



January 14, 2016

BLM Director,
1849 C Street N.W., (WO-200),
Washington, DC 20240
sagebrush_withdrawals@blm.gov

Re: Sage Grouse Mineral Withdrawal Comments

The undersigned conservation groups wish to thank the Bureau of Land Management for this opportunity to comment in support of the proposed mineral withdrawal to conserve habitat for greater sage-grouse. This comment applies to both the proposed withdrawal application, and scoping for the Draft Environmental Impact Statement (EIS).

Please see our detailed comments below.

Bonnie Gestring
Northwest Program Director
Earthworks
140 South 4th St. West
Missoula, Montana 59801
bgestring@earthworksaction.org

John Robison
Public Lands Director
Idaho Conservation League
PO Box 844
Boise, Idaho 83701
jrobison@idahoconservation.org

John Hadder
Executive Director
Great Basin Resource Watch
P.O. Box 207
Reno, Nevada 89504
john@gbwr.org

Dan Morse
Conservation Director
Oregon Natural Desert Association
50 SW Bond Street
Bend, Oregon 97702
dmorse@onda.org

Dan Heilig
Senior Conservation Advocate
Wyoming Outdoor Council
262 Lincoln Street
Lander, WY 82520
dan@wyomingoutdoorcouncil.org

Bob Fulkerson
Executive Director
Progressive Leadership Alliance of
Nevada
821 Riverside Drive
Reno, Nevada 89503
bfulkerson@plannevada.org

1. The DRAFT EIS should include an alternative that includes all PACs within the mineral withdrawal and analyzes the additional benefits to greater sage grouse afforded by this expansion.

While the proposed 10 million acre mineral withdrawal in Sagebrush Focal Areas (SFAs) is significant, best available science indicates that all priority areas for greater sage-grouse conservation (PACs), approximately 35 million acres of federal lands, should be protected from mining to ensure grouse survival and recovery.

The National Technical Team recommendation for priority habitat is the “withdrawal from mineral entry based on risk to the sage-grouse and its habitat from conflicting locatable mineral potential and development,” and to “make any existing claims within the withdrawal area subject to validity patent exams or buy out.”

In a March 12, 2015 letter from grouse conservation scientists to Secretaries Jewell and Vilsack, the importance of this recommendation was reiterated, stating, “Closing and recommending for immediate withdrawal lands from leasing or sale (including coal) under federal mineral laws for the maximum period allowed under law (NTT 2011: 22, 24-25, 26).”

The proposed withdrawal falls short of the NTT recommendation to protect priority habitat, and does not include the validity exams or buyouts for valid existing rights. It also does not appear to segregate and withdraw all Wyoming SFAs, as it should. It is notable that the Lander Resource Management Plan did not establish SFAs and is currently excluded from the proposed withdrawal, as is priority habitat for the Bi State distinct population segment.

We therefore urge that the EIS include an alternative, which analyzes the environmental benefits of a mineral withdrawal that includes all PACs.

2. The proposed mineral withdrawal encompasses public lands essential to protecting greater sage-grouse and greater sage-grouse habitat in Montana, Idaho, Wyoming, Oregon, Utah and Nevada.

Sage-grouse once occupied nearly half a million square miles, and its population is estimated to have been in the millions. 75 Fed. Reg. 13,910, 13,920 (Mar. 23, 2010). Sage-grouse now occupy a little over half of their historic range, and the current population is roughly several hundred thousand birds distributed across the West. 75 Fed. Reg. at 13,918-23; *see also* 80 Fed. Reg. 59,858, 59,684 (Oct. 2, 2015). The primary cause of the decline of sage grouse is the loss and fragmentation of sagebrush habitat.¹

¹ US Department of Interior, U.S. Fish and Wildlife Service. March 4, 2010. Endangered and Threatened Wildlife and Plants; 12-Month Findings for Petitions to List the Greater Sage-Grouse (*Centrocercus urophasianus*) as Threatened or Endangered. Available at: <http://www.fws.gov/mountain-prairie/species/birds/sagegrouse/fr03052010.pdf>.

Sage-grouse are considered obligate users of sagebrush and require large, contiguous areas.² Sage-grouse and sage-grouse habitat in these western states are essential to the long-term conservation of the species:

Montana: With nearly 1,000 leks and an estimated 18 percent of the total greater sage-grouse population, Montana is the northern-most stronghold for greater sage-grouse and is key to the species' survival.³ Montana overlaps with three Western Association of Fish and Wildlife Agencies (WAFWA) greater sage-grouse management zones, and the state's populations play an important role in connectivity with greatly reduced populations to the north (Canada) and east (the Dakotas), as well as with more robust populations to the south (Wyoming and Idaho). The best available information for Montana suggests breeding populations have declined by as much as 30 percent.⁴

Idaho: With an estimated 14 percent of the range-wide breeding population and 18 percent of the rangewide priority areas of conservation within its borders, Idaho plays an important role in the health of greater sage-grouse. Located at the northern edge of the Great Basin, Idaho has a cluster of priority habitat areas in the central part of the state that function as a hub for genetic connectivity between the eastern and western portion of the species' range.

Nevada: The state of Nevada, along with a small portion of eastern California along the state boundary, is a key region to the conservation of greater sage-grouse. Nevada has more area recognized as Priority Areas for Conservation for the species as outlined by the Conservation Objectives Team Report than any other state except Wyoming.

Oregon: With 13 percent of the Priority Areas for Conservation, southeastern Oregon is the western anchor of the greater sage-grouse range. It supports 6.3% of known male populations rangewide.

Wyoming: Wyoming is a stronghold for greater sage-grouse, with the most birds and the most sagebrush of any state. The state is home to 43 million acres of sagebrush, an estimated 37 percent of the greater sage-grouse population and more leks than any other state.

Utah: Sage-grouse populations in Utah are important because they represent numerous resilient populations across a diverse landscape; contributing to the long-term viability of the species across its range. Utah is home to the most southern population of sage-grouse within the species range, providing evidence of historic linkages to the south.

² Id.

³ USDA, USFS, et al., Greater Sage Grouse Conservation in Montana Fact Sheet, available at http://www.blm.gov/style/medialib/blm/mt/blm_programs/wildlife/sagegrouse.Par.29130.File.dat/MTGrSGFactSheet_FINAL%20%281%29.pdf

⁴ Connelly, J.W., Braun, C. E. 1997. Long-term changes in sage grouse *Centrocercus urophasianus* populations in western North America. *Wildlife Biology*.

3. The proposed mineral withdrawal is essential to protecting sage-grouse and sage-grouse habitat because the 1872 Mining Law and associated case law prioritizes mining over all other land uses.

The General Mining Law of 1872, more commonly known as the 1872 Mining Law, is the fundamental statute governing hardrock mineral development on federal public lands.⁵ Its central tenet, unchanged in 143 years, is that: “all valuable mineral deposits in lands belonging to the United States, both surveyed and unsurveyed, shall be free and open to exploration and purchase, and the lands in which they are found to occupation and purchase . . .”

Under The General Mining Law of 1872 and related case law, the United States Forest Service and Bureau of Land Management prioritize mining over all other land uses. The agencies assert that they have no authority to prohibit an otherwise reasonable plan of operations for such mining (i.e., one that can be characterized as the logical next step in the orderly development of a mine). As a result, these federal land management agencies take the position that they are limited to trying to minimize the impacts of mining, rather than denying mining operations that would have adverse effects on public lands with high conservation values.

As described by the Nevada 2014 Sage Grouse Conservation Plan, “Locatable mineral development and exploration is governed under the General Mining Law of 1872 and is a nondiscretionary activity on federal lands.”⁶

This conflict is particularly well illustrated in Nevada, where the extent of mining activities across the state of Nevada overlaps extensively with the range of sage-grouse habitat. Approximately 2 million acres of locatable mineral claims are located in sage-grouse habitat in Nevada.⁷ Absent a mineral withdrawal, this habitat could not be prioritized for conservation.

4. Mineral exploration activities usually require no NEPA review, and thereby represent a risk to sage grouse and sage grouse habitat, which should be analyzed in the EIS.

⁵ Act of May 10, 1872, 17 Stat. 91 (codified as amended at 30 U.S.C. §§ 22-47 (1994)). The Law, although originally covering most minerals, is now limited to what are commonly known as “locatable” minerals. The most important of these types of minerals are “hardrock” minerals such as gold, silver, copper, molybdenum, and uranium, among others. Non-uranium “fuel” minerals such as oil and gas and coal, were removed from operation of the Mining Law by the Mineral Leasing Act of 1920, 30 U.S.C. §§ 201-210 (1994) and are regulated under entirely separate statutory and regulatory regimes. In addition, the Surface Resources Act of 1947, as amended in 1955, removed “common varieties” of sand, stone, gravel, and clay from operation of the 1872 Law. *See* 30 U.S.C. §§ 601-615 (1994).

⁶ State of Nevada Sagebrush Ecosystem Program, 2014 Greater Sage Grouse Conservation Plan, October 1, 2014.

⁷ *Id.*

Under USFS and BLM mining regulations, mineral exploration conducted pursuant to the Notice of Intent (NOI) process is exempted from public and agency review under NEPA, which likely results in inadequate review of impacts to wildlife such as the greater sage grouse. BLM regulations mandate that any exploration resulting in less than five acres *per year* is exempt from NEPA (43 CFR Part 3809). USFS regulations do not have an acreage-level cutoff for NOIs, and allow NOI NEPA exemptions for mining as well as exploration operations at the discretion of the District Ranger or Forest Supervisor. In addition, the USFS categorical exclusion for exploration projects that do require Plans of Operation allows for truncated agency (and little) public review of such operations. In addition, although consultation under the ESA for NOI-level operations is required for listed species, since the greater sage grouse is not listed, this protection does not apply here.

Because federal mining regulations require Plans of Operations (and thus NEPA review) for operations proposed in withdrawn areas, it is critical that the maximum withdrawal acreage be established in order to ensure full public and agency review of mining impacts to the species.

As just one example, in 2014, a California-based mining company proposed the BSM Barite Project on approximately 5-acres of Forest Service and 5-acres of BLM-administered lands in Idaho. The project was located in the head of Deep Creek within Copper Creek Basin of the Pioneer Mountain Roadless Area. This area has been a focus for the Pioneer's Alliance; a coalition of ranchers, local residents, conservationists, scientists, business people, and elected and agency officials, that formed in 2007 to protect the Pioneer Mountains and Craters of the Moon region of south-central Idaho. The group has been conducting sage-grouse lek surveys in the area for the last seven years. Prior, the area had not previously been surveyed for sage grouse leks due to difficult access during the spring season. Numerous new leks have been identified through the surveys and the data has also confirmed the importance of the high ridgelines of mountains overlooking Craters of the Moon for fall and winter use by sage grouse.

This particular project threatened known sage-grouse habitat through exploration but was also of concern because sage-grouse leks were known to occur in and around the transportation route. The initial project included constructing 16 drill pads 30' x 20' in dimension and drilling 22 holes, and constructing $\frac{3}{4}$ of a mile of new road. While the Forest Service initiated scoping and development of an Environmental Assessment, the BLM did not conduct any NEPA analysis because the total acres of disturbance on BLM land was fewer than 5-acres. Local private property owners, community members, and conservation groups were, in fact, unaware of the activity on BLM land because the agency did not scope it. It was only the NEPA proceedings on the adjacent Forest Service property that alerted the public to the project. Ultimately, the proposal was withdrawn because concerned private property owners did not allow access across their property to the site. It remains to be seen whether the proponent reapplies with an alternate access route. The surrounding area has an extensive mining history and it is likely that some of the same mineral deposits may be located on adjacent and nearby unclaimed areas. Mineral withdrawal in this area would protect documented and valuable sage grouse habitat.

5. Hardrock mining is incompatible with the protection of sage grouse and sage grouse habitat because impacts associated with large-scale surface disturbance are long-term and unavoidable. These impacts should be thoroughly analyzed in the EIS.

Biologists have determined that sage-grouse are highly loyal to, and rarely move away from, an area after they have selected it, which makes them less adaptable to change and more susceptible to habitat loss.⁸ Furthermore, sage grouse are considered obligate users of sagebrush and require large, contiguous areas.⁹

Mining, road construction, power lines, fences and reservoirs have resulted in loss and fragmentation of sage grouse habitat.¹⁰ Because of the long-term nature of the impacts, the habitat values are generally not recoverable.¹¹



Large scale mining at the Goldstrike Mine in Nevada.

⁸ http://nvbar.org/articles/sites/default/files/NevLawyer_July_2014_Sage_Grouse.pdf

⁹ Id.

¹⁰ U.S. BLM, Draft Supplement Environmental Impact Statement, South Operations Area Project Amendment, August 2007.

¹¹ Id.

Additional habitat losses can occur if supporting infrastructure, such as roads, railroads, utility corridors, etc., become permanent landscape features after mining and reclamation are completed (Moore and Mills 1977). (2260 Federal Register/Vol. 70, No. 8/Wednesday, January 12, 2005/Proposed Rules)

Surface disturbance from large-scale mining is significant, often affecting thousands of acres of land, where the existing habitat is completely altered to accommodate the industrial activities associated with hardrock mining, including waste rock piles, tailings impoundment facilities, open pits, roads, milling operations, process ponds, and heap or vat leach operations. These impacts are often long-term, continuing for decades or resulting in permanent transformation (e.g., open pits).

For example, at the Goldstrike (Betze Pit) Mine in Nevada, three leks occurred immediately within the project vicinity. Two of these leks have been consumed by the Goldstrike Mine. The third lek is 1.5 miles north of the project area and has not been active since 1989.¹² The mine has been in operation for over 25 years.

At the Long Canyon Mine in Nevada, the cumulative effects analysis identified 3,562 acres of greater sage grouse disturbance from past and present mineral development and exploration in the region, and another 4,588 acres of disturbance from the proposed activity within the cumulative effects disturbance area.¹³ According to the EIS, impacts from past, present, and RFFAs in combination with the Proposed Action would result in cumulative displacement and habitat fragmentation, as well as short-term to long-term disturbance and removal of habitat and forage areas. Displacement and habitat fragmentation decreases survival rates (decreased breeding, nesting, and brood survival) of affected individuals. Cumulative impacts would result from increased ambient noise levels and direct mortalities associated with collisions with vehicles, fences, and transmission lines.

Similarly, the Bald Mountain Mine FEIS identifies the extent of existing and proposed sage grouse habitat unavoidably disturbed as a result of mining operations (see Table 3-10 below).¹⁴ The FEIS states that disturbance to 3,920 acres of wildlife habitat are unavoidable and 540 acres will be irretrievably lost as a result of the unreclaimed open pit.¹⁵

¹² US BLM, *Betze Pit Expansion Project, Draft Environmental Impact Statement*, August 2008. p. 3.8-11.

¹³ *Id.*

¹⁴ US BLM, *Final Environmental Impact Statement for the Bald Mountain North Operations Area Project*, August 2009.

¹⁵ *Id.*

TABLE 3-10 DISTURBANCE BY VEGETATION COMMUNITY TYPE

VEGETATION COMMUNITY TYPE	AREA WITHIN PLAN OF OPERATIONS BOUNDARY (ACRES)	PREVIOUSLY AUTHORIZED (NO ACTION ALTERNATIVE) (ACRES)	PROPOSED ACTION (ACRES)	PARTIAL BACKFILL ALTERNATIVE A (ACRES)	LEACH PAD ALTERNATIVE B (ACRES)
Pinyon-Juniper Community	7,482.0	1,930.0	1,712.0	1,522.0	1,652.0
Big Sagebrush Community	7,941.0	2,087.0	1,917.0	1,1673.0	1,872.0
Low Sagebrush Community	130.0	0.0	72.0	72.0	72.0
Mountain Brush Community	912.0	148.0	219.0	219.0	219.0
Total	16,465	4,165.0	3,920.0	3,486.0	3,815.0

6. Hardrock mining can result in significant adverse effects to water quality and quantity, which should be analyzed in the EIS.

Hardrock mining can result in significant adverse impacts to water quality and quantity. The perception that modern mining techniques can effectively prevent water quality impacts has been effectively challenged by a recent comprehensive study of modern U.S. mines.¹⁶ The peer reviewed study compared predicted water quality impacts during mine permitting to observed impacts once operations commenced at a representative sample of 25 U.S. mines. In summary it found that:

- 100% of mines predicted compliance with water quality standards prior to operations (assuming pre-operations water quality was in compliance).
- 76% of mines exceeded water quality criteria as a result of mining.
- 64% of mines employed mitigation measures that failed to prevent water quality contamination.

Similarly, a recent peer-reviewed study reviewed state and federal documents and a federal database for fourteen currently operating copper mines representing 89% of U.S. copper production in 2010 – the most recent data on copper production available from the U.S. Geological Survey.¹⁷ The study reviewed three failure modes: 1) pipeline spills and other accidental releases, 2) failure to capture and treat mine seepage and 3) partial or total tailings dam failures. It found that:

¹⁶ Kuipers, J.R., Maest, A.S., MacHardy, K.A., and Lawson, G. 2006. Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements. Available at:

http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=513581

¹⁷ Earthworks. 2012. *U.S. Copper Porphyry Mines Report: The Track Record of Water Quality Impacts Resulting from Pipeline Spills, Tailings Failures and Water Collection and Treatment Failure*. Washington, DC. Available at:

http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=513584 USEPA (U.S. Environmental Protection Agency). 2014. 910-R-14-001.

- 100% experienced at least one or more accidental release.
- 92% failed to capture and treat mine seepage.
- 28% experienced partial or total tailings impoundment failures.

In addition to impacts to water quality, hardrock mining can have significant impacts to water quantity, particularly in arid regions. A typical cyanide leach gold operation utilizes substantial amounts of water, as quantified in a 2012 USGS report.¹⁸ According to the report, an average heap-leach mine with a capacity of 5 Mt/yr is estimated to require approximately 15 to 30 billion liters per year (L/yr) for one full year operation, plus makeup water requirements that may range from about 1 billion to 6 billion L/yr. Haulage road lengths are highly variable, but a typical haulage road network of 20 km could require several billion liters of unrecoverable water for one full year of dust suppression. Water requirements are determined by numerous factors, and water-based solutions, such as those that contain magnesium chloride, can significantly decrease water requirements for dust suppression.

The dewatering effects of mining are highlighted in a report about the hydrologic effects from six mines within the Humboldt River basin in Nevada.¹⁹ It found that six mines within the Humboldt River basin have pumped almost 3,800,000 acre feet (af) of groundwater through 2014 to keep their pits or underground mines dry. Averaged over 25 years, the dewatering rate is about 152,000 af/y. About 22% of the dewatering has been discharged to surface water, primarily the Humboldt River or a nearby tributary. About 34% has been returned to the basin of origin either through reinfiltration to nearby aquifers or by replacing existing irrigation water supplies. About 12% of the dewatering is consumptively used, mostly in mining and milling operations.

While sage-grouse do not require free water and can obtain water needs by ingesting insects and vegetation, these food sources do require water. Impacts to sage grouse and sage grouse habitat from reductions in surface water availability due to mining are identified in various NEPA documents for mining operations in Nevada, such as the South Operations Area Project/Gold Quarry Mine.²⁰ The Cumulative Impacts Analysis states that “A potential reduction in naturally occurring seeps, springs, and perennial stream reaches and their associated riparian and mesic communities could ultimately affect the amount of potential brooding and foraging habitat for sage grouse. This incremental habitat loss would be long-term, and it is assumed that the birds that are closely associated with these habitat types would be displaced.” It further states that, “A decline in surface water availability would impact the extent of open water and riparian vegetation along perennial streams. This incremental habitat loss would be long term, and

¹⁸ Bleiwas, D.I., 2012, Estimated water requirements for gold heap-leach operations: U.S. Geological Survey Open-File Report 2012–1085, 15 p., available only at <http://pubs.usgs.gov/of/2012/1085>.

¹⁹ Myers, Tom. Ph.D., Hydrogeology of the Humboldt River Basin, Impacts of Open Pit Mine Dewatering and Pit Lake Formation, June 2015.

²⁰ US Department of Interior Bureau of Land Management, *Cumulative Impacts Analysis of Dewatering and Water Management Operations for the Betze Project South Operations Area Project Amendment, and Leeville Project*, April 2000.

it is assumed that the birds that are closely associated with these riparian areas would be displaced,” and “A reduction in riparian vegetation also could be a limiting factor in brood rearing during the later summer when food sources, such as upland forbs, may decline due to dry conditions. The estimate of riparian or wetland habitat types that could be affected by a possible reduction in surface water and vegetation associated with spring, seep, or riparian areas is approximately 618 acres.”²¹

7. The following examples of mining operations in Montana, Idaho, Nevada, Oregon and Wyoming demonstrate that the 1872 Mining Law and associated state and federal regulations cannot ensure the protection of wildlife habitat from the impacts of hardrock mining.

Mines regulated under the 1872 Mining Law and associated state and federal regulations have resulted in significant impacts to wildlife and wildlife habitat. The following examples demonstrate that existing laws and regulations cannot ensure the protection of wildlife habitat.

WYOMING - Lost Creek Uranium Mine

The adverse effects to sage grouse from the Lost Creek Uranium Mine have been well documented in a recent report, “*Sage Grouse Conservation Efforts and Population Trends - A Wyoming Case Study*.”²² This project occupies a 6-square-mile project area, consisting of nine clusters of wells—each containing approximately 50 injection, recovery, and monitoring wells—inside an otherwise almost pristine Core Area to the south of Crooks Mountain in the northern Red Desert.

The Discover sage grouse lek complex (consisting of the Discover, Discover East, and Discover South leks) was located within 0.6 miles of the proposed western access road and the Green Ridge lek was located within 1.9 miles of the east main haul road. In addition, the Eagle Nest and Prospects South leks were located within 2 miles of the project boundary. Early development activities on the Lost Creek site resulted in major declines in sage grouse Core Area populations nearby. These particular populations have continued to trend downward.²³

During the summer of 2012, construction began on the Lost Creek project, and heavy equipment and truck traffic began using both main haul roads. Now, three years later, construction and production activities continue, and a substantial in situ uranium leaching facility appears complete. Plans have been announced to expand on-site processing of uranium ore from neighboring uranium mines as well, which will further increase the amount of truck traffic on the main haul roads passing near sage grouse leks beyond the level contemplated in the 2011 federal impact analysis.

²¹ Id.

²² Molvar, Erik M., “Sage Grouse Conservation Efforts and Population Trends – A Wyoming Case Study,” August 2015.

²³ Western Association of Fish and Wildlife Agencies. 2015. Greater sage-grouse population trends: An analysis of lek count databases, 1965- 2015. Cheyenne, WY, 54 pp.

Meanwhile, for the Discovery lek complex—which contains three leks within 0.5 miles of the west haul road—two of the leks have declined to zero males as of 2015, with the overall cumulative maximum lek attendance declining from 29 strutting males in the spring of 2012, to just seven males in the spring of 2015. For the Green Ridge lek—located within 1.9 miles of the east main haul road—maximum male lek counts dropped from 55 in 2012 (before commencement of construction), to 27 in 2015.

In addition, the populations of leks within 2 miles of the project area boundary, but farther than 2 miles from main haul roads (i.e., the Eagles Nest and Prospects South leks), also declined following initial development of the project.

The Eagles Nest lek's maximum count dropped from 64 males in spring of 2012 (prior to initiation of construction activities), to six males in 2015. While, on the Prospects South lek, male sage grouse were last spotted strutting in 2011, and have not returned to the lek ever since. Overall, sage grouse lek counts in the Lost Creek area have declined from 148 males in spring of 2012 (just before the uranium project commenced construction), to only 40 males in 2015. The decline continued throughout 2014 and 2015—years when favorable conditions have supported a population rebound across other areas of Wyoming as a whole.

MONTANA - Zortman Landusky Mine

The Zortman Landusky Mine is an open pit gold mine located in north central Montana, immediately northwest of the public lands proposed in the mineral withdrawal. Land disturbance from this mining operation is substantial, with a total acreage of approximately 1,189 acres of private and BLM managed public lands.

Twenty one amendments to the operating plans for Zortman and Landusky mines were approved between 1980 and 1991, which allowed the mine disturbance area to double in size from the originally permitted mine.²⁴ In 1992, the company submitted plans for another major expansion of the mine, however, review of water resources showed that acid mine drainage was a widespread occurrence at the two mines. In 1998, the company filed for bankruptcy.

In June 2004, the BLM pulled the mines into CERCLA time-critical removal action due to the release of substantial amounts of hazardous substances, including cyanide, arsenic, selenium, cadmium, copper, and zinc. Cyanide, selenium, and metals are found on-site in elevated levels, are hazardous substances as defined in the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended, Section 101(14), and are listed in 40 CFR Section 302.4 "List of Hazardous Substances and Reportable Quantities."

The mine also uses land application to dispose of wastewater, which has resulted in significant harm to soils and potentially toxic levels of selenium. Land application of the effluent was initiated on the Goslin Flats south of Zortman, MT. The initial system

²⁴ US BLM and Montana DEQ, *Final Supplemental Impact Statement for Reclamation of the Zortman and Landusky Mines*, December 2001.

covered 22.3 hectares (55 acres) but was rapidly expanded to approximately 166 hectares (410 acres). Based on data collected in 2001, significant impacts to the soil system have occurred with most soils now being both saline and sodic/alkaline and containing potentially toxic levels of selenium.²⁵ Chronic effects of selenium manifest themselves in immune suppression to birds (Fairbrother et al. 1994), which can make affected birds more susceptible to disease and predation. Selenium toxicity will also cause embryonic deformities and mortality (see et al. 1992, Skorupa and Ohlendorf 1991, Ohlendorf 2002)

In 2011, a large storm event caused a major failure of the waste rock piles, releasing 56 million gallons of untreated mine water from the Zortman Mine and 19 million gallons of untreated mine waste water from the Landusky mine into several streams.²⁶

Altogether, the mine has resulted in pollution to twelve streams in the region, which do not meet state water quality standards.²⁷ Impairment in these streams, totaling 70 miles, has resulted from elevated levels of various contaminants, including cadmium, arsenic, lead, iron, selenium, zinc, aluminum copper thallium, cyanide, and pH.²⁸ According to Montana Department of Environmental Quality, the chronic and acute toxicity of metal and cyanide pollutants were identified as impairing cold-water fishes, warm water fishes, drinking water uses, primary contact recreation, and agricultural and industrial uses in planning area streams.²⁹

Despite efforts to regulate the Zortman Landusky Mine, significant adverse effects to vegetation, wildlife habitat, soils, water quality and water quantity occurred. If these impacts were to occur within the Greater Sage Grouse priority habitat areas, adverse impacts to sage grouse and sage grouse habitat would result.

NEVADA – Goldstrike (Carlin Mines), Bald Mountain Mine, other concerns

Sage Grouse populations and priority habitat form a fairly continuous and concentrated band across the northern part of Nevada. This habitat extends into Oregon and Idaho and constitutes an important region for conservation. There are numerous threats to the habitat including mineral exploration and development. The Carlin trend mines that form a band of open pit and underground mines running northwest from the town of Carlin Nevada have obliterated sage-grouse habitat. Prior to mining activities this area was most likely prime habitat. Recent EIS analyses of mine expansions in the Carlin trend affirm the potential for sage-grouse habitat.

²⁵ Fisher Jr., Scott E., “An Overview of Planning and Management of the Land Application System on the Goslin Flats – Zortman and Landusky Mines, Montana. Available at: <http://www.asmr.us/Publications/Conference%20Proceedings/2004/0593-Fisher%20MT.pdf>

²⁶ Montana DEQ, Zortman: Dealing with Extreme Weather Events, available here: http://www.mtech.edu/mwtp/conference/2012_presentations/Warren%20McCullough.pdf

²⁷ Montana DEQ. 2012. Landusky Metals Total Maximum Daily Loads and Framework Water Quality Restoration Plan. Helena, MT: Montana Dept. of Environmental Quality.

²⁸ Id.

²⁹ Id.

The Betze pit expansion EIS³⁰ states, “Historically, three leks occurred immediately within the project vicinity (Lamp 2007b). However, two of these leks have been consumed by the BGMI Goldstrike Mine in recent years. The third lek is 1.5 miles north of the study area and has not been active since 1989 (BLM 2007b). The nearest active lek occurs approximately 5.5 miles north of the study area and is considered in the cumulative effects analyses.” (p 3.8-11) Thus, the region would seem to have once contained a significant sage-grouse population. The EIS goes on to state, “Greater sage-grouse have been observed within the project area and suitable habitat is present. However, surveys conducted in March 2008 found little sign and indicated the project area as low density habitat (SRK 2008b).” (p. 3.8-11). This indicates that while there maybe habitat for sage-grouse, the bird has been largely, if not entirely, driven out by mining activities. The EIS concludes the following in terms of impacts to sage-grouse from *this* expansion:

No active greater sage-grouse lek sites have been identified within the project boundary. As discussed in Section 3.8.1.5, the nearest active lek site occurs approximately 5.5 miles north of the project boundary. As a result no impacts to breeding greater sage-grouse would be anticipated from project activities. Although greater sage-grouse could nest in upland habitats within the project boundary, it is anticipated that brooding activity would be low, due to the limited availability of surface water and riparian vegetation in the study area. Potential direct impacts would include the incremental long-term reduction of approximately 943 acres of nesting habitat, summer range, and winter range. Direct impacts to this species would include the long-term reduction of approximately 867 acres of sagebrush shrublands habitat and the permanent loss of approximately 101 acres of sagebrush shrublands habitat in association with the development of the proposed facilities. Indirect impacts would continue to result from mine-related noise and human presence. This impact would be considered negligible based on the overall availability of suitable habitat in the vicinity of the project. (p. 3.8-25)

In summary, the impact has already occurred so the expansion will not significantly affect any existing population. The situation is typical with extractive development in that it often tends to grow in increments where each expansion is considered a negligible additional affect on the environment. But, over time these expansions accumulate to a large impact and EIS analyses have not been effectual in addressing this problem of cumulative impacts of sage-grouse and other wildlife from incremental development. In this way conservation efforts are often thwarted in the NEPA process, and there is little certainty in protection of critical habitat in the long-term, which underscores the need for a mineral withdrawal that establishes protected habitat.

³⁰ US BLM, *Draft Supplemental Environmental Impact Statement Betze Pit Expansion Project*, August 2008.

Another problem that often occurs in EIS documents is neglecting effects of development by use of direct impact comparative figures. For example, in the EIS for the Arturo Mine Project³¹ at the northern end of the Carlin Trend, the following table is presented:

Table 3.18-1 Cumulative Special Status Species Habitat Disturbance

CESA	Habitat Classification	Total Acres of Habitat	Acres of Habitat Disturbed by Fire	Acres Disturbed by the Proposed Action	Acres of Habitat Disturbed by Mining Operations (Past, Present, and RFFAs ¹)	Acres of Habitat Disturbed by Utility and Energy Development (Past, Present, and RFFAs)	Percent of Total Habitat Acres Disturbed
Special Status Species ²	NA	2,389,947	1,131,690 (47%)	2,505 (<1%)	38,622 (2%)	3,210 (<1%)	1,172,817 (49%)
Greater Sage-grouse (habitat type) ³	NA	2,272,791	1,051,007 (46%)	2,505 (<1%)	37,142 (2%)	3,210 (<1%)	1,093,864 (48%)
Greater Sage-grouse (habitat classification) ⁴	PPH - important	492,240	257,541 (52%)	808 (<1%)	122 (<1%)	223 (<1%)	258,694 (53%)

¹ See Table 3.1-1 for breakdown of mining projects.

² The special status CESA is identical to the wildlife CESA, excluding greater sage-grouse.

³ Includes NDOW designated nesting, early brood, late summer, and winter habitat.

⁴ PPH and PGH are as described in BLM Instruction Memorandum 2012-043.

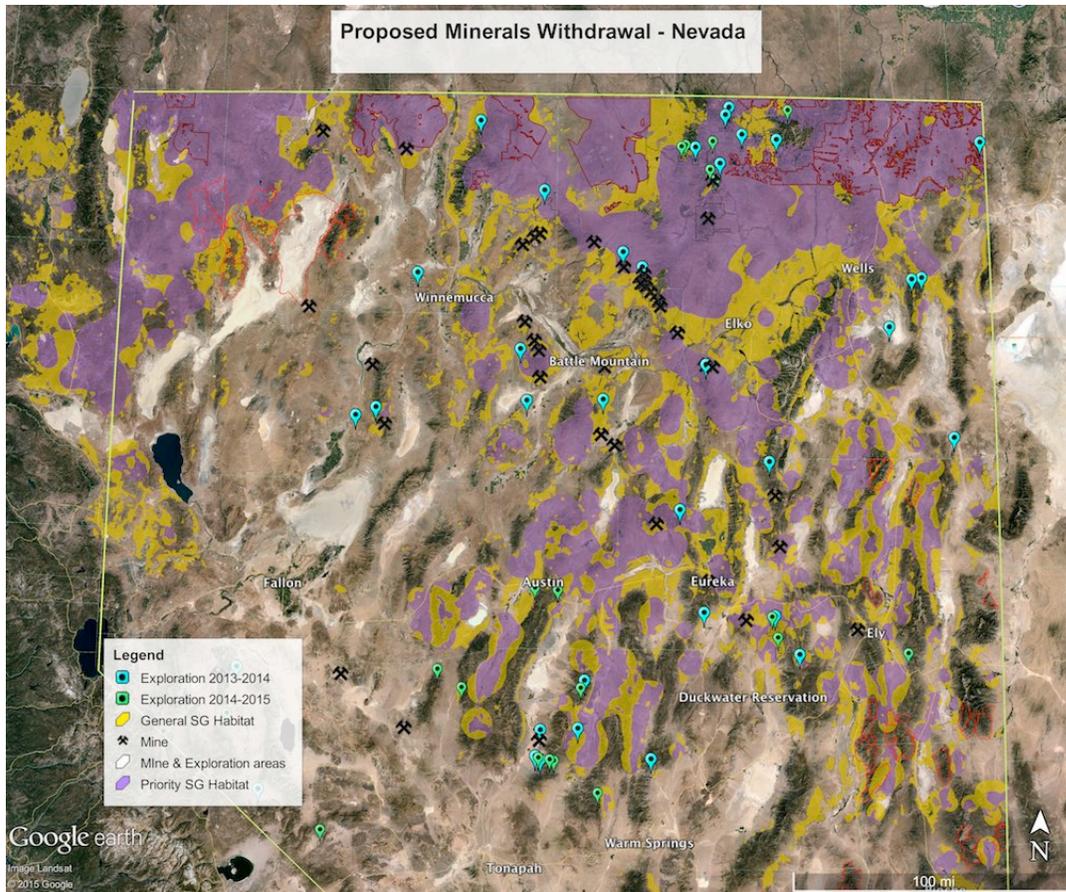
Sources: BLM 2012; NDOW 2012, 2010a; U.S. Geological Survey 2004.

The EIS notes the small impact (as a percent of the whole) of mining on sage-grouse due to the *direct disturbance impact*. However, biologists have been learning that the indirect affects of development, especially noise, play a very important role. Considerations of the indirect impacts extend the influence of the mining operation considerably, and like the Arturo EIS, typical NEPA analysis relies too heavily on the direct impacts number analysis. Even when the cumulative analysis is done it is incomplete and fails to adequately address the important issue of indirect impacts. Therefore, sage-grouse conservation remains uncertain.

The Arturo EIS and other EIS's do not fully recognize the potential impacts from mine dewatering. The Arturo EIS states, "Combined with mine groundwater pumping activities from other mining projects, within the greater sage-grouse CESA, loss of wetland habitat or reduced flows in springs and seeps, may impact important brooding habitat for greater sage-grouse and other special status species (BLM 2010b). Loss of wetlands and reductions or elimination of flows in springs and seeps could impact greater sage-grouse dependent on these sites and may impact the distribution and use of habitat during the spring, summer, and early fall." (p. 3.18-23) However, the long-term groundwater impacts are not discussed. For example, in Nevada, due to the dry climate, open pits that fill with water after mining has ended, called pit lakes, will continue to draw water from the aquifer as water evaporates from pit lakes. The effect on seeps and springs from the remaining pit lakes is not well understood, and it remains unclear how riparian areas will be affected. Again, this is another uncertainty around sage-grouse conservation.

³¹ US BLM, *Draft Environmental Impact Statement for the Arturo Mine Project*, December 2012.

Across Nevada are numerous mining exploration projects. The map below shows those that have occurred in the past 2-3 years that are larger than 5 acres on national forest land. Each of these projects involves road development, pad drilling with the associated noise, heavy vehicle traffic and in some cases power line development. All of this, taken on the whole, seriously fragments habitat and weakens the conservation objectives for sage-grouse and other species. Not only are sage-grouse breeding areas affected, but also wildlife migratory routes, which is particularly striking in the case of the Bald Mountain Mine and its associated exploration activities. Land managers without fail allow these explorations, which tend to increase in frequency as mineral prices rise. Predicting the



frequency of mineral explorations is difficult and not all mineral commodities track coherently, so even if gold exploration is down it does not mean that, say copper, is also down. Mineral exploration adds another undependable layer of impact to habitat.

There is one very significant potentially imminent threat to sage-grouse in northern Nevada, which would be addressed by this mineral withdrawal. The Western Great Basin sage-grouse conservation region contains a minimum of 5,904 males based on counts at 393 leks.³² This population is shared among southeastern Oregon, northeastern California

³² Garton, E.O., J.W. Connelly, J.S. Horne, C.A. Hagen, A. Moser, and M. Schroeder. 2011. Greater sage-grouse population dynamics and probability of persistence. Pp. 293-382 in S.T. Knick and J.W. Connelly (eds). Greater Sage-Grouse: ecology and conservation of a landscape

and northwestern Nevada. Range-wide for sage-grouse, this area contains one of four remaining large intact expanses of sagebrush habitat and connects south-central Oregon with northwest Nevada, with most of the sagebrush dominated landscape in Oregon.³³ Within this important population is the Lone Willow subpopulation, also connected to Oregon, in the Kings Valley and Santa Rosa range, which was affected by a very large wildfire in 2012. The Holloway Fire burned approximately 214,000 acres in Nevada and 245,000 acres in Oregon of which about 140,000 acres in Nevada and 221,000 acres in Oregon were considered important or essential sage-grouse habitat.³⁴

At this time the Lone Willow population is compromised and the potential for development of a large scale lithium mine in King Valley represents a real threat to the sage-grouse as stated in the COT report⁵, “Along with infrastructure that may come with this potential development, it may be appropriate to characterize mining and infrastructure as substantial, non-imminent threats to this portion of the population.” (p. 82) Given, the various uncertainties discussed above, there is no guarantee that this population will be spared unless there is a withdrawal. The current proposed withdrawal would protect most of this population, but an expansion a bit to the south in the area is advised.

Central and Eastern Nevada contain the largest populations of sage-grouse in the Southern Great Basin population within Management Zone 3. Although both of these areas contain important sage-grouse populations, the central Nevada areas are seen as more resilient in the long-term and more attention has been given to this region. The habitat in this region is somewhat uncharacteristic for sage-grouse and appears disjointed, but is considered connected. Mining potential in this region is large—as is clear by the enormity of mining claims, and in fact, the Pan Gold mine was recently permitted and is in operation in this region, which is within priority habitat. The Mount Hope project has yet to clear legal entanglements and water rights, but is permitted otherwise and waiting for financing, which would impact a large region that also contains sage-grouse habitat. Populations in this part of Nevada are at risk due to fragmentation from mining and other development. The Dept. of Interior should reconsider withdrawals in this region.

The Bald Mountain mine sprawls across the far southern portion of the Ruby Mountains just below the Ruby marshes, and has been controversial in its effect on the largest mule deer migratory route in Nevada. Over the years this mine has been expanding and has

species and its habitats. *Studies in Avian Biology* (vol. 38). University of California Press, Berkeley, CA.

³³ Knick, S.T. and S.E. Hanser. 2011. Connecting pattern and process in greater sage-grouse populations and sagebrush landscapes. Pp. 383-406 in S.T. Knick and J.W. Connelly (eds). *Greater Sage-Grouse: ecology and conservation of a landscape species and its habitats. Studies in Avian Biology* (vol. 38). University of California Press, Berkeley, CA.

³⁴ U.S. Dept. of Interior, “Greater Sage-grouse (*Centrocercus urophasianus*) Conservation Objectives: Final Report,” Appendix A, February 2013.

created significant impacts to habitat there. According to the draft EIS on Bald Mountain Mine³⁵ which states,

Field studies have documented greater sage-grouse within the study area (SRK 2008). ... The eastern half of the southern block of the SOA (south operations area) contains areas of suitable winter and early brood-rearing habitat. Existing disturbance in this area has compromised these historic brood rearing habitats. Due to lack of perennial water sources particularly those which provide riparian areas with sagebrush shrubland habitat, brood rearing habitat is very limited within those study areas. Nonetheless based on the documented occurrence of birds within the study area (NDOW 2012), the presence of suitable breeding and nesting habitat, and the close proximity of active leks to the study area, the potential for this species to occur within the study area is high. (p. 3.8-14)

Figure 8.3-4 of the draft EIS shows a nearly complete overlap of the South Operations Yankee mine area with Preliminary Priority Habitat. There are several leks surrounding both North and South operations facilities with two overlapping (0.5 mile radius of the lek) at the Yankee operations boundary. There is ample evidence that this mine has degraded sage-grouse populations and further expansion of this mine will only eliminate more habitat with a very uncertain time of recovery.

Sage grouse protection at the Bald Mountain Mine hinges on the memo of understanding (MOU) signed in 2013 between United States Department of Interior Bureau of Land Management-Nevada State Office, United States Department of Agriculture, United States Forest Service, Humboldt-Toiyabe National Forest, Nevada Department of Conservation and Natural Resources, and Barrick Gold of North America, Newmont Mining Corporation, and Other Companies. However, according to the MOU (DEIS, p. I-8, xi)⁶ any party may terminate its involvement with 30 day written notice. Thus, assured long-term protection of sage grouse does not exist. Furthermore, the agreement is binding upon Barrick and its Companies, but not future owners of the mine operations, and Barrick has since sold the mine.

The MOU also states that if mitigation appears to be infeasible, which is likely in many cases, the MOU offers habitat transfer options. This process is similar to the “credit” system that is being proposed in Nevada to protect sage-grouse by providing an alternative conservation easement for sage-grouse. This method of population preservation is unproven, and sacrifices known sage-grouse habitat and populations based on the assumption that a new population can be created elsewhere. Such an approach adds uncertainty to sage-grouse conservation, but could become commonplace, and is certainly favored by the mining industry.

³⁵ US BLM, *Bald Mountain Mine North and South Operations Area Projects Environmental Impact Statement Draft*, 2015.

Overall, for Nevada there are considerable threats to sage-grouse and its habitat where the existing process and proposed mechanism to protect the birds has failed at least in part, and is at best uncertain. To add the needed certainty to sage-grouse conservation the proposed and suggested extensions of land withdrawals are needed. Indeed, if this does not work, the Department of Interior will simply have to list the greater sage-grouse as threatened.

Suggestions for extensions to the proposed withdrawal using Nevada PMUs³⁶ as a reference:

- Northeastern NV – down into the O’Neil Basin and North Fork PMU’s
- Northwestern NV – Around and including Sheldon Wildlife Refuge
- Central NV – Central Monitor PMU, most of Toiyabe PMU with a focus on the central area, lower ¾ of Three Bar PMU
- All wilderness study areas should be included

IDAHO

While most mining activity in Idaho has taken place outside of sage-grouse habitat, the map of Sagebrush Focal Area shows a considerable number of claims within each of the Conservation Areas. The Idaho Geologic Survey has an interactive map which shows the locations of current and historic mines. <http://www.idahogeology.org/webmap/> This map reinforces the importance of a mineral segregation to protect sage-grouse habitat from future disturbance.

West Owyhee Conservation Area

Due to the volcanic nature of the area, the West Owyhee Conservation Area does not support extensive hardrock mineral deposits in sage-grouse habitat (the historically significant Silver City town and Kinross Delamar gold mine are at higher elevations). There are some small operations such as the Teague XY, Teague CH and other projects located outside of sagebrush focal areas but near priority or important areas. The Grefco project is a diatomaceous earth deposit within a SFA and is currently under an active notice. The parent company, Dicalite, has several mining operations and industrial facilities in North America. Should the diatomaceous earth deposit extend beyond the currently staked claims, there may be the possibility to develop these other deposits. This deposit is in a very remote location with the Pole Creek Wilderness to the north and the Owyhee River Wilderness to the west and south. Additional mineral development here could impact sage-grouse, pronghorn, spotted frog and bighorn sheep, as well as opportunities for solitude and dark sky resources. (See <http://www.dicalite.com/#>)

Southern Conservation Area

The Southern Conservation Area does contain some mineral resources, but the most

³⁶ Nevada Dept. of Wildlife, “Sage-Grouse Population Management Units Map,” http://www.ndow.org/uploadedImages/ndoworg/Content/public_documents/Nevada_Wildlife/pm_u_map.jpg

economically significant are decorative rock quarries. These quarries, such as the Middle Mountain project near Burley, Idaho, may have seasonal impacts on sage-grouse:

The Middle Mountain quarry area contains suitable breeding and brood rearing habitat for sage-grouse. Sage-grouse actively use the surrounding habitat and are occasionally seen along mining roads and within the quarry sites. The mill-site along the Goose Creek Road has marginal habitat for sage-grouse because the road is heavily used, and because this area was previously seeded with crested wheatgrass that competes more aggressively with other grass and forb species. All of the project area and surrounding lands were identified as preliminary priority sage- grouse habitat.

-EA for the Middle Mountain Plan of Operations

There is some potential for hardrock mining in the Blue Hill Creek Area in southern Cassia County, Idaho just north of the Utah, Nevada border. Otis Gold's Oakley Project includes 107 federal mining claims and several state leases in the area. Minerals are associated with past geothermal activity. Past exploration drilling efforts have focused on the Blue Hill Creek and Cold Creek targets. While the immediate area around the Otis Gold is not a SFA and is not proposed for mineral segregation, the mineralization in the area shows some potential for new claims. We note that the Idaho and Southwestern Montana LUPA/EIS includes an extension of Priority Habitat into the Raft River area of Utah. We suggest expanding the mineral segregation into Priority and Important Habitat to

Avoiding additional mining development in these areas is important for maintaining sage-grouse populations.

Idaho Desert Conservation Area

The Idaho Desert Conservation Area does contain some mineral resources. For example, the BSM Barite Claim is located northeast of Carey just north of the Sagebrush Focal Area. Local residents were concerned about mine development in that area because of potential effects to wildlife, not just sage-grouse, from the overall disturbance and traffic. It is important to note that the private property owners in the area have been coordinating with the Pioneers Alliance, Nature Conservancy and Natural Resources Conservation Service and have collectively protected 65,000 acres of private property to benefit sage-grouse and other wildlife:

<http://www.sagegrouseinitiative.com/national-award-honors-idahos-pioneers-alliance-sage-grouse-conservation/>

Because access to the BLM claim was across private property and access rights were subsequently withdrawn, this project has not proceeded. A mineral withdrawal in this area would help local landowners protect their investments.

Mountain Valleys Conservation Area

The Mountain Valleys Conservation Area may be most at risk to future mineral projects.

The basin-and-range style geology has placed mineral-rich deposits next to valleys that provide habitat for sage-grouse. There are a number of historic mines along the ecotone between Forest Service-administered lands in the mountains and BLM lands in the valleys. Mines, mill sites, access and haul roads and mine pollution may adversely affect sage-grouse and their habitat. The Idaho Geologic Survey Map highlights the potential for future conflicts: <http://www.idahogeology.org/webmap/>]

The Lidy Hot Springs is a localized mineralized area between two SFAs. There may be more potential for mineral development in the general area. While the proposed segregation covers some of the surrounding area, a large amount of adjacent Priority Habitat would not be protected from future mineral area. We recommend expanding the segregation area to address this potential risk.

Need to address mill site claims

Even though the mines may be located outside of sage-grouse habitat, the mills needed to process ore may be located within sage-grouse habitat. Due to the orogeny of hardrock minerals, many are located in uplifted areas. Due to more difficult operating conditions at these higher elevations, mills may be located at lower elevations nearby. For example, the Silver Falcon Company is operating the War Eagle mine is located on BLM-managed lands near Silver City, but the Diamond Creek mill is located on 20-acres of private property within general sage-grouse habitat south of Murphy. The buildings, clearing, and activity within and to and from the mill site are likely impacting any remaining local sage-grouse populations or precluding recolonization in the area.



Silver Falcon's Diamond Creek Mill, located on private property. Photo by ICL.



Silver Falcon's Diamond Creek Mill, located on private property. Photo by ICL.

<http://www.silverfalconmining.com/index.html>

While this mill is on private property and would not be affected by the segregation, it highlights the potential impacts to sage-grouse should mill sites be located in more sensitive areas on public land.

Because mills can also impact sage-grouse habitat, the segregation should include both mining claims and mill site claims. It is also significant to note that the Silver Falcon mining company is currently in financial distress and has not been able to successfully operate or properly close down its site.

OREGON – Aurora Uranium Mine

Aurora Uranium is a concept-stage open-pit uranium proposal located in southeast Oregon about five kilometers north of the Nevada border and fifteen kilometers west of the small border town of McDermitt, Nevada. The project would be proposed on 272 contiguous, unpatented lode claims covering an area of approximately 5,600 acres of federal lands managed by BLM.

The Aurora Uranium Proposal is located in an area identified by the Oregon Department of Fish and Wildlife (“ODFW”) in 2011 as Core Habitat for sage-grouse, and by BLM in 2015 as one of the two Sagebrush Focal Areas (“SFA”) in Oregon. The Louse Canyon and Beatys Butte SFAs are recognized sage-grouse “strongholds” and “have been noted and referenced as having the highest densities of [Greater sage-grouse] and other criteria

important for the persistence of the species.” Oregon ARMPA at 1-6.

Preserving sage-grouse habitat in the SFAs is critical and only projects with valid existing rights should be considered in these areas. Mineral withdrawal will be particularly important in the Louse Canyon SFA where there are ongoing efforts to permanently protect the Owyhee Canyonlands and its critically important sage-grouse populations, as well as in the Beatys Butte SFA that is part of the greater Hart-Sheldon landscape, which is the focus of numerous, ongoing sage-grouse conservation efforts. Uranium ore mined from open pits is typically crushed at an on-site mill. The crushed ore is treated with acids (primarily sulfuric acid) and other chemicals to leach uranium from ore. The end product is a sand-like powder—uranium oxide concentrate—called yellowcake. Yellowcake is shipped in 55 gallon drums for further refinement. China, South Korea, India, and Russia are the principal end markets.

Uranium mining has documented direct and indirect effects to Greater sage-grouse, including direct loss of sagebrush habitat caused by mine excavation and the development of mine infrastructure such as structures, staging areas, roads, and power lines. The area of direct impact from surface (open pit) mining is usually greater than it is from underground mines. In otherwise undisturbed sagebrush, habitat loss from both types of mining can be exacerbated by the storage of overburden.

Sage-grouse could be directly affected from vehicle collision on access roads, and nests could be trampled by traffic in the vicinity of roads. The birds could be impacted indirectly from an increase in human presence, land use practices, ground shock, noise, dust, reduced air quality, degradation of water quality and quantity, and changes in vegetation and topography. The presence of new structures on the landscape would also contribute to indirect effects from potential avoidance behavior by sage-grouse. Dramatic declines in lek attendance are typical following an increase in mining activity.

8. Hardrock mining can have significant adverse effects on other wildlife species associated with greater sage-grouse habitat that should be fully evaluated in the EIS.

Hardrock mining and exploration activities have adverse effects on other wildlife species associated with greater sage-grouse habitat. Over the past century, mule deer (*Odocoileus hemionus*) have suffered dramatic declines throughout the western United States due, in part, to loss of wintering habitat and migratory corridors.

Important deer habitat has been impacted by large mining operations in Nevada.³⁷ Associated impacts include the direct loss of habitat due to pits, waste rock dumps, roads and leach pads. For example, the cumulative effects analysis for gold mining operations in the central portion of the Carlin Trend region of Northern Nevada found that mining has removed approximately 52,000 acres of wildlife habitat as a function of fencing

³⁷ NDOW, Mule Deer Herd Prescription Management Area 6, 2007.

and/or land disturbance associated with mining operations.³⁸

Impacts to deer also include the impediment of traditional migration corridors by means of pits, haul roads and associated fencing. The migration corridors within the southern portion of the Tuscarora Range have been severely compromised due to mining activity.³⁹ According to the cumulative effects assessment of gold mining in the central Carlin Trend area, “Construction of mining projects in the Study Area has caused mule deer migration to shift to a corridor on the east side of the Tuscarora Mountains. Most deer migrating from the northern summer range to Dunphy Hills move east of the Leeville Mine and then south. Mining actions have impacted historic migration corridors in the southern portion of the Tuscarora Mountains. Recently permitted plans of operation such as North Lantern and an amendment to the Pete Project and reasonably foreseeable actions such as Barrick’s proposed expansion and Lantern III continue to reduce these migration corridors (Wilkinson 2007b). This has effectively reduced an historic 10-mile wide area on the Tuscarora Mountains which provided mule deer intermediate range (spring, fall) and migration corridors to less than a 0.5-mile wide area near the Pete Project. Encumbrances to mule deer movements, including, mineral exploration activities; livestock control fences; the North-South Haul Road (“deer ramps” were included as a feature to mitigate effects), top soil stockpile(s) and waste rock disposal facilities overflow ponds remain in the < 0.5-mile wide migration corridor.”

Researchers have also found an increase in energy expenditure of mule deer navigating through highly disturbed mine areas in Nevada, which may have fitness consequences for migratory animals.⁴⁰ Such increases in energy expenditure during migration may decrease survival or productivity of migratory populations of large, terrestrial mammals.⁴¹

The 2013-2014 Big Game Status report by the Nevada Division of Wildlife states that the “single biggest threat to the Area 10 Deer Herd at this time continues to be the proposed expansion of Bald Mountain Mine (Bald Mountain Mine North and South Expansion EIS).”⁴²

9. Hardrock mining may have significant adverse effects on fish populations, which should be analyzed in the EIS.

³⁸ U.S. BLM, *Draft Supplemental Environmental Impact Statement, South Operations Area Project Amendment Cumulative Effects*, August 2007.

³⁹ *Id.*

⁴⁰ Blum, M. E., K. M. Stewart, and C. Schroeder. 2015. Effects of large-scale gold mining on migratory behavior of a large herbivore. *Ecosphere* 6(5): 74. <http://dx.doi.org/10.1890/ES14-00421.1>

⁴¹ *Id.*

⁴² Nevada Department of Wildlife, *Big Game Status Book, 2013-2014*. Available at: http://www.ndow.org/uploadedFiles/ndoworg/Content/Wildlife_Education/Publications/2014-Big-Game-Status-Book.pdf

Hardrock mining releases more toxic materials into air, water and land than any other industry in the U.S., according to the U.S. Environmental Protection Agency.⁴³ Mining exposes heavy metals and compounds that can runoff and leach into streams. Such pollution can impair the habitat of fish and other aquatic species, thereby reducing population levels. Even where species survive, toxic materials can lower reproduction and growth rates. Hardrock mining also causes increased turbidity and siltation of streams and ponds, greater variation in stream flow levels and water temperature, and stream dewatering, all of which can contribute to the endangerment of aquatic species.

A landscape level study found that mines can act as a regional source of stress to stream fishes, similar to urban land use and agriculture.⁴⁴ In that study, fish assemblage threshold responses to mining were detected in three large ecoregions and through use of thousands of samples, indicated that mining may have negative effects on assemblage diversity and evenness, numbers of game species, as well as numbers of species with specific life history strategies, habitat preferences and trophic ecologies. Fish metric threshold responses detected in this study occurred with relatively low densities of mines in stream catchments. For example, a single mine in a medium-sized river basin (>1000 square km.) has the potential to alter fish assemblage in the stream draining that catchment.

Scientists have determined that metal contamination in surface water can cause fish to lose their sense of smell, thus affecting their ability to mate, find food and avoid predators.⁴⁵ Numerous studies spanning several species have shown that ecologically relevant exposures to common pollutants such as metals and pesticides can interfere with fish olfaction and disrupt life history processes that determine individual survival and reproductive success.⁴⁶ Avoidance thresholds for some of these exist in the microgram per liter range (e.g. copper and nickel).⁴⁷

Extensive case studies outlined by fisheries biologists in *Fisheries* describe the impacts to aquatic life from modern hardrock mines regulated under the 1872 Mining Law, and identify the inadequacies of the existing regulatory structure.⁴⁸

10. Other sensitive species or endangered or threatened species associated with sagebrush habitat will benefit from the proposed mineral withdrawal, which should be fully evaluated in the EIS.

⁴³ U.S. EPA, Toxic Release Inventory, 2014

⁴⁴ Wesley M. Daniels, et al. "Characterizing coal and mineral mines as a regional source of stress for stream fish assemblages" *Ecological Indicators* 50 (21014) 50-61

⁴⁵ Azizishirazi, Ali, et. al. Olfactory recovery of wild yellow perch from metal contaminated lakes, *Ecotoxicology and Environmental Safety*, 88(2013) 42-47

⁴⁶ Keith Tierney, et. al., "Olfactory Toxicology in Fish," *Aquatic Toxicology*, 96 (2010) 2-26.
http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/cmnt081712/sldmwa/tierneyetal2009.pdf

⁴⁷ Id.

⁴⁸ Woody et. al., *The Mining Law of 1872: Change is Overdue*, *Fisheries*, Vol. 35, No. 7. July 2010.

Other species of concern and threatened and endangered species are found in sagebrush habitat, which would benefit from the proposed mineral withdrawal. Species of special conservation concern in the sagebrush ecosystem have been identified by the Fish and Wildlife Service, and included as an attachment to these comments.⁴⁹

11. The mineral withdrawal is necessary because there is no evidence to demonstrate the long-term success of conservation credit programs.

The Interior Department, Nature Conservancy and Barrick Gold have recently announced the establishment of a sage-grouse bank enabling program to establish a credit/debit system, whereby Barrick will voluntarily agree to manage sage brush habitat on private ranch lands for the benefit of sage-grouse to achieve a Net Conservation Gain for sage-grouse that BLM and FSW can measure against the impacts of certain of the company's future proposals for operations in Nevada that cannot be reasonably avoided.⁵⁰ This agreement was initiated in March 25, 2015, and is too new to determine its long-term efficacy. Furthermore, the agreement is binding upon Barrick and its Companies, but not future owners of the mine operations, and Barrick has since sold the mine. This is described in more detail in the Nevada mine example on page 17.

12. Hardrock mining may have significant adverse effects on dark sky resources, which should be analyzed in the EIS.

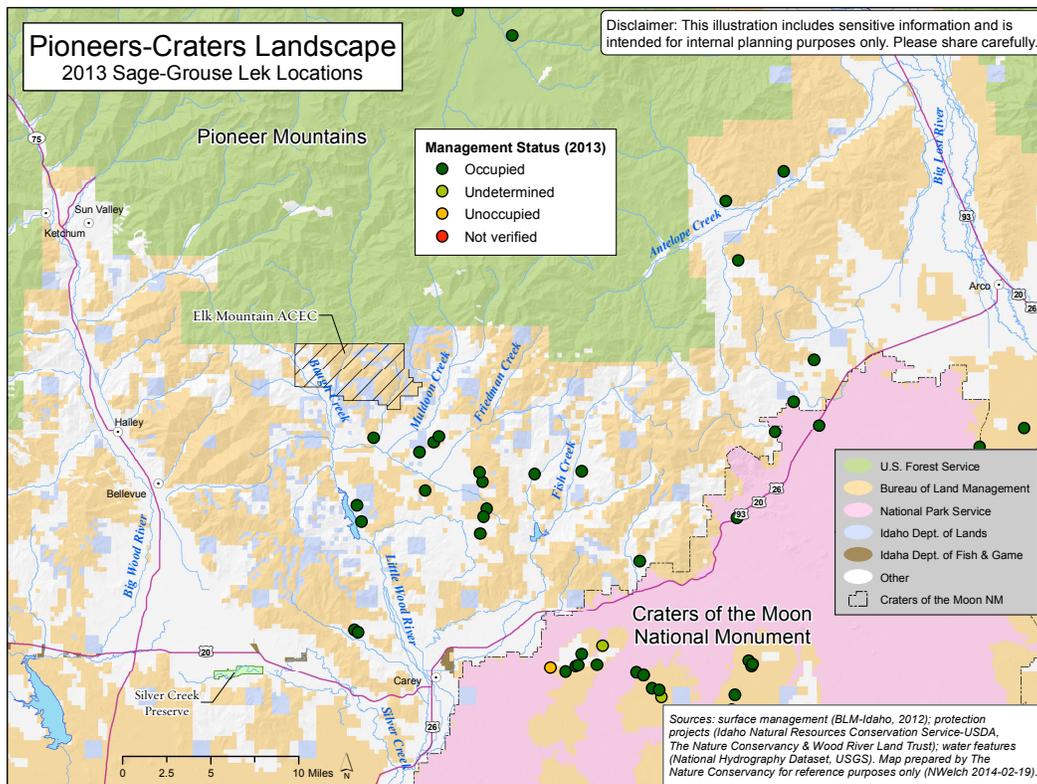
Due to safety and security reasons, mining operations may use intensive lighting at night. The glare from these operations mars dark sky viewing opportunities. For example, lights from the Thompson Creek Mine in Idaho dominate the otherwise pristine night sky when campers within the White Cloud Wilderness in the Sawtooth National Recreation Area look to the north. Light pollution can also disrupt animal behavior, migration, communication, and hunting activities.⁵¹ Animals affected include birds, bats, amphibians and insects. Dark Skies are increasingly viewed as an amenity for communities. There are local County and City dark sky ordinances that exist in the surrounding communities to attempt to preserve the dark sky integrity of this particular area. The *Idaho Desert Conservation Area* contains the Craters of the Moon National Monument and surrounding Pioneers landscape. This area hosts some of the darkest night skies of any national park unit in the U.S. and is now occupied habitat for sage-grouse. Precluding new mining claims from SFAs will also benefit the increasingly rare

⁴⁹ Wisdom, M. J., M. M. Rowland, L. H. Suring, L. Schueck, C. Wolff Meinke, B. C. Wales, and S. T. Knick. 2003. Procedures for regional assessment of habitats for species of conservation concern in the sagebrush ecosystem. March 2003 Report, Version 1, Pacific Northwest Research Station, 1401 Gekeler Lane, La Grande, OR 97850. Appendix 2. Available at: <http://www.fws.gov/greatersagegrouse/documents/Reports/Appendix%20Species%20of%20Concern.pdf>

⁵⁰ Barrick Nevada Sage Grouse Banking Management Agreement, available at: http://www.blm.gov/style/medialib/blm/nv/wildlife___fishes/sage_grouse/barrick_nv_sage_grouse.Par.65037.File.dat/DOI-Barrick%20Sage%20Grouse%20Agreement%20March2015.pdf

⁵¹ Longcore T, Rich C. Ecological light pollution. *Front Ecol Environ* 2004; 2:191–198.

recreational and ecological benefits of night sky viewing and dark sky resources.



Documented sage-grouse lek locations surrounding Craters of the Moon. Craters hosts one of the darkest night skies of any national park unit in the U.S.

13. The proposed mineral segregation in Idaho is reflective of the State of Idaho's Conservation Plan and Federal Alternative.

The 2006 Conservation Plan for Greater Sage-grouse in Idaho, signed by Governor Risch in 2006, listed hard-rock mining among lesser threats to sage-grouse. While the plan found that invasive species, energy development and related infrastructure, wildfires and agriculture to be more pressing issues, it noted that surface mining of any resource, including gravel, will result in direct habitat loss for sage-grouse if the mining occurs in occupied sagebrush habitats:

Habitat loss: Mines, landfills, and gravel pits, by their nature, result in direct habitat loss and fragmentation. Indirect effects, such as establishment of invasive plants may occur in disturbed areas.

▪ **Disturbance to important seasonal habitats:** Human activity and noise associated with machinery or heavy equipment in proximity to occupied leks or other important seasonal habitats may disturb sage-grouse.

July 2006 Idaho Sage-grouse Conservation Plan, p. 4-125.

The recommended conservation measures in the 2006 Plan included discouraging new mining operations:

Discourage the establishment of new mines, landfills or gravel pits within sage-grouse breeding or winter habitat. Where possible, avoid occupied leks by at least 3.2 km (2 miles) (adopted from Connelly et al. 2006, and Stinson et al. 2004).
July 2006 Idaho Sage-grouse Conservation Plan, p. 4-125.

At the invitation of the USFWS, the State of Idaho crafted recommendations for managing sage-grouse on Federal lands to avoid the need to list the species. Idaho's Governor "Butch" Otter convened a task force that included representatives of the livestock, mining, sportsmen, public utilities, county, legislative and conservation communities as well as members of the general public. Over a period of several months, the task force developed a series of recommendations to the Governor's office. The Governor used these comments to aid in crafting the state's recommended alternative. The State of Idaho's alternative, along with the regional BLM alternative, were co-preferred alternatives in the Draft Idaho and Southwestern Montana DEIS.

While the State of Idaho is currently litigating the Sage-grouse RMP Amendments (partially over the proposed mineral withdrawal), the proposed mineral segregation is not entirely dissimilar to the one originally proposed by the State of Idaho. The Federal Alternative of C.L. "Butch" Otter for Greater Sage-Grouse Management In Idaho (Sept. 5, 2012 Version) recognized that large infrastructure projects posed one of the primary threats to sage-grouse:

The best available information indicates that wildfire, invasive species and infrastructure, as defined below, are the primary threats to sage-grouse in Idaho.
-Governor Otter's Sage-grouse Alternative, p. 5.

The Alternative recognizes that mines and related structures are included in the discussion of Infrastructure:

When the Alternative refers to measures regarding infrastructure, it is referring to discrete, large-scale anthropogenic features, including highways, high voltage transmission lines, commercial wind projects, energy development (e.g., oil and gas development, geothermal wells), airports, mines, cell phone towers, landfills, residential and commercial subdivisions, etc.
-Governor Otter's Sage-grouse Alternative (Sept. 5, 2012 Version), p. 11.

The State of Idaho's Alternative ranked sage-grouse habitat into Core, Important and General Habitat Zones. Within Core Habitat Zones, infrastructure projects would generally not be permitted, with limited exceptions available if the project provided a high-value benefit to meet critical existing needs or important societal objectives to the State of Idaho:

Recognizing that maintaining and improving sage-grouse populations within the CHZ is important to the State's overall population objective, the balance between the economic value of future infrastructure projects and conserving the species to prevent an ESA listing clearly tilts in favor of the species within this the management zone. That said, it is impossible to predict projects that could be important to the economic vitality of the State in the future. Thus, the "high value" evaluation by the Implementation Commission will be critical in balancing these interests. -Governor Otter's Sage-grouse Alternative, p. 27.

Infrastructure

(4)(i). The development of infrastructure authorized after the effective date of the record of decision in areas designated as CHZ is prohibited, except if developed pursuant to valid existing rights...

- ii. Notwithstanding the limited prohibition in (4)(i), the State Director may authorize infrastructure development only in situations where the development:
 1. Cannot be reasonably accomplished outside of the CHZ; and
 2. Demonstrates the population trend for the species within the relevant Conservation Area is stable or increasing over a three-year period; and
 3. Demonstrates the individual or cumulative exceptions under this provision must best reduce habitat fragmentation ensuring the impacts will not accelerate and/or cause a population decline of the species within the relevant Conservation Area; and
 4. Co-locate with existing infrastructure to the maximum extent practicable; and
 5. Shall mitigate unavoidable impacts through an appropriate compensatory mitigation plan.

-Governor Otter's Sage-grouse Alternative, p. 33-34.

Within Important Habitat Zones, infrastructure projects could be permitted as long as several conditions could be met:

- (4)(i)The State Director may authorize new infrastructure development where in the State Director's judgment the circumstances set out below exist.
1. Cannot reasonably be achieved, technically or economically, outside of this management zone; and
 2. To the extent practicable, co-locate the project with existing infrastructure. In the event co-location is not practicable, the siting should best reduce cumulative impacts and/or impacts to other high value natural, cultural, or societal resources; and
 3. Should not result in unnecessary and undue habitat fragmentation or other impacts causing a decline in the population of the species within the relevant Conservation Area; and

4. Mitigate unavoidable impacts through an appropriate compensatory mitigation plan; and
5. Comply with the applicable best management practices in (G).

-Governor Otter's Sage-grouse Alternative, p. 40.

Mining has not addressed more specifically by the State as it was not determined to be a primary threat for sage-grouse in Idaho. There has not a significant conflict between mining interests and sage-grouse across the majority of sage-grouse habitat in Idaho to date compared with other threats such as invasive species and wildfire. It is critical to note that in making these recommendations, the State of Idaho did not actually recommend a segregation of mineral resources and is, in fact, currently litigating in part due to this new provision:

Nothing in this Alternative shall affect mining activities conducted pursuant to the General Mining Law of 1872. -Governor Otter's Sage-grouse Alternative, p. 45.

However, the segregation of new mining claims and precluding new mining infrastructure in SFAs is actually somewhat in alignment of the State of Idaho's original goals. The USFWS and BLM's Sagebrush Focal Areas generally consist of a subset of Core Habitat Zones (and some Important Habitat Zones) that are anchored by some form of preexisting protective mechanism. The segregation/proposed withdrawal in SFAs is an alternative mechanism that could achieve some of these same conservation goals that the State of Idaho has already suggested. For example, the State of Idaho's 2006 Sage-grouse Conservation Plan suggests "discouraging" new mines in sage-grouse habitat but fails to identify any potential tools or actions to do so. The Governor's Alternative for the Core Habitat Zone called for precluding new infrastructure but created a rule set allowing for specific exceptions. The Important Habitat Zone criteria allowed for new infrastructure unless certain provisions could not be met. The current BLM segregation proposal to suspend future mineral entry for a set period of time while respecting valid existing rights accomplishes many of the same goals, albeit using a different mechanism and different policy approach..

14. Inconsistent policies related to the regulation of locatable mineral mining in Priority Habitat Management Areas need clarification, and voluntary requirements fail to provide adequate protections for sage-grouse.

It is our understanding that the Wyoming State Office has taken the position that compliance with sage-grouse conservation measures set forth in the BLM's updated Resource Management Plans for Wyoming is "not mandatory." We are concerned that the implementation of this policy could undermine ongoing and future efforts to conserve the Greater sage-grouse in Wyoming. We are also concerned that the policy of voluntary compliance with respect to sage-grouse conservation measures calls into question whether the BLM has an effective regulatory mechanisms in place to conserve the species—mechanisms that were found lacking in the USFWS's listing decision. See 75 Fed. Reg. 13910, March 23, 2010.

Resolution of this issue is important: mining claims encompassing tens of thousands of acres blanket much of Wyoming's most important sage-grouse habitat, including mining claims located in a Sagebrush Focal Area being developed by Lost Creek, LLC, for in situ uranium recovery. See 80 Fed. Reg. 55149, September 14, 2015.

The BLM's Approved Resource Management Plan Amendment for Greater Sage-grouse, September 2015 (ARMPA) sets forth management decisions for locatable mineral mining in two places: **MD GMD 12** on page 27 and **MD MR 12** on page 56.

The first paragraph of these two sections applies to existing operations; the second paragraph addresses new operations. Our inquiry is focused on the policy for new and modified operations described in the second paragraph:

MD GMD 12: Notices or plans of operation, or modifications thereto, submitted following the issuance of this guidance: As part of the 15-day completeness review of notices (or modifications thereto) and 30-day completeness review of plans of operations (or modifications thereto), the proposed project area(s) where exploration, development, mining, access and reclamation would take place will be reviewed for overlap of sage-grouse PHMAs in the corporate geographic information system (GIS) database. If there is overlap, the BLM AO may notify the operator of ways that they may minimize impacts to PHMAs (core only) and request the operator to amend its notice or plan to include such measures. The request to amend the submitted notice or plan of operations must make clear that the operator's compliance is not mandatory and that including such measures is not a requirement for completeness of either the notice or a plan of operations, nor is it a condition of acceptance of the notice or approval of the plan of operations.

ARMPA, MD GMD 12 at 27 (emphasis added).⁵²

This RMP provision, which reiterates language contained in Wyoming BLM Instruction Memorandum WY-2012-019, makes the operator's compliance with measures that may be requested by BLM to promote sage-grouse conservation voluntary. Under this policy, due to the use of the word, "may," the request for conservation measures itself is discretionary. The policies expressed in this RMP provision directly conflict with the BLM's national sage-grouse conservation strategy and with the BLM's surface management regulations at 43 CFR Subpart 3809 and must therefore be revised to correctly state BLM's authorities and responsibilities.

The BLM's national policy regarding the regulation of proposed/new locatable mineral mining activities in sage-grouse core habitat areas is to regulate them to the extent permitted under 43 CFR 3809. That policy is set forth in Instruction Memorandum No. 2012-043, quoted below:

⁵² The language contained in **MD MR 12** on page 56 of the RMP Amendment addressing new or modified operations is nearly identical and therefore will not be quoted here.

Locatable Minerals

Proposed Authorizations/Activities (i.e., new Notices or Plans of Operation)

- Require that new notices and plans of operation include measures to avoid or minimize adverse effects to Greater Sage-Grouse populations and its habitat. Ensure that new notices and plans of operation comply with the requirements in 43 CFR 3809 to prevent unnecessary or undue degradation. Such compliance may assist in avoiding or minimizing adverse effects to Greater Sage-Grouse populations and habitat.

Although the language and specific requirements vary between plans, provisions implementing the national policy for the regulation of locatable mineral mining have been included in the BLM's amended and revised RMPs for the other Western states. Wyoming is the exception. We see no reason or justification for this.

The requirements contained in IM 2012-043 are stated quite clearly: the BLM must ensure "that new notices and plans of operation comply with the requirements in 43 CFR 3809 to prevent unnecessary or undue degradation." The word "voluntary" does not appear in this statement, nor does the word, "may." Accordingly, and in order to demonstrate the existence of an effective regulatory mechanism, the discretionary language contained in the Approved RMP Amendment for Greater Sage-grouse must be deleted and replaced with the language from the BLM Washington Office IM 2012-043. Voluntary measures suggested in the Approved RMP Amendment clearly do not comply with mandatory surface management regulations requiring the BLM to prevent unnecessary or undue degradation of the public land, nor do they satisfy the USFWS's need for an effective regulatory mechanism.

Our concern about this policy is not merely academic. The BLM's inconsistent approach to the regulation of locatable mineral mining caused the Wyoming BLM Deputy State Director for Minerals and Lands to overturn a decision made by the Lander Field Office requiring timing stipulations on mine operations to protect sage-grouse in the South Pass core area. The Deputy State Director's decision (attached) stated that the Lander Field Office failed to "make clear that the operator's compliance is not mandatory...." The decision also concluded that because, "[t]he greater sage-grouse is neither threatened nor endangered in the State of Wyoming[,] [a]dverse impacts to sensitive species are not considered unnecessary or undue degradation under the 43 CFR Subpart 3809 regulations." The rationale for this decision is wrong on two counts.

First, at the time of the Deputy State Director's decision, November 8, 2013, the Greater sage-grouse was a candidate species (see 75 Fed. Reg. 13910, March 23, 2010) and was therefore entitled to protection under 43 CFR 3809.420(b)(7). As stated in the preamble to the 3809 rules: "[I]t is BLM's longstanding policy to manage species proposed for listing and proposed critical habitat with the same level of protection provided for listed species and their designated critical habitat, except that formal consultations are not required." 65 Fed Reg. 69998, 70020 (Nov. 21, 2000).

The mining industry itself has acknowledged that the 3809 regulations “appl[y] to candidate species.” See attached letter from American Exploration & Mining Association to BLM Director Neil Kornze, dated August 28, 2014. The Deputy State Director’s decision failed to correctly interpret and apply this regulation to the Rock Creek placer mining operation.

Second, the Deputy State Director’s decision failed to acknowledge other requirements contained in the 3809 regulations that must be satisfied in order to prevent unnecessary or undue degradation: 1) the operator must accept the mitigation measures specified by BLM (43 CFR 3809.420(a)(4)); and 2) the operator must comply with State laws related to environmental protection, namely the sage-grouse Executive Order in effect at the time, which contained timing limitations to protect sage-grouse. See 43 CFR 3809.415(a) and 43 CFR 3809.420(a)(6) (the operator “must conduct all operations in a manner that complies with all pertinent Federal and state laws.”)

In this case, the Wyoming Department of Environmental Quality (DEQ) required the operator to comply with timing limitations contained in the State’s Greater sage-grouse Executive Order.⁵³ In an effort to comply with the 3809 regulations, the Lander Field Office included the timing restrictions required by the State’s Greater sage-grouse Executive Order as a condition of approval in the approved plan of operations, restrictions which were subsequently removed by the Deputy State Director.

We understand that the BLM is relying on the State of Wyoming to enforce core area stipulations on Federal lands through the Wyoming DEQ’s permitting process.⁵⁴ Although we appreciate the DEQ’s diligence, it is improper for BLM to abdicate the responsibilities mandated by the Federal Land Policy and Management Act, particularly the duty to prevent unnecessary or undue degradation under FLPMA § 302(b). In the context of hard rock mining, the duty to prevent UUD is achieved by requiring compliance with the BLM’s surface management regulations at 43 CFR Subpart 3809. *Asking* the operator to comply with sage-grouse conservation measures is not the same as *requiring* the operator to comply.

The policy adopted by Wyoming BLM must be revised to make compliance with the 3809 regulations and sage-grouse conservation measures mandatory. The rules are quite clear: in order to avoid UUD, the operator must, among other things, comply with the applicable BLM land use plan; must comply with state laws relating to environmental protection; and must accept any mitigation measures specified by BLM to protect public lands. See 43 CFR § 3809.415 and 420. Actions taken by the State BLM Office to restrict

⁵³ Personal communication with Craig Smith, WDEQ/LQD, December 4, 2015.

⁵⁴ See, e.g. Record of Decision and Approved Resource Management Plan Amendments for the Rocky Mountain Region (September 2015) at 1-22 (“In Wyoming, a portion of SFAs are recommended for withdrawal, while in other areas SFAs are not recommended for withdrawal but are still subject to other protective measures. The State of Wyoming has permitting authority for locatable mining operations and has committed to use its authority to ensure that operations proceed in accordance with the core area strategy and has a successful record of using this authority in the past.”)

the ability of BLM Field Offices to include reasonable mitigation measures as conditions of approval in mine permits must not continue.

Thus, BLM/DOI's consideration of the proposed withdrawal, and eventual withdrawal decision, should include requirements that the mandatory sage grouse protections in other states apply equally to Wyoming.

15. The DEIS should reinstate the BLM's recommendation to consider withdrawing 894,060 acres from mineral entry in Wyoming.

Management Action 79 from the Proposed Resource Management Plan Amendments for the Rocky Mountain Region indicated that 894,060 acres would be considered for future recommendation for withdrawal from mineral entry, based on risk to GRSG and its habitat from conflicting locatable mineral potential and development. This recommendation was removed in the Record of Decision based on the assumption that Wyoming DEQ's permitting authority for locatable mining operations would ensure proper implementation of the core area strategy. ROD at 1-22. Yet as shown above, the view by BLM that compliance with sage-grouse conservation measures is "not mandatory" provides ample justification to expand the area proposed for mineral withdrawal.