefore all suitable habitat within and adjacent to complexes must be protected from direct habitat loss on a landscape scale if expansion opportunities are to be retained. Current BLM policies do not adequately protect WTPDs during oil and gas development. With the increased amount of leasing and oil and gas development in the WTPD range (77% of the WTPD gross range in Wyoming has the

potential to be impacted by oil and gas development) this could lead to the need for listing the species under the ESA.” Revision of BLM Land Use Plans to control leasing and development in WTPD complexes to address prairie dog management needs and maximize habitat potential must be initiated on a state-by-state basis to prevent further, more drastic actions, including listing the WTPD under the ESA.<sup>19</sup>

The NEPA analysis for the proposed project must disclose how much white-tailed prairie dog habitat has been lost or fragmented as a result of past and ongoing energy development, and predict the amount of habitat in the Grand Junction Field Office that is likely to be lost or fragmented due to future energy development. Further, the analysis must provide a discussion of past, present and reasonably foreseeable activities other than energy development that may negatively impact the white-tailed prairie dog in the project area and in the Grand Junction Field office, including, but not limited to plague, off-road vehicle use, grazing, recreational prairie-dog shooting and road construction.

BLM must take a “hard look” at the cumulative impacts of the proposed project on white-tailed prairie dog populations. BLM must consider whether the proposed project together with the various past, present and reasonably foreseeable activities in the area, including energy development, are likely to result in significant cumulative impacts to white-tailed prairie dog populations.

BLM must also provide an analysis of the likely effectiveness of any mitigation measures that are proposed to mitigate potential negative impacts to prairie dogs identified through the NEPA process. BLM should consider mitigation measures to address each of the potential negative impacts of the proposed project. Such measures are discussed in the Colorado Division of Wildlife’s draft “Gunnison’s & White-tailed Prairie Dog Conservation Plan.”<sup>20</sup> BLM should consider the mitigation measures recommended in CDOW’s report.

### **C. Black-Footed Ferret Habitat**

BLM should carefully consider whether prairie dog colonies within and in the vicinity of the proposed project meet the criteria for potential future reintroduction of black-footed ferrets. BLM should also consider whether the colonies could meet the criteria for ferret reintroduction in the future if conservation measures were put in place to increase the size of the colonies and the density of prairie dogs present in the colonies (e.g. plague dusting etc.). This determination should be made for any colonies that will be impacted by any reasonably foreseeable action associated with the proposed project.

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<sup>19</sup> See Ex. 123 at 79 (Western Association of Fish and Wildlife Agencies (2006)) to Earthjustice letter (Mar. 17, 2009) (in BLM files).

<sup>20</sup> See Seglund, A.E. and P.M Schnurr, Colorado Gunnison’s and white-tailed prairie dog conservation strategy, Colorado Division of Wildlife (July 2010), available at [http://cpw.state.co.us/Documents/WildlifeSpecies/Mammals/PrairieDogConservationPlan/ColoradoGunnisonsandWhite-tailedPrairieDogConservationStrategy\\_070910.pdf](http://cpw.state.co.us/Documents/WildlifeSpecies/Mammals/PrairieDogConservationPlan/ColoradoGunnisonsandWhite-tailedPrairieDogConservationStrategy_070910.pdf) (last viewed Mar. 11, 2014).



If any of the colonies within the project area meet the requirements for black-footed ferret habitat, then BLM must: 1) survey these colonies for black-footed ferrets, 2) take a “hard look” at the potential impacts of the proposed project on white-tailed prairie dogs and black-footed ferrets, and 3) consider alternatives that minimize impacts to these colonies, 4) apply mitigation measures that will effectively mitigate impacts to white-tailed prairie dogs and black-footed ferrets in these colonies.

Finally, in analyzing potential impacts to black-footed ferrets, BLM must consider not only the impacts to black-footed ferrets that may currently inhabit the area, but also the impacts to black-footed ferret recovery.

#### **D. Raptors**

BLM must analyze the potential direct, indirect and cumulative impacts of the proposed project on raptors, including burrowing owl, bald eagle, golden eagle, ferruginous hawk, red-tailed hawk, Swainson’s hawk, prairie falcon and peregrine falcon.

There are active nest sites for both golden eagle and prairie falcon within the proposed project area. See Map, Book Cliffs LBA And Adjacent Coal Leases With High Priority Areas for Raptors and Big Game (Jan. 2014), attached as Ex. 15. Nesting habitat for peregrine falcon is found in areas likely to be impacted by mine or transport facilities just to the south of the LBA. See Map, Peregrine Falcon Habitat Designations (Mar. 7, 2014), attached as Ex. 16.<sup>21</sup> It is particularly critical for BLM to provide a thorough analysis of the potential impacts of the proposed project on golden eagle and prairie falcon.

In March 2008, the FWS published draft guidelines (“Guidelines”) for conservation of raptors in the Western United States.<sup>22</sup> The goals of these Guidelines are to: 1) provide measures to minimize the risk of ‘take’ under various bird protection statutes, 2) avoid or minimize impacts to sensitive raptor species, and 3) contribute to improvement in the status of raptors species which have been determined to be experiencing population declines or to be otherwise at risk. The Guidelines are intended to provide land use planners and project proponents with the means to avoid direct or incidental take of raptors, their nests or eggs (as prohibited under parts of the Migratory Bird Treaty Act (“MBTA”), Bald and Golden Eagle Protection Act (“BGEPA”) and ESA) . Implementation of the nest protection and habitat conservation measures in the Guidelines will help federal agencies meet their responsibilities under Executive Order 13186: The Responsibilities of Federal Agencies to Protect Migratory Birds. In addition, the Guidelines provide recommendations to assist land use managers in fulfilling their obligations to analyze impacts of proposed projects under NEPA.<sup>23</sup>

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<sup>21</sup> Both of these maps are based on BLM and State of Colorado data.

<sup>22</sup> U.S. Fish & Wildlife Service, Guidelines For Raptor Conservation In The Western United States (Draft) (Feb. 2008), attached as Ex. 125 (on CD only) to Earthjustice letter (Mar. 17, 2009) (in BLM files).

<sup>23</sup> Id. at 2, 5, 6.

BLM should reference and follow the Guidelines in analyzing the Mine's impacts on raptors. Though the Guidelines have not been finalized (to our knowledge), they contain a comprehensive review of the best available science on the potential impacts of energy development and other activities on raptors, and clearly outline the steps that are necessary to complete an adequate NEPA analysis. BLM should follow the steps outlined in the Guidelines in its NEPA analysis of the impacts of the proposed project on burrowing owl bald eagle, golden eagle, ferruginous hawk, red-tailed hawk, Swainson's hawk and peregrine falcon, to ensure that obligations under NEPA, MBTA and BGEPA are met.

BLM should identify raptor resources potentially affected by the proposed project, including raptor nesting, wintering, migration and foraging habitats as recommended by the Guidelines.<sup>24</sup> For projects like the Book Cliffs LBA that are broad scale and/or permanent, the Guidelines recommend that surveys be undertaken for a minimum three year period prior to the start of construction, and that these surveys include species use, status, and locations of raptor nest sites (occupied and unoccupied), winter roost sites, migration corridors, and associated habitat use areas.<sup>25</sup> The entire project area must be surveyed, and surveys must include all of the elements of raptor habitat outlined above. In addition, the proposed project and cumulative impacts may result in long-term or permanent loss of raptor habitat, and may impact raptor species that are prey specialists. Thus, pre-project surveys should include at least one cycle of a known prey's population fluctuation, since raptor densities are partly responsive to prey fluctuations.<sup>26</sup> Finally, for the life of the project, a qualified wildlife biologist should annually inventory and document raptor nesting and roosting status within the proposed project area, and at least 1 mile distance to external project boundaries.<sup>27</sup>

BLM should also document the area's prior disturbance history, and the potential magnitude of impacts to raptors and their habitats as recommended by the Guidelines.<sup>28</sup> The Red Cliff DEIS failed to: 1) document the existing level of disturbance within the recommended buffers of the raptor use areas,<sup>29</sup> including road or trail type and density, traffic patterns and type, recreational use magnitude and type, ambient noise levels and frequency, and presence of industrial and residential structures and associated activities; 2) evaluate available raptor data such as nest-building, occupancy and productivity with respect to the timing and magnitude of existing disturbance, and 3) evaluate the difference between the baseline disturbance regime and the project-related disturbance regime in the environmental analysis of the proposed activity, as the Guidelines recommend.<sup>30</sup> This baseline information is necessary to adequately analyze the proposed project's impacts on raptors.

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<sup>24</sup> Id. at 6, 7, 9, 10.

<sup>25</sup> Id. at 9-10.

<sup>26</sup> Id.

<sup>27</sup> Id.

<sup>28</sup> Id. at 6-7.

<sup>29</sup> Id. at Appendix B.

<sup>30</sup> Id. at 10.

BLM must also conduct an assessment of raptor population status/trends in the project area, which is necessary in order to determine current and projected levels of impact to raptors and their habitats. BLM should quantify and/or qualify losses of habitat value as described in detail in the Guidelines.<sup>31</sup> BLM must adequately determine the proportion of nests, roost sites, migration corridors and associated habitat potentially affected by project activities for each species.

To ensure adequate NEPA analysis, BLM must address direct and indirect impacts to raptor habitat, occupancy and nesting success.<sup>32</sup> Direct impacts include, but are not limited to: loss of foraging habitat from the project footprint, direct mortality of raptors (e.g., due to collisions with vehicles, electrocution on power lines), noise disturbance and loss of nest sites or winter roost sites. Indirect impacts may include, but are not limited to noise disturbance, degradation of habitat adjacent to the project area, habitat fragmentation, contamination of food sources, and reduction or changes in available prey species.<sup>33</sup> BLM must address these impacts.

In addition, BLM must consider cumulative impacts of the proposed project to raptor habitat and nesting success when added to past, present and reasonably foreseeable future actions.<sup>34</sup> This analysis should include all reasonable foreseeable actions connected with the proposed project. BLM should consider the impacts of increased human access to the area, including disturbance of nests, increased shooting of prairie dogs and resulting consumption of lead by raptors that prey on prairie-dog carcasses, noise, etc. BLM should also consider the potential impacts of runoff of selenium into waterways, and subsequent bioaccumulation in the aquatic food chain on bald eagles and other raptors that consume fish in waterways downstream from the proposed action.

Finally, BLM should analyze mitigation measures that would provide reasonable protection for individual raptors and their nesting, winter-roosting, and foraging activities. BLM has an obligation to adequately avoid or reduce the negative impacts of the proposed project on raptors, and to mitigate unavoidable impacts of the proposed project. Mitigation measures must be described in sufficient detail, and BLM must provide an analysis of the likely effectiveness of mitigation measures. The Guidelines provide recommendations for avoiding, minimizing and compensating for loss of raptor habitat, including a number of specific measures which are applicable to the proposed project, and which should be considered as part of an adequate NEPA analysis of the proposed project.<sup>35</sup>

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<sup>31</sup> See id.

<sup>32</sup> Id. at 10-11.

<sup>33</sup> Id.

<sup>34</sup> Id. at 10-28.

<sup>35</sup> See id. at 10-31 and Appendix B.

## **E. Grand Buckwheat**

BLM should analyze the impacts of the proposed project on the Grand buckwheat, particularly indirect and cumulative impacts. BLM should outline the status of the species, including the current population size. BLM should determine the number of plants and proportion of the overall population that will be impacted by direct habitat loss. BLM must also analyze the potential indirect and cumulative negative impacts to Grand buckwheat that may result from the following: 1) facilitation of the spread of cheatgrass and other weeds due to disturbance and traffic associated with the proposed project, 2) reduction in population size and resulting loss of population fitness due to a loss of genetic material, 3) increased fire risk due to vehicle or train traffic, 4) increased public access to the area due to construction or improvement of roads, which may result in impacts due to increased off road vehicle use and illegal dumping, 5) increase in dust deposition and/or magnesium chloride runoff following dust control, which may result in mortality, reproductive failure, or degraded soils, and 6) impacts on Grand buckwheat pollinators.

BLM must also consider cumulative impacts of energy development, grazing, off road vehicle use, climate change, and other activities on the Grand buckwheat. BLM must consider whether the proposed project and other past, present, and reasonably foreseeable activities within the range of the species will result in cumulative impacts that may lead to a need to list the species under the ESA. Grand buckwheat has a very limited distribution, largely restricted to the Grand Valley of Mesa County, Colorado, and Grand County, Utah. There is a significant amount of energy development occurring within the species range, and energy development has the potential to result in significant declines of Grand buckwheat.

In addition, climate change may harm this species. It may be necessary to conserve a large proportion of the Grand buckwheat population across the range of the species, in order to maximize the species' resilience to climate change, given its limited distribution. BLM must take a "hard look" at the potential cumulative impacts of the project on the Grand buckwheat.

Finally, BLM must provide a detailed description of any mitigation measures proposed for Grand buckwheat, and an analysis of the likely effectiveness of these mitigation measures at reducing impacts.

## **F. Elk and Mule Deer**

BLM must analyze the impacts of the proposed project on elk and mule deer. Habitat for elk and mule deer is present within and adjacent to the project area, including severe winter range and winter concentration areas for both species. See Map, Mule Deer Habitat Designations (Mar. 17, 2014), attached as Ex. 17; Map, Elk Habitat Designations (Mar. 7, 2014), attached as Ex. 18 (both based on BLM and State of Colorado data). These habitat types are particularly important, and loss or degradation of severe winter range and winter concentration areas can result in negative impacts on elk and mule deer populations, as elk need these areas to survive winter, particularly during severe winters.

Mule deer herds across Colorado, including the Book Cliffs herd in western Colorado and eastern Utah have been well below target population levels set by state wildlife agencies to ensure healthy and huntable herds. Loss of habitat from a variety of causes, including energy development, has played a role in mule deer declines observed in the region. BLM should provide a discussion of the current status of the Book Cliffs herd relative to population targets, describe the factors that are leading to failure to meet population targets for this mule deer herd, and discuss the potential direct, indirect and cumulative impacts of the proposed project in light of the need to increase mule deer numbers to meet target population levels.

Elk and mule deer may be negatively impacted by direct loss of habitat, and habitat fragmentation resulting from infrastructure developed as part of the proposed project (roads, rail lines, power lines etc.). BLM should carefully consider the potential for loss and fragmentation of elk and mule deer habitat due to the proposed project. BLM should consider the following potential negative impacts of the proposed project: direct loss of habitat that will result from the proposed project: reduction of effective (usable) habitat near roads and other infrastructure for deer and elk, direct mortality from vehicles, increased noise and visual disturbance, and increased illegal killing.<sup>36</sup> BLM must also carefully consider the cumulative impacts of the proposed project and other reasonably foreseeable actions on elk and mule deer.<sup>37</sup>

### **VIII. BLM MUST FORMALLY CONSULT WITH FWS ON THE MINE'S LIKELY IMPACTS ON THREATENED AND ENDANGERED SPECIES.**

As detailed in Section VIII above, the Book Cliffs LBA will likely have significant adverse impacts to several threatened, endangered and sensitive species. Any subsequently prepared NEPA document must analyze these impacts. As noted in our comment on the Red Cliff DEIS, BLM's previous analysis of impacts to these species was inadequate. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 66-83. Any NEPA document for the Book Cliffs LBA must correct these deficiencies. Additionally, above and beyond BLM's NEPA obligation, the agency must also comply with its duties under the Endangered Species Act (ESA). As detailed below, none of the documents relied upon by BLM for the Red Cliff Mine meets ESA standards. Consequently, and in light of new information since the Red Cliff Mine was proposed and analyzed, BLM must carry out a new, complete, and up-to-date ESA consultation process for the Book Cliffs LBA.

#### **A. Statutory Background**

Congress enacted the ESA in 1973 with the express purpose of providing both a "means whereby the ecosystems upon which endangered and threatened species depend may be conserved, [and] . . . a program for the conservation of such endangered species." *Id.* at § 1531(b). The Supreme

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<sup>36</sup> See [http://www.wildlife.state.nm.us/conservation/habitat\\_handbook/documents/2004EffectsofRoadsonWildlifeandHabitats.pdf](http://www.wildlife.state.nm.us/conservation/habitat_handbook/documents/2004EffectsofRoadsonWildlifeandHabitats.pdf) (last viewed Mar. 11, 2014).

<sup>37</sup> Rail and mine facilities also threaten habitat for pronghorn. See Map, Pronghorn Antelope Habitat Designations (Mar. 7, 2014) (based on BLM and State of Colorado data), attached as Ex. 19. BLM must address these impacts in any subsequently prepared NEPA document.

Court has recognized that the ESA “is the most comprehensive legislation for the preservation of endangered species ever enacted by any nation.” Tennessee Valley Authority v. Hill, 437 U.S. 153, 174, 180 (1978). As the Court found, “the plain intent of Congress in enacting this statute was to halt and reverse the trend toward species extinction, whatever the cost.” Id. at 184.

Principal responsibilities for implementing the requirements of the Act with regard to the terrestrial and freshwater species directly impacted by BLM’s actions have been delegated to the U.S. Fish and Wildlife Service (“FWS”), an agency within the DOI. 16 U.S.C. § 1532(15); 50 C.F.R. § 402.01.<sup>38</sup>

Once listed under the ESA by FWS as “threatened” or “endangered,” species are accorded the Act’s protections. Most pertinent of those several protections here is section 7(a)(2), under which all federal agencies must, “in consultation with” FWS, “insure” that the actions that they fund, authorize, or undertake “[are] not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification” of critical habitat; this is the agencies’ duty to “insure no jeopardy.” 16 U.S.C. § 1536(a)(2). The duty to insure no jeopardy is one of the ESA’s clearest cornerstones for the recovery and conservation of listed species. Indeed, as the Supreme Court has acknowledged, “[o]ne would be hard pressed to find a statutory provision whose terms were any plainer than those in § 7” of the ESA, as clearly, “Congress intended endangered species to be afforded the highest of priorities.” TVA v. Hill, 437 U.S. at 173.

To ensure compliance with this duty, Section 7 and its implementing regulations, as adopted in 1986, set forth a detailed process that must be followed before agencies take or approve actions that may affect a threatened or endangered species or impair its critical habitat. Thus, any agency considering whether to authorize, fund, or undertake an activity must ask FWS whether any listed species are present in the area of the proposed action (the “action area”). 16 U.S.C. § 1536(c)(1). The “action area” is defined to mean all areas that would be “affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” 50 C.F.R. § 402.02.

If FWS determines that listed species may be present in the action area, the action agency, BLM in this case, must prepare a biological assessment (BA) to “evaluate the potential effects of the action” on those listed species and habitat. Id.; see also id. at § 402.12. If the agency concludes in the BA that the action is “likely” to adversely “affect listed species or critical habitat,” it must then enter into “formal consultation” with FWS. Id. at §§ 402.14(a), 402.01(b), 402.12(k).

In formal consultation, after evaluating all relevant information, FWS prepares a biological opinion (BiOp), which includes “whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modifications of critical habitat.” Id. at § 402.14(g)(4). The BiOp is the heart of the formal consultation process, and results in either a “likely to jeopardize” or a “no jeopardy”

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<sup>38</sup> Additional species that may be impacted by indirect effects of BLM’s action are under the jurisdiction of the National Marine Fisheries Service (“NMFS”), an agency within the Department of Commerce.

conclusion (or, if designated critical habitat may be affected as well, a “likely to destroy or adversely modify” or “no destruction or adverse modification” conclusion). 16 U.S.C. § 1536; 50 C.F.R § 402.14.<sup>39</sup>

With regard to actions that “may affect” listed species or critical habitat, FWS’s longstanding regulations, promulgated in 1986, allowed formal consultation and the issuance of a BiOp to be avoided only when FWS issued a “a written concurrence” that the proposed action will have “no effect” or “is not likely to adversely affect any listed species or critical habitat.” 50 C.F.R. § 402.13(a). During this “informal consultation” between the action agency and FWS, FWS decides whether to “concur” that formal consultation may be avoided, and may also “suggest modifications to the action that the Federal agency and any applicant could implement to avoid the likelihood of adverse effects to listed species or critical habitat.” *Id.* § 402.13(b).

**B. BLM Must Formally Consult with FWS Pursuant to Section 7 of the Endangered Species Act.**

In September 2008, BLM submitted a BA to FWS regarding the Red Cliff Mine that requested initiation of formal consultation as to the four endangered Colorado fish that inhabit the watersheds that would be impacted by the project (the Boneytail (*Gila elegans*), Colorado pikeminnow (*Ptychocheilus lucius*), Humpback chub (*Gila ccypha*), and Razorback sucker (*Xyrauchen texanus*)). Red Cliff DEIS at Appendix H. In the BA, BLM concluded that the proposed mine “may affect” and is “likely to adversely affect” these four species. *Id.* At the same time, BLM also sought concurrence from FWS that the mine was “not likely to adversely affect” the Black-footed ferret (*Mustela nigripes*). Finally, BLM concluded that the mine would not affect the DeBeque phacelia (*Phacelia submutica*) and the Colorado hookless cactus (*Sclerocactus glaucus*) and therefore no consultation as to threatened plants was required. *Id.*<sup>40</sup>

To our knowledge, consultation on the Red Cliff Mine was never concluded, as FWS never issued a BiOp for the proposed action. Nor did FWS ever concur in BLM’s determination that the proposed mine would was “not likely to adversely affect” the Black-footed ferret, or weigh in as to whether the “no effect” determination for the listed plants was proper. Consequently, BLM cannot reasonably assert that it has already complied with its consultation duties as to the Red Cliff Mine, much less the new “action” of the Book Cliffs LBA.

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<sup>39</sup> If “jeopardy” or “destruction or adverse modification of critical habitat” is likely to occur, FWS must prescribe in the BiOp “reasonable and prudent alternatives” to avoid these results. 50 C.F.R. § 402.14(g). The biological opinion must also include a written statement (referred to as the “incidental take statement”) specifying “the impacts of such incidental taking on the species,” any “reasonable and prudent measures that [FWS] considers necessary or appropriate to minimize such impact,” and the “terms and conditions” that the agency must comply with in implementing those “measures.” 16 U.S.C. § 1536(b)(4).

<sup>40</sup> At the time, the DeBeque phacelia was a “candidate” for listing while the Colorado hookless cactus was listed as a population of the Uinta Basin hookless cactus. Both are now listed as threatened species.

As conceded in the Red Cliff Mine BA and DEIS, as well as our previous comments on those documents, and summarized in Section VIII above, approval of a lease (and ultimately a mine) in this area will almost certainly adversely affect the four endangered Colorado River fish. Consequently formal consultation with FWS as to these species is clearly warranted. Neither BLM nor the mine proponent can lawfully proceed with any leasing or development activities and approvals related to the Book Cliffs LBA prior to the completion of formal consultation, as such activities would entail “irreversible and irretrievable commitments of resources” prohibited by section 7(d) of the ESA. 16 U.S.C. § 1536(d).

In the Red Cliffs Mine DEIS, BLM cited to a 1994 programmatic BiOp regarding water depletion impacts on the listed Colorado River fish. Red Cliffs Mine DEIS at 4-144. In contrast, in the accompanying BA, BLM cites to a 1999 BiOp as the operative document governing appropriate mitigation measures for these species. App. H BA at 21. Regardless of which document BLM actually intended to rely upon for the Red Cliff Mine, it is clear that neither of these documents can substitute for a project-specific BiOp for the Book Cliffs LBA. Additionally, given the significant new information on water availability that has come to light since 1999, including related to the impacts of climate change on the Colorado River, reliance on such a clearly outdated analysis would not constitute use of the requisite “best available science.” 16 U.S.C. § 1536.<sup>41</sup>

In addition to the acknowledged impacts on the endangered fish from water withdrawals, numerous other adverse impacts to these species are likely. Among these are the construction and operation of the roads, pipeline, powerlines and rail lines to and from any mine to processing facilities and end-use points. However, in the Red Cliffs Mine DEIS and BA, BLM downplayed and/or ignored these impacts. For example, BLM sought FWSs’ concurrence that “hazardous materials effects” would not adversely affect the fish because “No hazardous material will be transported in the coal cars.” While numerous other vectors beyond coal cars for introducing hazardous materials into the watershed are readily present in any coal mine development, any claim that the transport of coal itself does not involve a “hazardous material” that presents a significant risk to aquatic species is not credible.

In the Red Cliffs Mine DEIS and BA, BLM asserted that there would likely be no adverse impacts on the Black-footed ferret from mine construction and operations. As detailed in our comments on that DEIS, infrastructure related to the mine would bisect habitat for the White-tailed prairie dog, a key prey species for the ferret. Because the health and perseverance of such prairie dog colonies is critical to the survival and recovery of the ferret, any adverse impacts to prairie dogs within the actual or potential range of the ferret would constitute an adverse impact to that species, triggering the need for formal consultation and consequent mitigation requirements. We do not see how BLM can lawfully avoid formal consultation as to the ferret.

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<sup>41</sup> Nor can BLM or any lessee rely solely upon monetary contributions to the 1988 Recovery Implementation Program for Endangered Species in the Upper Colorado River Recovery Program to minimize and mitigate the adverse impacts to the listed fish. See Red Cliffs Mine DEIS at 4-139. The paltry sums that any lessee would be required to pay under this program would come nowhere near offsetting the significant adverse impacts of any mine development on these critically endangered fish.



BLM also previously concluded “no effect” on the two listed plants that occur in the action area. Such a finding was premised on cursory surveys that are now clearly outdated. New and comprehensive plant surveys of the areas to be impacted by the agency action need to be carried out before any “no effect” claim can be reasserted by BLM. While this holds for both species, it is particularly true for the DeBeque phacelia, which as an annual, may not bloom in any given year, meaning its absence can only be determined after multiple years of surveys in years with sufficient rainfall to trigger germination.

In addition to the species directly impacted by the footprint of the mine and related infrastructure, BLM needs to consult on the impacts of all other species “affected directly or indirectly by the Federal action and not merely the immediate area involved in the action.” 50 C.F.R. § 402.02. Given any coal mined as a result of the action will be transported offsite, in many cases by long-distance rail transport for export, BLM needs to analyze impacts of all species that could be impacted by a rail accidents or spills along the transport routes. Since it is likely that at least some of the coal will be transported out of terminals in the Pacific Northwest, BLM must consult not only with FWS over species in its jurisdiction, but also with NMFS over impacts to salmon and marine mammals that inhabit the rivers, bays and ocean waters through which the coal will be transported. Finally, given the purpose of BLM’s action is to extract coal that will ultimately be combusted for the purposes of generating energy, BLM needs to consult on the impacts of the greenhouse gases and other emissions (e.g., mercury, black carbon, NOx and SOx) that will impact listed species far beyond the direct footprint of the mine site.

In sum, in its DEIS and BA for the Red Cliffs Mine, BLM’s analyses and conclusions related to endangered species were poorly supported and inadequate to meet legal requirements. As BLM itself noted when it terminated that process, the DEIS was riddled with “fatal flaws.” If the agency intends to proceed with the Book Cliffs LBA, it must remedy these flaws and produce a new BA that complies with the ESA’s standards and enter into and complete formal consultation as to all species directly and indirectly affected by the proposed action.

#### **IX. BLM MUST TAKE A HARD LOOK AT THE COAL LEASE’S POTENTIAL IMPACTS TO LANDS WITH WILDERNESS CHARACTERISTICS.**

BLM now has current guidance requiring updating its inventory of lands with wilderness characteristics and considering protection of those values. FLPMA requires BLM to inventory and consider lands with wilderness characteristics during the land use planning process. 43 U.S.C. § 1711(a); see also Ore. Natural Desert Ass’n v. BLM, 625 F.3d 1092, 1122 (9th Cir. 2010). IM 2011-154 and Manuals 6310 and 6320 contain mandatory guidance on implementing that requirement. The IM directs BLM to “conduct and maintain inventories regarding the presence or absence of wilderness characteristics, and to consider identified lands with wilderness characteristics in land use plans and when analyzing projects under [NEPA]” (emphasis added). Manual 6320 requires BLM to consider lands with wilderness characteristics in land use planning, both in evaluating the impacts of management alternatives on lands with wilderness characteristics and in evaluating alternatives that would protect those values.

The proposed coal lease area is completely contained within lands identified by the Colorado conservation community as possessing wilderness characteristics. Conservation groups submitted inventory reports and management recommendations to the Grand Junction Field Office with comments on the draft RMP in June 2013. The majority of the lease overlaps the Hunter Canyon and Munger Creek units; County Line and East Salt Creek are also impacted. See Map, Book Cliffs LBA And Adjacent Coal Leases, Proposed Designations in Grand Junction Draft RMP (Jan. 2014), attached as Ex. 19A. Following BLM's new policy for inventorying lands with wilderness characteristics and the definition of wilderness inventory roads (BLM Manual 6310), the groups' inventory determined that Hunter Canyon, East Salt Creek and County Line are one unit (along with other adjacent lands), which we now call the Grand Junction Book Cliffs. We attach to this letter the conservation groups' inventory reports for all of these units.<sup>42</sup>

In addition, the Grand Junction Field Office has completed a draft "lands with wilderness characteristics" inventory as part of the RMP revision. In that initial inventory update, BLM found that Hunter Canyon and East Salt Creek possess wilderness characteristics, and is considering managing those areas to protect their wilderness characteristics in the revised Grand Junction RMP. See Grand Junction Field Office Wilderness Characteristics Inventory Update, July 2012, p. 4; Grand Junction Draft RMP, p. 2-119.

BLM's draft inventory of lands with wilderness characteristics (LWCs) contained numerous flaws and in many places failed to follow the guidance for conducting lands with wilderness characteristics inventories detailed in BLM Manual 6310. Many units contain boundaries that are arbitrary and other units were missed altogether. Because of these deficiencies in identifying the actual areas that could contain wilderness characteristics, the documentation of wilderness characteristics provided in the draft inventory is incomplete for many units, and we expect BLM is updating the inventory based on public comments and will present a revised inventory as well as management decisions in the proposed RMP.

We specifically detailed the following concerns with BLM's initial inventory in our comments on the draft RMP:

Unit Boundary Errors. BLM put forth an admirable effort in identifying the general area of most potential LWC units; however, after on-the-ground inventories were conducted by conservationists, it was apparent that some boundaries for those units were arbitrarily drawn, contrary to BLM's own policies laid out in BLM Manual 6310.

The boundary of the wilderness characteristics inventory unit must be established. Where possible, BLM offices should use existing wilderness characteristics inventory units for maintaining the inventory. The boundary is generally based on the presence of

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<sup>42</sup> See The Wilderness Society et al., Grand Junction Book Cliffs Unit: County Line (June 2013), attached as Ex. 20; The Wilderness Society et al., Grand Junction Book Cliffs Unit: East Salt Creek (June 2013), attached as Ex. 21; The Wilderness Society et al., Grand Junction Book Cliffs Unit: Hunter Canyon (June 2013), attached as Ex. 22; The Wilderness Society et al., Munger Creek (June 2013), attached as Ex. 23.

wilderness inventory roads (see Appendix C to determine if a route meets the wilderness inventory road definition), and can also be based on property lines between lands in Federal ownership and other ownerships or developed rights of way. Other inventory unit boundaries may occasionally be identified.

BLM Manual 6310, p. 5.

In some instances, boundaries were drawn despite the absence of any qualifying feature whatsoever (i.e. Wilderness Inventory Road, developed right-of-way), drawn on existing routes that do not qualify as boundaries because they are clearly not “maintained using mechanical means to ensure relatively regular and continuous use” (nor are they developed rights-of-way) and do not meet the criteria for boundary delineation laid out in the BLM Manual.

These boundary errors resulted in a number of units being drawn smaller than the actual qualifying area, or large units being divided up into smaller ones due to incorrect information. Beyond the fact that this practice does not meet the criteria detailed in BLM Manual 6310, it brings into question the determinations made on individual units. When boundaries are misdrawn, the determinations made on whether or not wilderness characteristics exist in the unit are not based on the full suite of characteristics present. For example, if the determination for incorrectly drawn a unit of 7,000 acres is that it doesn’t have outstanding opportunities for solitude, but in fact the qualifying unit is 12,000 acres, then a whole host of wilderness characteristics from that additional 5,000 acres were not considered and the analysis and determination are incorrect. This issue is particularly applicable to the Grand Junction Book Cliffs unit.

*Data Inconsistency.* In addition to the troublesome boundary errors, there is also an issue with the transparency and overall efficacy of BLM LWC data. Despite the fact that BLM identified 31 LWC units totaling roughly 400,000 acres, the corresponding LWC Inventory update only contains three Route Analysis forms (Appendix A of BLM Manual 6310). In addition, the GJFO Inventory Update contains only 41 photographs for 31 units. How boundary determinations are being made without cataloging evidence of the construction, maintenance and use of boundary routes is quixotic at best. The absence of Route Analysis forms coupled with the lack of photographic evidence of the naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation and the boundary delineations themselves brings into question the care to which the LWC inventory was conducted as well as its findings.

To make manner worse, of the few photographs included in the report, a startling number of them are from 2006 and are used to document the lack of naturalness of an area. Needless to say, conditions change over the course of 7-8 years and the most up to date information should be used when making determinations or supporting determinations. Also, many of the inventory reports themselves are from 2009, pre-dating the revision of BLM LWC policies and BLM Manuals 6310 and 6320.

*Outstanding Opportunities.* BLM too narrowly construes its own guidance on whether wilderness characteristics exist in the planning area. BLM guidance states, “In order for an area to qualify as lands with wilderness characteristics, it must possess sufficient size, naturalness,

and outstanding opportunities for either solitude or primitive and unconfined recreation.” BLM, IM 2011-154, p. 5. The guidance highlights the importance of “or” in this section:

Determine if the area has outstanding opportunities for solitude or a primitive and unconfined type of recreation. The word “or” in this sentence means that an area only has to possess one or the other. The area does not have to possess outstanding opportunities for both elements, nor does it need to have outstanding opportunities on every acre, even when an area is contiguous to lands with identified wilderness characteristics. In most cases, the two opportunities can be expected to go hand-in-hand. An outstanding opportunity for solitude, however, may be present in an area offering only limited primitive recreation potential. Also, an area may be so attractive for primitive recreation that it would be difficult to maintain an opportunity for solitude.

BLM, IM 2011-154, p. 6.

We therefore recommended BLM should utilize the RMP revision as an opportunity to update the LWC inventory to fulfill both its obligation under FLPMA and to be in accordance with BLM Manual 6310 and 6320. This would entail BLM updating the boundaries associated with the units as described in BLM Manual 6310, including evidence of its determinations via Route Analysis forms, updated photos, waypoints and unit descriptions containing supplemental values. Updating this information would allow the agency to make correct determinations regarding size, naturalness, outstanding opportunities for either solitude or primitive and unconfined recreation, aiding the agency in adhering to NEPA by presenting a reasonable range of alternatives.

Given the numerous deficiencies in BLM’s LWC inventories, and the opportunity that remains for BLM to remedy its errors, the Grand Junction Field Office should not be moving forward with issuing a coal lease that would impact potential lands with wilderness characteristics until the inventory update is completed and BLM has had an opportunity to make informed management decisions for those lands in the RMP.

## **X. BLM MUST TAKE A HARD LOOK AT WATER QUALITY IMPACTS.**

BLM must address the potentially significant impacts of the LBA and subsequent foreseeable mining on water quality in the area in accordance with 40 C.F.R. § 1502.16. Further, BLM must demonstrate compliance with Section 313 of the Clean Water Act, which requires the agency to ensure activities under its jurisdiction comply with state water quality standards. See 33 U.S.C. § 1323(a). BLM also has an independent duty under FLPMA to ensure compliance with state water quality laws, including water quality standards. See 43 U.S.C. § 1712(c)(8).

The scoping notice acknowledges that leasing the Book Cliffs LBA may result in impacts to water quality as well as streams. See 79 Fed. Reg. 3244 (Jan. 17, 2014) (identifying as “preliminary issues” both “water quality” and “riparian habitat.” This makes sense because subsidence, road and well pad clearing for MDWs, and construction of coal mine and coal transportation infrastructure may impact hydrology and led to pollution and sedimentation.

**A. If BLM Intends To Rely On BMPs, It Must Ensure That They Will Be Effective.**

The Red Cliff Mine draft EIS fails to analyze and assess impacts to surface water quality, instead relying on a list of best management practices (“BMPs”) to assert that water quality will be protected from mining impacts. That draft EIS contains no analysis or assessment demonstrating that these BMPs will actually limit inappropriate water quality impacts and safeguard both water quality and fish and wildlife. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 88-91. We urge BLM not to repeat these errors in any subsequently prepared NEPA document on the Book Cliffs LBA, and instead to fully analyze the potential for harm to surface waters.

**B. BLM Must Address The Fact That Downstream Waters Are Listed As Impaired Due To Selenium.**

In analyzing the Book Cliffs LBA, BLM must address the fact that the Colorado River from Gunnison River downstream to the Utah-Colorado border is impaired due to selenium pollution. Colorado Water Quality Control Commission (“WQCC”) Regulation No. 93 lists all of the Colorado River from the Gunnison River downstream as impaired due to selenium. See 5 C.C.R. 1002-93 § 93.3. Addressing selenium pollution is particularly important because coal mining and the construction of coal mine facilities are likely to lead to selenium discharges to waterways that feed the Colorado River. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 88-90. As part of its analysis of potential impacts to impaired waterways, any NEPA document should analyze and assess whether and/or how the LBA and foreseeable mining will ensure compliance with selenium water quality standards and protect waters that are already impaired by selenium pollution. Although BLM may claim that state water quality permitting requirements will adequately address any direct, indirect, and cumulative selenium impacts from the Red Cliff Mine, this does not appear to be the case. The Colorado Water Quality Control Division (“WQCD”) has not yet developed a Total Maximum Daily Load (“TMDL”) for the Colorado River.<sup>43</sup> Thus, the State has not determined appropriate selenium loads for this water body. This means BLM cannot reasonably assume that the WQCD will issue a water quality discharge permit that will ensure compliance with selenium water quality standards in the Colorado River. In fact, given the lack of a TMDL, it is unclear whether the WQCD could issue a water discharge permit that would lead to any selenium discharge whatsoever into the Colorado River.<sup>44</sup>

Regardless, BLM has an independent duty to ensure actions that it authorizes comply with Colorado water quality regulations. Section 313 of the Clean Water Act requires the agency to ensure activities under its jurisdiction comply with state water quality standards. See 33 U.S.C. § 1323(a). Colorado WQCC Regulation No. 31 limits selenium concentrations to no more than 4.6 micrograms/liter. See 5 C.C.R. 1002-31, Table III. Given that BLM itself discloses that the Mine will lead to selenium loading in the Colorado River, the agency must demonstrate in the

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<sup>43</sup> See list of TMDLs for Colorado River, <http://www.colorado.gov/cs/Satellite/CDPHE-WQ/CBON/1251596042774> (last viewed Mar. 11, 2014).

<sup>44</sup> In addition, information suggests that state water quality standards may be insufficient to protect fisheries, waterfowl and aquatic ecosystems from selenium contamination. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 89, n.301.

DEIS that selenium water quality standards will be met to ensure compliance with both NEPA and the Clean Water Act. BLM has failed to comply with this duty in the DEIS.

### **C. BLM Cannot Rely on WQCD Permitting to Avoid NEPA Duties.**

The DEIS relied heavily, if not entirely, on WQCD permitting processes in concluding that water quality impacts would not be significant and/or contrary to law and regulations. For instance, the DEIS states: “With the applicant complying with the CDPHE-WQCD permitting requirements, long term impacts [to surface water] would be minimal, and sediment and selenium contributions to the Colorado River insignificant.” DEIS at 4-170. This is inappropriate under NEPA.

BLM cannot simply defer to a state permitting process to substitute for compliance with NEPA’s “hard look” requirement. First, the Colorado WQCD does not analyze a range of alternatives when issuing water pollution permits, nor is the agency required to engage in the level of environmental analysis NEPA requires. For example, the WQCD is not required to analyze and assess cumulative impacts as required by NEPA. Second, the DEIS does not disclose what standards, limits, and/or BMPs are listed in a WQCD permit that would actually justify a conclusion that such permit will, in fact, minimize pollution impacts to surface waters. BLM cannot rely on a water pollution permit to justify a conclusion that long term impacts will be “minimal.”

Of greatest concern however, is that the WQCD cannot issue a discharge permit that would allow increased selenium into the impaired Colorado River absent a TMDL. BLM may not rely on the WQCD permitting processes when, legally, the WQCD is prohibited from issuing such a discharge permit. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 88-91. In any subsequently prepared NEPA document, BLM must address each and all of these water quality issues.

## **XI. BLM MUST ENSURE THAT THE BOOKS CLIFFS LBA WILL NOT RESULT IN UNNECESSARY OR UNDUE DEGRADATION.**

FLPMA requires: “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, when the imperative language “shall” is used, “Congress [leaves] the Secretary no discretion” in how to administer FLPMA. NRDC 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”). In the context of BLM’s decision whether to permit Mine construction and coal leasing for the Mine, the agency is under a statutory obligation to demonstrate compliance with the UUD standard and show that impacts from Mine development will be mitigated and therefore not cause undue and unnecessary degradation to important public land resources. See, e.g., Kendall’s Concerned Area Residents, 129 IBLA 130, 138 (1994) (“If unnecessary or undue degradation cannot be prevented by mitigation measures, BLM is required to deny approval of the plan.”).

BLM's statutory obligation under FLPMA to prevent UUD of its lands is not "discretionary." As the court found in Mineral Policy Center v. Norton, "in enacting FLPMA, Congress's intent was clear: Interior is to prevent, not only unnecessary degradation, but also degradation that, while necessary to mining, is undue or excessive." 292 F. Supp. 2d 30, 43 (D.D.C. 2003) (emphasis added). Further, "FLPMA, by its plain terms, vests the Secretary of the Interior with the authority – and indeed the obligation – to disapprove of an otherwise permissible mining operation because the operation though necessary for mining, would unduly harm or degrade the public land." Id. at 42 (emphasis added).

In any subsequently prepared NEPA document on the Book Cliffs LBA, BLM must consider, analyze, or disclose whether the lease and subsequent mining will avoid such damage.

The undersigned are concerned that the Book Cliffs LBA threatens unnecessary damage to wilderness, air, climate, and other values. BLM could adopt specific measures suggested here to avoid altogether or lessen many environmental impacts associated with construction and operation of a coal, such as capturing or combusting venting methane, eliminating leasing where it would necessitate damage to wilderness character lands, etc. Any subsequently prepared NEPA document must consider these and many other options for minimizing or eliminating unnecessary damage to public land values.

## **XII. BLM MUST EVALUATE THE EFFECTIVENESS OF MITIGATION MEASURES.**

That agencies will mitigate the adverse environmental impacts of their actions is implicit in NEPA's statutory language. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351-52 (1989); Holy Cross Wilderness Fund v. Madigan, 960 F.2d 1515, 1522 (10th Cir. 1992). Mitigation measures are required by NEPA's implementing regulations. 40 C.F.R. §§ 1502.14(f), 1502.16(h).<sup>45</sup>

The CEQ also has stated: "All relevant, reasonable mitigation measures that could improve the project are to be identified, even if they are outside the jurisdiction of the lead agency or the cooperation agencies ...." Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations, 46 Fed. Reg. 18026, 18031 (March 23, 1981). According to the CEQ, "[a]ny such measures that are adopted must be explained and committed in the ROD." Forty Questions, 46 Fed. Reg. at 18036.

The Tenth Circuit has held that an agency's analysis of mitigation measures "must be 'reasonably complete' in order to 'properly evaluate the severity of the adverse effects' of a proposed project prior to making a final decision." Colo. Env't'l Coalition v. Dombeck, 185 F.3d 1162, 1173 (10th Cir. 1999) (quoting Robertson, 490 U.S. at 352). Mitigation "must be discussed in sufficient detail to ensure that environmental consequences have been fairly

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<sup>45</sup> NEPA regulations require that an EIS: (1) "include appropriate mitigation measures not already included in the proposed action or alternatives," 40 C.F.R. § 1502.14(f); and (2) "include discussions of: ... Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f))." 40 C.F.R. § 1502.16(h).

evaluated.” City of Carmel-by-the-Sea v. U.S. Dept. of Transp., 123 F.3d 1142, 1154 (9th Cir. 1997) (quoting Robertson, 490 U.S. at 353).

“[O]mission of a reasonably complete discussion of possible mitigation measures would undermine the ‘action-forcing’ function of NEPA. Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.” Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 353 (1989). A “perfunctory description,” of mitigation, without “supporting analytical data” analyzing their efficacy, is inadequate to satisfy NEPA’s requirements that an agency take a “hard look” at possible mitigating measures. Neighbors of Cuddy Mountain v. U.S. Forest Serv., 137 F.3d 1372, 1380 (9th Cir. 1998). An agency’s “broad generalizations and vague references to mitigation measures ... do not constitute the detail as to mitigation measures that would be undertaken, and their effectiveness, that the Forest Service is required to provide.” Id. at 1380-81. See also Northwest Indian Cemetery Protective Association v. Peterson, 795 F.2d 688, 697 (9th Cir. 1986), rev’d on other grounds, 485 U.S. 439 (1988) (“A mere listing of mitigation measures is insufficient to qualify as the reasoned discussion required by NEPA.”); Idaho Sporting Congress v. Thomas, 137 F.3d 1146, 1151 (9th Cir. 1988) (“Without analytical data to support the proposed mitigation measures, we are not persuaded that they amount to anything more than a ‘mere listing’ of good management practices.”). Moreover, in its final decision documents, an agency must “[s]tate whether all practicable means to avoid or minimize environmental harm from the alternative selected have been adopted, and if not, why they were not.” 40 C.F.R. § 1505.2(c).

In any subsequently prepared NEPA document on the Book Cliffs LBA, BLM disclose must disclose the effectiveness of mitigation measures. It must do more than list potential measures. In the Red Cliff draft EIS, BLM in some cases failed to indicate whether it would adopt mitigation measures and failed to provide any indication of their effectiveness. See Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 93-94. For example, Red Cliff draft EIS Appendix B contains a 30-page table that identified numerous “mitigation” measures, but for the vast majority of the proposed measures fails to include any information at all concerning their effectiveness. We urge BLM to include complete discussion of each proposed mitigation measure’s effectiveness in any draft EIS on the Book Cliffs LBA.

### **XIII. BLM MUST ANALYZE SUBSIDENCE IMPACTS.**

Any NEPA document BLM prepares must address the reasonably foreseeable impacts of subsidence from mining the LBA area. Given the steep geography of much of the area, the potential for subsidence to lead to landslides is evident, and a potentially significant impact.

BLM has generally disclosed such subsidence impacts when addressing the impacts of other coal leases for underground mining in Western Colorado. Indeed, subsidence impacts have been specifically disclosed as causing an “irreversible and irretrievable” commitment of resources. For example, in an Environmental Assessment for Federal Coal Lease COC-61357 on the Grand Mesa, Uncompahgre, Gunnison National Forest, the U.S. Forest Service stated:

In this case the removal of mined coal is an irreversible commitment of resources. Irretrievable commitments are those that are lost for a period of time. In this case



the temporary loss of vegetative productivity/cover where subsidence occurs is irretrievable commitment of resources.

Soil loss due to erosion and reduced productivity in areas of subsidence are likely to be irreversible and irretrievable. Landslides or other mass movement, are difficult to fully reclaim and may result in permanent landscape features. Mitigation measures required by the Colorado CDMG mining permit will reduce, but not eliminate these adverse impacts.<sup>46</sup>

The impacts for the Book Cliffs LBA are likely, if anything, to be greater, given the area's steep, unstable terrain.

Further, BLM must do more than it did on the Red Cliff Mine draft EIS. That document purports to address subsidence in an appendix (D), but it fails to disclose, among other things, the extent to which subsidence would occur, where subsidence would occur, and to what magnitude and significance subsidence would affect other aspects of the human environment. *See* Earthjustice letter (Mar. 17, 2009) (Ex. 1) at 95-96. Further, the Red Cliff Mine draft EIS erroneously dismisses undertaking a comprehensive assessment of subsidence impacts on surface resources as too difficult, while somehow simultaneously concluding that such impacts will be “minimized,” “avoided,” “mitigated,” or otherwise controlled. *Id.* BLM cannot rely on a similarly flawed analysis for any subsequently prepared NEPA document on the Book Cliffs LBA.

#### **XIV. BLM MUST ANALYZE MARKET AND ECONOMIC ISSUES RELATED TO THE SALE AND EXPORT OF COAL.**

Prior to any lease sale, BLM is required to gather information on the “fair market value” of the tract. 43 C.F.R. § 3400.0-5(n) (defining “fair market value”); 43 C.F.R. § 3425.4(a)(1) (requiring a public hearing on the “fair market values and maximum economic recovery [of] proposed lease tract” for a lease by application).

A recent General Accounting Office report criticized BLM's failure in many cases to properly appraise the fair market value of coal tracts. General Accounting Office, Coal Leasing: BLM Could Enhance Appraisal Process, More Explicitly Consider Coal Exports, and Provide More Public Information, GAO-14-140 (Dec 18, 2013), available at <http://www.gao.gov/assets/660/659801.pdf> (last viewed Mar. 11, 2014). For example, it found that Colorado BLM officials failed to address the potential for coal to be exported, and thus to fetch higher sale prices, in setting the “fair market value” for coal leased here. *Id.* at 38-39 (“Two states in particular—Colorado and Utah—have coal exports from mines on federal leases, but they generally use ... [evaluation measures that do] not explicitly reflect the potential impact of coal exports”).<sup>47</sup> Given that underground mines in Colorado are currently exporting coal to

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<sup>46</sup> U.S. Forest Service, Environmental Assessment, Federal Coal Lease COC-61357 Modification, Tract 4 (Aug. 2008) at 9.

<sup>47</sup> An Interior Department Inspector General's report reached a similar conclusion:

foreign markets, BLM must address the market implications of exporting coal from the Book Cliffs coal lease in any subsequently prepared NEPA document for the lease.

In addressing the costs of exporting coal, in any subsequent NEPA document, BLM must address environmental impacts, including impacts associated with transportation (coal dust, train travel, noise, impacts to fish habitat adjacent to rail corridors, etc.). Coal exports may also have economic impacts, especially if BLM fails to take account of the higher value price some purchasers may be willing to pay to buy coal for export. When coal is undervalued, the U.S. Treasury loses, as do local governments that would collect royalties. American competitiveness may lose too, as subsidized coal gives an advantage to overseas companies. All of these impacts – and GAO’s and the DOI Inspector General’s reports – must be addressed in any subsequently prepared NEPA document.

## **XV. BLM MUST ADEQUATELY ANALYZE THE BOOK CLIFFS LBA’S AIR QUALITY IMPACTS.**

BLM must analyze and assess the impacts to air quality of mining the proposed coal lease, including the impacts of all connected development and other connected actions (e.g., coal combustion, locomotive emissions, etc.). Such an analysis must fully analyze and assess how the proposed action will impact national ambient air quality standards (“NAAQS”), Prevention of Significant Deterioration (“PSD”) increments, and other air quality related values. To this end, BLM must prepare modeling to ensure an accurate disclosure of potentially significant impacts, particularly with regards to emissions of particulate matter, nitrogen dioxide, and ozone. BLM prepared some modeling for the proposed lease when it prepared the Red Cliff Mine draft EIS. BLM must prepare new modeling to ensure that current background air quality concentrations are taken into account and that reasonably foreseeable impacts are appropriately analyzed. BLM must specifically address the following issues.

### **A. BLM Must Analyze and Assess Particulate Matter Impacts.**

BLM must fully analyze and assess the direct, indirect, and cumulative particulate matter impacts, including impacts to ambient concentrations of particulate matter less than 2.5 and 10 microns in diameter (“PM<sub>2.5</sub>” and “PM<sub>10</sub>,” respectively) within and near the coal mining area. Of particular concern is that while BLM has asserted in other projects that the region is not

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BLM does not fully account for export potential in developing the FMVs [fair market values]. The export of public coal has been growing in recent years, especially to Asian markets. The U.S. Energy Information Administration reported 125 million tons of coal exports for calendar year 2012, over twice the export levels of 2007. Likewise, the price of exported coal has more than doubled from 2007 through 2011.... Accordingly, BLM should reflect the export potential in its FMV calculations to ensure the Government receives proper value for lease sales.

Office of Inspector General, Department of the Interior, Coal Management Program (June 11, 2013) at 7, available at <http://www.doi.gov/oig/reports/upload/CR-EV-BLM-0001-2012Public.pdf> (last viewed Mar. 11, 2014).

violating either the 24-hour PM<sub>2.5</sub> or 24-hour PM<sub>10</sub> NAAQS, the region is actually violating the PM<sub>10</sub> NAAQS and is very near to violating the PM<sub>2.5</sub> NAAQS.

That Mesa County, and in particular the Grand Junction area, is currently violating the 24-hour PM<sub>10</sub> NAAQS is borne out by data directly from the U.S. Environmental Protection Agency (“EPA”). As BLM knows, the 24-hour PM<sub>10</sub> NAAQS are violated whenever the expected number of exceedances in any one-year period exceeds 1.0. See 40 C.F.R. § 50.6(a). The expected number of exceedances in any one-year period is determined by recording the number of exceedances in each calendar year and then averaging them over the past three calendar years. See 40 C.F.R. § 50, Appendix K, 2.1(a). The three-year average is also known as the “exceedance based design value.” According to EPA design value data (available online at [http://www.epa.gov/airtrends/pdfs/PM10\\_DesignValues\\_20102012\\_FINAL\\_09\\_05\\_13.xlsx](http://www.epa.gov/airtrends/pdfs/PM10_DesignValues_20102012_FINAL_09_05_13.xlsx), last viewed Mar. 11, 2014), the current exceedance-based design value at the Powell monitor in Grand Junction, based on the years 2010-2012, is 1.2, which is in violation of the NAAQS. This is due in large part to the fact that in 2010, there were an expected 3.5 exceedances of the NAAQS and additional exceedances in following years. More significantly, this same data demonstrates that the exceedance based design value at the Powell monitor has shown a violation of the NAAQS at least six out of the last nine years. See Table below. It appears that PM<sub>10</sub> is a persistent problem in and near Grand Junction that BLM must address in any subsequently-prepared NEPA document.

**Exceedance Based Design Value Data for the Powell Monitor, Grand Junction, CO.  
Data Displays Three-year Average of Expected Number of Exceedances  
Between Years 2003-2012.**

Monitor	Location	2003-2005	2004-2006	2005-2007	2006-2008	2007-2009	2008-2010	2009-2011	2010-2012
08077017	650 South (Powell), Grand Junction	1.3	1.3	1.3	0	0	1.2	1.3	1.2

BLM must also fully address impacts to the 24-hour PM<sub>2.5</sub> NAAQS. To this end, BLM must take into account the most recent background air quality data. Currently, background PM<sub>2.5</sub> concentrations in the area, as based on the three-year average of the annual 98<sup>th</sup> percentile value from the Powell monitor, are hovering at 28 micrograms/cubic meter. In the previous Red Cliff Mine draft EIS, BLM estimated that construction activities at the proposed mine could contribute 10 micrograms/cubic meter or more, effectively leading to a violation of the NAAQS limit of 35 micrograms/cubic meter. BLM must analyze and address the potential for the Book Cliffs LBA to lead to violations of the 24-hour PM<sub>2.5</sub> NAAQS. In addition, BLM must also analyze and assess impacts to the annual PM<sub>2.5</sub> NAAQS, which was revised in 2012. The current NAAQS limits concentrations to 12 micrograms/cubic meter on an annual basis. See, 78 Fed. Reg. 3086 (Jan. 15, 2013).

**Current Background PM<sub>2.5</sub> Concentrations Based on 2011-2013 Design Value Data.**  
**Data queried from EPA’s AirData website, [http://www.epa.gov/airdata/ad\\_rep\\_mon.html](http://www.epa.gov/airdata/ad_rep_mon.html).**

Monitor	Location	2011	2012	2013	Three-year Average
08077017	650 South (Powell), Grand Junction	22	24	40	28

In analyzing and assessing PM<sub>2.5</sub> impacts, BLM must address the impacts of secondary PM<sub>2.5</sub> formation. Such PM<sub>2.5</sub> pollution forms primarily from emissions of nitrogen oxide (“NO<sub>x</sub>”) or sulfur dioxide (“SO<sub>2</sub>”). See 77 Fed. Reg. 65107, 65108 (Oct. 25, 2012). Rules promulgated by the EPA indicate that analyzing secondary PM<sub>2.5</sub> impacts is feasible. See, e.g., EPA, “Implementation of the New Source Review (NSR) Program for Particulate Matter Less than 2.5 Micrometers (PM<sub>2.5</sub>); Final Rule to Repeal Grandfather Provision,” 76 Fed. Reg. 28646 (May 18, 2011).

We also request that BLM analyze and assess the impacts of developing the proposed lease to PSD increments for PM<sub>2.5</sub>, which were adopted by EPA in 2010 (see 75 Fed. Reg. 64864-64907 (Oct. 10, 2010)), and established 24-hour and annual increment limits for Class I and Class II areas. See Table below.

**PM<sub>2.5</sub> Increment Standards Adopted by EPA in 2010 (see 75 Fed. Reg. 64864, 64865)**

Pollutant	Period	Class I increment (micrograms/cubic meter)	Class II increment (micrograms/cubic meter)
PM <sub>2.5</sub>	24-hour	2	9
PM <sub>2.5</sub>	Annual	1	4

In analyzing the impacts of the proposed lease, BLM must address the direct impacts of all connected actions, as well as all reasonably foreseeable indirect impacts.

**B. BLM Must Analyze and Assess Impacts to the 1-hour Nitrogen Dioxide NAAQS.**

BLM must analyze and assess impacts to the 1-hour nitrogen dioxide (“NO<sub>2</sub>”) NAAQS, which were adopted in 2010. See 40 C.F.R. § 50.11(b). This standard limits 1-hour concentrations of NO<sub>2</sub> to no more than 100 parts per billion. We request that BLM prepare dispersion modeling in order to effectively analyze and assess impacts to these NAAQS. BLM has utilized dispersion modeling for other EIS efforts in the region, including for the recently proposed Monument Buttes Oil and Gas Development Project proposed in the Vernal Field Office in Utah.<sup>48</sup>

<sup>48</sup> See BLM, “Draft Environmental Impact Statement for Newfield Exploration Corporation Monument Butte Oil and Gas Development Project in Uintah and Duchesne Counties, Utah, Air Quality Technical Support Document,” UT-G010-2009-0217, at Appendix B, available at [http://www.blm.gov/pgdata/etc/medialib/blm/ut/vernal\\_fo/planning/environmental\\_documents/m](http://www.blm.gov/pgdata/etc/medialib/blm/ut/vernal_fo/planning/environmental_documents/m)

**C. BLM Must Model Ozone Impacts, Especially Because Nearby Areas Are Violating The NAAQS.**

Nearby Rio Blanco County, Colorado is currently violating the ozone NAAQS, a fact the State of Colorado has acknowledged. In a presentation in October, 2013, the Colorado Air Pollution Control Division stated that there is a “new violating site” in Rangely, Colorado due to wintertime ozone in the Uinta Basin. See Colorado Air Pollution Control Division, “2013 Summer Ozone Season Review” (Oct. 17, 2013) at 12, attached as Ex. 24. According to the Division, the current design value for the Rangely, Colorado monitoring site is 0.077 parts per million (“ppm”). Id. at 5. The NAAQS is set at 0.075 ppm. BLM must take this violation into account in analyzing and assessing the impacts of the proposed coal lease and accordingly, must model in order to effectively address these impacts.

To this end, BLM must analyze and assess future ozone impacts. BLM often asserts that current air quality conditions will reflect future air quality conditions, with no supporting analysis or assessment. Such an approach to analyzing air quality impacts is not appropriate under NEPA.

Furthermore, we request that BLM analyze and assess the impacts to the ozone NAAQS based on the EPA’s proposal to strengthen the standards. As the Division notes in its presentation, the EPA has proposed the lower the current NAAQS from 0.075 ppm to between 0.060 and 0.070 ppm. See Colorado Air Pollution Control Division Presentation (Ex. 24) at 13. If the ozone NAAQS are lowered as planned, monitors in the Grand Junction area are likely to fall into violation. It would be wise for BLM to analyze and assess ozone impacts in light of these proposed changes to ensure that the future impacts are appropriately analyzed and assessed in the context of applicable air quality standards.

**D. BLM Must Address Emissions Of Regulated VOCs Associated With Methane Venting.**

In order to effectively analyze and assess ozone impacts, BLM must address emissions of volatile organic compounds (“VOCs”) associated with methane venting at the McClane Canyon coal mine.<sup>49</sup> It is becoming more recognized that VOCs are released together with methane emissions as part of the venting process. In the North Fork Valley of Colorado, where coal is also mined from the Mesa Verde formation, monitoring data shows coal mines are releasing potentially significant amounts of VOC emissions as part of their methane venting operations.

One example is with Mountain Coal Company’s West Elk Coal Mine in Gunnison County. An extended gas analysis prepared by Analytical Solutions, Inc., which was attached as Appendix 2 to a report prepared by Arista in 2009 for Mountain Coal Company documenting the economic feasibility of methane mitigation options, indicates that a number of VOCs regulated under 40 C.F.R. § 51.100(s) are released during the mine’s methane venting. These VOCs include, but are

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<sup>49</sup> By VOCs, we refer to all regulated VOCs identified under 40 C.F.R. § 51.100(s).

not limited to: pentane, hexane, benzene, cyclohexane, heptane, methylcyclohexane, toluene, octane, ethylbenzene, xylene, nonane, decane, undecane, and propane. See Arista Midstream Services, LLC, West Elk Mine Somerset, Colorado E Seam Gathering Options (Sep. 2009) at 23-29, attached as Ex. 25. Below is a table that presents the results of the Analytical Solution extended gas analysis for select VOCs.

**Select VOCs and Volumes, in Parts Per Million, Reported as  
Part of Methane Drainage Well Gas Stream.  
See Arista Report, Appendix 2, at 28 and 29.**

VOC	Volume (ppmv): Gas, V18-E1-38, 5/15/09, 0851	Volume (ppmv): Gas, V14-E1-42, 5/15/09, 0840
i-Pentane	129	94
n-Pentane	51	38
n-Hexane	26.6	13.2
Benzene	0.68	0.49
Cyclohexane	12.8	6.8

Although the Analytical Solution gas analysis found that regulated VOC concentrations are very low, the Arista report found that methane drainage wells vent on average between 4.0 and 6.0 million cubic feet of raw gas daily. Based on the large volume of gas emitted, it appears that even though regulated VOC concentrations may be small, they are measurable and cumulatively may exceed several hundred, perhaps even thousands, of tons annually.

This is evident with regards to just one of the emitted VOCs, hexane, which is also a regulated hazardous air pollutant under Section 112 of the Clean Air Act. According to the EPA, one part per million of hexane equals 3.53 milligrams per cubic meter. See EPA, "Hexane," available at <http://www.epa.gov/ttn/atw/hlthef/hexane.html> (last viewed Mar. 11, 2014). The Analytical Solution gas analysis sampled gas from two methane drainage wells, finding concentrations of hexane from one to be 26.6 and 13.2 ppm from the other. Depending on which gas sample is selected, the total ppm of hexane (expressed as n-hexane) would therefore equal 93.898 milligrams/cubic meter (for the 26.6 ppm sample) or 46.596 milligrams/cubic meter (for the 13.2 ppm sample).

Using the lower number, or 46.596 milligrams/cubic meter, one can calculate daily and then annual emission rates, on a pounds/day and ton/year basis, using factors for converting cubic meters to cubic feet and milligrams to pound, which are readily available online, as follows:

- 46.596 milligrams/cubic meter \* 1 cubic meter/35.3146667 cubic feet =  
1.3258 milligrams/cubic feet;
- 1.3258 milligrams/cubic feet \* 1 pounds/453,592.37 milligrams =  
0.000002923 pounds/cubic feet;

- $0.000002923 \text{ pounds/cubic feet} * 4,000,000 \text{ cubic feet/day} =$   
11.69 pounds/day;
- $11.69 \text{ pounds/day} * 365 \text{ days/year} =$   
4,267.42 pounds/year
- $4,267.42 \text{ pounds/year} * 1 \text{ ton}/2000 \text{ pounds} =$

**2.13 tons/year.**

This represents emissions of just one VOC, hexane, and represents the likely emissions on a ton/year basis from the lower emitting methane drainage well. Yet even here, 2.13 tons/year would exceed reporting thresholds under Colorado Air Quality Control Commission Regulation No. 3. More significantly, based on the calculations in the Analytical Solution analysis, it appears that VOC emissions may approach major source permitting thresholds under Title V and Prevention of Significant Deterioration requirements under the Clean Air Act.

Just assessing the likely propane emissions, it appears that total VOC emissions are likely to exceed 100 tons/year, which would trigger Title V permitting requirements under the Clean Air Act.<sup>50</sup> The Analytical Solution data indicates that of the lower estimated 4.0 million cubic feet/day of raw gas emissions from the West Elk coal mine, 0.106-0.177% of that is considered propane. Using the lower value of 0.106%, this would equal 4,240 cubic feet/day. Assuming normal temperature and pressure, the density of propane is 0.1175 pounds/cubic feet. *See* “Engineering Toolbox,” [http://www.engineeringtoolbox.com/gas-density-d\\_158.html](http://www.engineeringtoolbox.com/gas-density-d_158.html) (last viewed Mar. 11, 2014). Thus, 4,240 cubic feet/day would equal 498.2 pounds/day (4,240 cubic feet/day \* 0.1175 pounds/cubic feet), or 90.92 tons/year. If the higher value of 0.177% is used, then emissions would be 831.9 pounds/day, or 151.82 tons/year.

In light of this data, the Colorado Air Pollution Control Division has recommended that enforcement actions be taken against the West Elk mine, as well as other mines in the North Fork Valley. *See* Colorado Air Pollution Control Division, “Field Inspection Report, Elk Creek Mine” (Nov. 20, 2012) at 22, attached as Ex. 26. Thus, BLM must take this issue seriously and ensure that its analysis fully takes into account VOC emissions associated with methane venting.

**CONCLUSION.**

We respectfully request that, in any subsequently prepared NEPA document, BLM address the issues and questions raised in this letter, as required by NEPA and implementing regulations.

Further, because of the values at stake and the virtual certainty of significant, irreparable harm, we urge BLM to use its discretion to reject the Book Cliffs LBA, or to select the “no action” alternative.

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<sup>50</sup> Propane is a regulated VOC under 40 C.F.R. § 51.100(s).

Thank you for opportunity to comment. If you have any questions about these comments, please contact me at 303-996-9622.

Sincerely,



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Ms. Loretta Pineda, Director, Colorado Division of Reclamation Mining & Safety

## TABLE OF EXHIBIT

- Exhibit 1. Letter of E. Zukoski, Earthjustice to G. Wallace, BLM (Mar. 17, 2009)
- Exhibit 2. Letter of E. Zukoski, Earthjustice to G. Wallace, BLM (Apr. 29, 2009)
- Exhibit 3. Letter of E. Zukoski, Earthjustice to G. Wallace, BLM (May 18, 2009)
- Exhibit 4. Letter of E. Zukoski, Earthjustice to G. Wallace, BLM (June 4, 2009)
- Exhibit 5. BLM PowerPoint, Book Cliffs Coal Lease by Application (Dec. 2012) (from BLM project files)
- Exhibit 6. Map, Book Cliffs Coal Lease By Application (from BLM website)
- Exhibit 7. Letter of Thomas Remington, Director, Colorado Division of Wildlife to G. Wallace, BLM (Mar. 10, 2009)
- Exhibit 8. Letter of J. Martin, CDPHE, and H. Sherman, Colorado DNR to G. Wallace, BLM (Mar. 17, 2009)
- Exhibit 9. Letter of Larry Svoboda, US EPA to G. Wallace, BLM (Mar. 31, 2009)
- Exhibit 10. Letter of Jeff Addison, Arch Coal Inc. to Glenn Wallace, BLM (Mar. 31, 2009)
- Exhibit 11. BLM, Powerpoint, Scoping Meeting, February 25, 2014
- Exhibit 12. Rhino website, <http://www.rhinolp.com/colorado.html> (last viewed Mar. 11, 2014)
- Exhibit 13. U.S. Forest Service, FEIS, Federal Coal Lease Modifications COC-1362 & COC-67232 (Aug. 2012) (excerpts)
- Exhibit 13A. Seeking Alpha, “Arch Coal Q4 2013 Results—Earnings Call Transcript” (Feb. 4, 2014)
- Exhibit 14. Interagency Working Group on Social Cost of Carbon, Technical Support Document (Feb. 2010)
- Exhibit 15. Map, Book Cliffs LBA And Adjacent Coal Leases With High Priority Areas for Raptors and Big Game (Jan. 2014)
- Exhibit 16. Map, Peregrine Falcon Habitat Designations (Mar. 7, 2014)
- Exhibit 17. Map, Mule Deer Habitat Designations (Mar. 17, 2014)

- Exhibit 18. Map, Elk Habitat Designations (Mar. 7, 2014),
- Exhibit 19. Map, Pronghorn Antelope Habitat Designations (Mar. 7, 2014)
- Exhibit 19A. Map, Book Cliffs LBA And Adjacent Coal Leases, Proposed Designations in Grand Junction Draft RMP (Jan. 2014)
- Exhibit 20. The Wilderness Society et al., Grand Junction Book Cliffs Unit: County Line (June 2013)
- Exhibit 21. The Wilderness Society et al., Grand Junction Book Cliffs Unit: East Salt Creek (June 2013)
- Exhibit 22. The Wilderness Society et al., Grand Junction Book Cliffs Unit: Hunter Canyon (June 2013)
- Exhibit 23. The Wilderness Society et al., Munger Creek (June 2013)
- Exhibit 24. Colorado Air Pollution Control Division, “Field Inspection Report, Elk Creek Mine” (Nov. 20, 2012)
- Exhibit 25. Arista Midstream Services, LLC, West Elk Mine Somerset, Colorado E Seam Gathering Options (Sep. 2009)
- Exhibit 26. Colorado Air Pollution Control Division, “Field Inspection Report, Elk Creek Mine” (Nov. 20, 2012)