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re: Sagebrush Focal Areas Withdrawal draft EIS

Thank you for the opportunity to comment on the Draft Environmental Impact Statement for the Sagebrush Focal Areas Mineral Withdrawal (“DEIS”). These comments are submitted on behalf of Earthworks, Idaho Conservation League, Great Basin Resource Watch, Oregon Natural Desert Association and the Wyoming Outdoor Council. These groups incorporate by reference herein, all previous comments submitted on this issue to Interior Department.

Earthworks is a national conservation organization dedicated to protecting communities and the environment against the adverse effects of mineral and energy development, while promoting sustainable development.

The Idaho Conservation League has a long history of involvement in sage-grouse conservation. Our members hike, hunt, backpack and botanize throughout sage-grouse habitat and enjoy watching sage-grouse as well other sagebrush-obligate species. Our members wish to see these species and their habitat properly managed, conserved and restored. The Idaho Conservation League was an original member of the Idaho State Sage-grouse Advisory Committee (SAC) and helped draft the Idaho State Sage-grouse Conservation Plan. As part of the SAC, we also chaired the Mitigation Subcommittee and helped draft the Sage-grouse Mitigation Framework which is under consideration by the BLM, Idaho Department of Fish and Game and US Fish and Wildlife Service. The Idaho Conservation League participated as member of Governor Otter’s Sage-grouse Task Force and helped develop the recommendations for the Governor’s Alternative,

which was, in-part, incorporated into the LRMP amendments for Idaho. We are submitting these comments as the Idaho Conservation League and are not representing any other members of the task force.

Wyoming Outdoor Council is the state's oldest independent conservation organization. Established in 1967, It has worked for more than four decades to Wyoming's iconic western landscapes, its world-renowned wildlife and its clean air and water.

Oregon Natural Desert Association has worked to protect, defend and restore Oregon's high desert for 30 years. Working in partnership with more than 10,000 members and supporters, ONDA is the only group dedicated exclusively to the preservation of Oregon's high desert public lands.

Great Basin Resource Watch, based in Reno, Nevada, is a regional environmental justice organization dedicated to protecting the health and wellbeing of the land, air, water, wildlife, and human communities of the Great Basin.

The Greater Sage-Grouse is an iconic bird associated with the sagebrush landscapes of the West and its health is considered an indicator of the health of the landscape. Over the last 100 years, the population and range of the species have diminished significantly, and the species was found warranted for listing under the Endangered Species Act in 2010. In large part, the decline of the species mirrors the steady loss and deterioration of sage-grouse habitat. The sage-steppe ecosystem is considered one of the most imperiled in North America and faces many severe threats.

Because the majority of remaining Greater Sage-Grouse habitat overlaps with land managed by BLM and USFS, the long-term survival of the species rests largely on management choices by federal agencies for public lands. In addition, “development on private lands, which is not subject to mitigation, will focus greater needs for conservation of sage-grouse and sagebrush on public lands.”<sup>1</sup>

The proposed mineral withdrawal derives its purpose and need in part from the need to address the March 2010 ‘warranted, but precluded’ Endangered Species Act (“ESA”) determination for the greater sage grouse, the 2013 Conservation Objectives report, and the USFWS memorandum of October 27, 2014. Importantly, “the USFWS found that current application of BLM and Forest Service regulatory authorities falls short of meeting the conservation needs of the species.”<sup>2</sup>

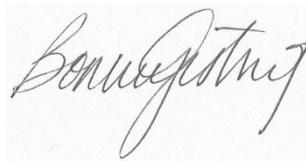
In 2015, the U.S. Fish and Wildlife Service (USFWS) made the determination that listing the Greater Sage Grouse was no longer warranted. (80 Fed. Reg. 59857). Yet, the USFWS explicitly relied upon the proposed mineral withdrawal in its 2015 finding that the greater sage grouse was “not warranted.”<sup>3</sup>

It is therefore imperative that the Department of Interior follow through on the SFA mineral withdrawals in an equal or greater measure compared to those on which the USFWS relied to make their listing determination.

We support a mineral withdrawal for important sage grouse habitats that is as strong, comprehensive, and as geographically extensive as is necessary to guarantee the maintenance and recovery of sage grouse in the most densely occupied remaining habitats.

Please see our comments below.

Sincerely,



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**1. The EIS should review a reasonable range of alternatives, including 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.

Once again, the EIS should include an alternative, which analyzes the environmental benefits of a mineral withdrawal that includes all PACs.

**2. The EIS 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 in the examples below, 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.

**3. Reductions in Sagebrush Focal Area withdrawals should not be permitted.**

Several of the action alternatives would reduce the areal extent of the proposed withdrawal to less than the Sagebrush Focal Areas as designated in the Greater Sage-Grouse Approved Resource Management Plan Amendments (ARMPAs).

Under the “State of Nevada Alternative,” Sagebrush Focal Areas would be reduced in Nevada by 486,376 acres to exclude lands that “Have high mineral potential or limited sage-grouse habitat.” (DEIS at vii). The primary purpose of these boundary changes would be to “reduce the potential social and economic impact of the proposed withdrawal to the state of Nevada....” (Id. , and see 2-3). This is expected to result in one additional mine and 16 additional exploration projects within SFA over the proposed action. (Compare Tables 2-5, 2-8).

The “High Mineral Potential” alternative is explicitly designed to exempt Sagebrush Focal Areas with high potential for industrial development from the mineral withdrawal, reducing the area of withdrawal by 558,918 acres. DEIS at viii, 2-3. This is expected to result in 5 additional mines and 34 additional exploration projects within SFA over the proposed action. (Compare Tables 2-5, 2-11).

Under the “State of Idaho Alternative,” 538,639 acres of Sagebrush Focal Area in Idaho would be excluded from the mineral withdrawal because these areas have high or even moderate potential for mineral development. DEIS at viii, 2-3. This is expected to result in 4 additional mines and 10 additional exploration projects within SFA over the proposed action. (Compare Tables 2-5, 2-14).

The areas with highest mineral development are necessarily the areas with the greatest risk of habitat destruction through this industrial development. BLM notes, “One of several major threats to public lands identified in the LUP amendments is the fragmentation of 36 greater sage-grouse habitat due to mineral exploration and development related to hard rock mining.” (DEIS at 1-14).

It violates the Purpose and Need of this EIS to fail to withdraw the sage grouse habitats at greatest risk for destruction at the hands of the minerals industry.

While the State of Idaho has stated that no Plans of Operations are immediately pending and that the goal is to allow these acres to remain eligible for mineral development, we point out that valid, existing claims in these areas are still eligible for development. The State of Idaho’s proposal is a clear invitation to mining companies to stake claims and develop these important sage-grouse areas within the next twenty years.

Industrial developments would not only be bad for sage-grouse, but for all types of current uses of these public lands as well as on adjacent private properties. Idaho’s backcountry areas provide important places for the public to hunt, hike, camp and explore without the threat of being temporarily or permanently displaced by mining activities.

#### **4. The Purpose and Need should be expanded.**

NEPA implementing regulations require agencies to describe the underlying purpose and need to which the agency is responding when proposing alternatives. 40 C.F.R. § 1502.13. When writing this purpose and need statement, the agency may not so narrowly construe the purpose and need that it restricts otherwise reasonable alternatives. As the court in *Nat'l Parks and Conservation*

*Ass'n v. BLM* explained, BLM may not define the purpose and need so narrowly that it forecloses a consideration of a reasonable range of alternatives, nor in such a way that only one alternative would accomplish the goals of the agency action. 606 F.3d 1058, 1070-72 (9th Cir. 2010). *See also Davis v. Mineta*, 302 F.3d 1104, 1119–20 (10th Cir. 2002) (reasoning that although an agency may reject alternatives that do not meet the purpose and need of a project, it may not define the project so narrowly that it foreclosed a reasonable consideration of alternatives); *Simmons v. U.S. Army Corps* 120 F.3d 664, 669 (7th Cir. 1997) (an agency cannot narrowly write the purpose and need so as to define away competing reasonable alternatives). The Purpose and Need of this EIS is unreasonably constrained by limiting it to “the withdrawal of these approximately 10 million acres of land identified as SFA in Priority Habitat Management Area.”

## **5. 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.**

As described in the DEIS, the USFWS found that current application of BLM and FS regulatory authorities falls short of meeting the conservation needs of the species. It found that through their surface management regulations (43 CFR part 3715, 43 CFR part 3809, or 36 CFR part 228), the BLM and Forest Service may not prohibit use under the mining laws that is otherwise compliant with the regulations, which could result in loss of greater sage-grouse habitat important for the persistence of the species.

These limitations are also 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.”<sup>4</sup>

Only a withdrawal from location and entry under the mining law can prevent the establishment of mining claims and provide certainty that lands not encumbered by mining claims will not be developed.

## **6. The EIS should consider the agency’s own analysis of impacts.**

The BLM’s National Technical Team (2011) report is not referenced in the DEIS, yet it represents the best available science, according to the agency. The National Technical Team (2011: 6) wrote that the BLM’s National Sage-Grouse Planning Strategy ushered in a “New Paradigm” under which land uses, habitat treatments, and anthropogenic disturbances will need to be managed below thresholds necessary to conserve not only local sage-grouse populations, but sagebrush communities and landscapes as well. Management priorities will need to be shifted and balanced to maximize benefits to sage-grouse habitats and populations in priority habitats. The BLM convened a National Technical Team (“NTT”) comprised of federal agency experts (including BLM, USFWS, NRCS, USGS, and state agencies) to assess the threats to greater sage grouse in the context of this planning process and recommend conservation measures that would address the threats to the species. This has been recognized by BLM in its NEPA analyses: “To ensure BLM management actions are effective and based on the best available science, the National Policy Team created the NTT in August 2011.” (Oregon Greater Sage-grouse RMP

Amendment DEIS at ES-14). For Wyoming, the BLM expressed the same sentiment, worded slightly differently: “The National Policy Team created the NTT in August of 2011 specifically to develop conservation measures based on the best available science.” (Wyoming Greater Sage-grouse RMP Amendment DEIS at 1-7). The fact that the NTT report reflects the best available science and the official opinion of agency sage grouse experts has been elucidated in great detail during these NEPA processes:

The conservation measures identified for consideration were developed by the NTT, a group of resource specialists, land use planners, and scientists from the BLM, state fish and wildlife agencies, USFWS, the Natural Resources Conservation Service, and the US Geological Survey (USGS). The report provides the latest science and best biological judgment to assist in making management decisions relating to the GRSG [greater sage grouse]. (Oregon Greater Sage-grouse RMP Amendment DEIS at 1-2). According to the National Technical Team (2011:4) itself, “To ensure BLM management actions are effective and based on the best available science, the National Policy Team created a National Technical Team (NTT) in August of 2011.” The National Technical Team described its purpose as follows:

The National Greater Sage-Grouse Planning Strategy Charter charged the NTT to serve as a scientific and technical forum to:

- Understand current scientific knowledge related to the greater sage-grouse.
- Provide specialized sources of expertise not otherwise available.
- Provide innovative scientific perspectives concerning management approaches for the greater sage-grouse.
- Provide assurance that relevant science is considered, reasonably interpreted, and accurately presented; and that uncertainties and risks are acknowledged and documented.
- Provide science and technical assistance to the Regional Management Team (RMT) and Regional Interdisciplinary Team (RIDT), on request.
- Articulate conservation objectives for the greater sage-grouse in measurable terms to guide overall planning.
- Identify science-based management considerations for the greater sage-grouse (e.g., conservation measures) that are necessary to promote sustainable sage-grouse populations, and which focus on the threats (75 FR 13910) in each of the management zones. *Id.* at 4.

According to the National Technical Team (2011:5), “This document provides the latest science and best biological judgment to assist in making management decisions.” In short, this document represents the expert opinion of the Bureau of Land Management regarding measures necessary to address the inadequacy of regulatory mechanisms that has been identified by the USFWS, and the best available science regarding this topic. Of all of the subsequent science that has emerged since the December 2011 release of the National Technical Team’s recommendations, none contradicts its findings. Manier et al. (2014) is a USGS publication that provides a more recent

analysis of the available science on lek buffers, and also represents agency scientific expertise; the recommendations of the National Technical Team are consistent with this review article. The EIS references a study by Doherty et al. (2016) that provides current spatial analysis of sage grouse population density. These are GIS data that could (and should) be compared against the withdrawal areas identified under each alternative, to see what percentage of sage grouse populations would be encompassed by mineral withdrawal under each alternative. This analysis has been done for lek locations (*see, e.g.*, DEIS at Figure 3-18), and should be done for population density as well as this layer would be much more information-rich and informative than simple lek locations. Authors of this study include federal scientists Kevin Doherty (USFWS) and Peter Coates (USGS), so these GIS data should be readily available to BLM through a simple request to a sister federal agency. BLM can address this important deficiency by performing the requisite spatial analysis in the Final EIS.

**7. A large percentage of the estimated future mines affected by the proposed action are for minerals that are used for jewelry and other decorative purposes.**

According to the DEIS (Table 12 p. B-28), 16 of the estimated future mines are for minerals that are used for decorative purposes (5 jasper mines; 1 plume agate; 10 gemstone). Even the gold produced from projected future mines (3 small mines and 1 large gold mines) would predominantly be used to manufacture jewelry (estimated 40% of U.S. gold consumption is for jewelry – the largest consumptive use in U.S.).<sup>5</sup> It's important to consider the proposed action in this context: conserving an iconic American wildlife species and restoring a healthy ecosystem that will benefit a vast number of other species relative to a very minor reduction in the possible production of minerals used predominantly for jewelry and decorative purposes.

**8. The EIS should clarify that mineral production from small gold mines in the proposed mineral withdrawal area are an insignificant percent of U.S. gold production, and there is more than enough recycled gold each year to cover the minor reduction in gold production from the proposed action, if the projected reductions were to occur.**

According to the U.S.G.S., 99% of gold production in the U.S. is generated by 29 large lode mines.<sup>6</sup> Small mines are an insignificant contributor to gold production in the U.S., and aren't even listed in the U.S.G.S. annual minerals reports. The loss of gold production from small mines under the proposed action would be insignificant to U.S. gold production. Furthermore, the U.S. is a net exporter of gold, and has been for a long time.<sup>7</sup> Thus, the U.S. produces more gold than is used domestically. Not only does the U.S. produce more gold than it needs, but nearly 80% of U.S. consumption was met by recycled gold in 2016, rather than newly mined gold production.<sup>8</sup> According to the 2017 USGS minerals report, U.S. gold consumption totaled 165 tons -- 130 tons of gold were generated by recycling that year. Even the reduction of one large gold mine over the 20-year mineral withdrawal, as predicted by the DEIS, would result in a minor reduction in gold production. An average gold mine produces approximately 6,000 kg/year (6.6 tons) – that's just 3% of total U.S. gold production (210,000 kg/year)(230 tons). That amount can easily be provided by recycled gold production as noted above (130 tons per year), with no need for a reduction in U.S. gold consumption. Of note, the largest consumer of U.S. gold is for use in jewelry manufacturing.<sup>9</sup>

**9. The DEIS should consider the multitude of social and environmental benefits from the proposed mineral withdrawal.**

The USFWS describes the sage-steppe ecosystem as “one of the most imperiled ecosystems in America.” The withdrawals would result in a reduction in habitat loss and habitat fragmentation in the sage-steppe ecosystem that would provide social and environmental benefits that are not analyzed in the DEIS. For example, conserving the sage-steppe ecosystem will benefit a full range of species, and have benefits for a full range of outdoor recreation activities that depend on those species (e.g., mule deer, pronghorn, elk and other hunting activities).

Protecting sagebrush habitat from habitat loss and fragmentation would benefit biological values (e.g., clean air and water, carbon storage). For example, sagebrush landscapes play a critical role in the hydrologic cycle of the arid West by catching and holding the sparse winter snows. Sagebrush itself often serves as a “nurse” plant for other plants, many of which are important to sustaining grazing wildlife and domestic livestock.

Fragmentation of sagebrush habitats can have a particularly acute impact on wildlife because in the arid west, food, cover and water resources are distributed unequally across the landscape. This characteristic of sagebrush means many obligate species have evolved to require very large areas of intact habitat to meet their seasonal and annual resource needs. Therefore, a relatively small number of fragmented sagebrush acres can have a disproportionate impact on the species that need that particular habitat to survive.

These important ecosystem values, while more difficult to quantify, should be incorporated into the EIS.

**10. 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.**

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.

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 to protect the Pioneer Mountains and Craters of the Moon region and the associated rural economies 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 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 reapplys 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.

## **11. The DEIS should analyze the impacts of the proposed action and range of alternatives on water resources.**

Mining is a highly water use intensive activity. The DEIS should analyze the benefits of reduced water consumption as a result of the proposed action, and the range of alternatives. The reduced consumption of groundwater and surface water for mining is a very substantial indirect effect of the proposed mineral withdrawal. This is a particularly important issue for the arid regions that are involved in the withdrawal. The EIS should evaluate the average use of water for various mining operations (bentonite, gold, etc.) and provide a range of estimated water use by alternative. For example, the Interior Department has analyzed the typical water use for a cyanide leach gold operation in a 2012 report.<sup>10</sup> It found that a typical operation 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.

A 2010 USGS report provides the breakdown of water use by activity in 2010, and also provides a breakdown of the data by county.<sup>11</sup> This data could also be used to evaluate the potential impacts associated with the various alternatives in comparison to the no action alternative.

The dewatering effects of mining are highlighted in a report about the hydrologic effects from six mines within the Humboldt River basin in Nevada.<sup>12</sup> 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.<sup>13</sup> 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 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.”<sup>14</sup>

**12. 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. The EIS focuses almost entirely on the loss of habitat due to vegetation loss, and should more fully address the loss of important migratory corridors.**

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.<sup>15</sup> 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 and/or land disturbance associated with mining operations.<sup>16</sup>

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.<sup>17</sup> 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.<sup>18</sup> Such increases in energy expenditure during migration may decrease survival or productivity of migratory populations of large, terrestrial mammals.<sup>19</sup>

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).”<sup>20</sup>

**13. 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. This information is provided as additional supporting material.**

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.<sup>21</sup> Furthermore, sage grouse are considered obligate users of sagebrush and require large, contiguous areas.<sup>22</sup>

Mining, road construction, power lines, fences and reservoirs have resulted in loss and fragmentation of sage grouse habitat.<sup>23</sup> Because of the long-term nature of the impacts, the habitat values are generally not recoverable.<sup>24</sup>

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.<sup>25</sup> 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.<sup>26</sup> 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).<sup>27</sup> 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.<sup>28</sup>

#### **14. The EIS should fully analyze the impacts of mining on water quality.**

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.<sup>29</sup> 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.<sup>30</sup> 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:

- 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.

The EIS should evaluate the potential direct and indirect effect of the proposed action. It is reasonable to assume that adverse water quality affects could occur as a result of the no action alternative, which should be contrasted with the range of other alternatives.

**15. 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. We provide this as additional supporting material.**

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*.<sup>31</sup>” 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.<sup>32</sup>

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.

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.<sup>33</sup> 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 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.<sup>34</sup> 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.<sup>35</sup>

Altogether, the mine has resulted in pollution to twelve streams in the region, which do not meet state water quality standards.<sup>36</sup> 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.<sup>37</sup> 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.<sup>38</sup>

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 affirms the potential for sage-grouse habitat.

The Betze pit expansion EIS<sup>39</sup> 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 effect 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.

Another problematic impact analysis, which often occurs in EIS documents, is the neglecting of an effect of development by use of direct impact comparative figures. For example, in the EIS for the Arturo Mine Project<sup>40</sup> at the northern end of the Carlin Trend, the following table is presented:

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 effects of development, especially noise plays a very important role. Considerations of the indirect impacts extends 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 which 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.

Across Nevada are numerous mining exploration projects. The map below shows those that have occurred in the past 2-3 years that are over 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.<sup>41</sup> This population is shared among southeastern Oregon, northeastern California 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.<sup>42</sup> 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.<sup>43</sup> 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 report, “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 regarded 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 created

significant impacts to habitat there. According to the draft EIS on Bald Mountain Mine<sup>44</sup> 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) 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.

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 here 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 endangered.

Suggestions for extensions to the proposed withdrawal using Nevada PMUs<sup>45</sup> 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 of mining activity in Idaho has taken place outside of sage-grouse habitat, the map of Sagebrush Focal Area shows a considerable amount of claims within each of the Conservation Areas.

### *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 activities 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 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

Preventing additional mining 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 in the northern part 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 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 contains more than 24% of leks in the Idaho-Southwest Montana subregion.. Unlike lower-elevation areas, the habitat is generally in good condition and fire and invasive species are not currently as significant threats as in other areas, but this Conservation Area may be at most risk for future mineral projects. The basin-and-range style geology has placed mineral-rich deposits next to valleys that provide habitat for sage-grouse. Mines, mill sites and mine pollution may adversely affect sage-grouse and their habitat. The basin-and range type geography of the Mountain Valleys makes this area more susceptible to impacts from industrial development compared with the other conservation areas:

“In general, GRSG habitats in the Desert and West Owyhee CAs are relatively contiguous, while those in the Mountain Valleys and Southern CAs tend to be more fragmented due to more complex topography, and elevational differences and/or effects from wildfires, agriculture, urbanization or other factors.”

And

“Infrastructure development, mainly transmission, poses as risk. Habitats in the Challis/Salmon portion also tend to be more linear in configuration due to the orientation of associated mountain ranges and valleys. Impacts from infrastructure development, roads, and other surface disturbing activities could be more concentrated as a result.”

-Idaho and Southwest Montana Greater Sage-grouse Land and Resource Management Plan Amendment FEIS.

These mountain valleys represent important corridors that sage-grouse travel through between brood-rearing areas and wintering habitat. Should a mining project or ancillary facilities be located in or adjacent to these corridors, the movement of sage-grouse through these areas could be impeded, potentially cutting off access to important seasonal habitats.

### *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 local sage-grouse populations.

<http://idahobusinessreview.com/2010/04/22/silver-falcon-mining-opens-mill-in-murphy/>

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

<http://www.silverfalconmining.com/Photo/#foo>

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.

Since the date of the scoping notice, two notable mining projects have gained momentum in Idaho which may affect sage-grouse. While both ore deposits are largely located outside of sage-grouse habitat, related infrastructure such as mill sites, haul roads, staff camps, transportation routes, transmission lines and supporting facilities be located on or near Important and Core Habitat in the Mountain Valleys Conservation Area. The Mountain Valleys Conservation Area is one of four conservation areas developed by the State of Idaho, with each zone representing approximately 5 million acres. Collectively, Core and Important Habitat Zones in all of these four areas contain more than 95% of the sage-grouse in Idaho. These projects include American CuMoCo's Calida Project <https://cumoco.com/projects/calida-gold-mine/>

and Otis Gold's Kilgore Project:

<http://www.otisgold.com/projects/kilgore/>

While the proposed mineral withdrawal would not effect the development of valid, existing claims, should these proponents wish to stake mill site claims on more developable terrain within or adjacent to sage-grouse habitat, sage-grouse populations in these sensitive corridors could be adversely affected.

### **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.

**16. Another potential additional impact which should be analyzed within the EIS is the lifting of the patent moratorium, which must be approved each year by congress.**

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<sup>1</sup> BLM Sage Grouse National Technical Team, *A Report on National Greater Sage Grouse Conservation Measures* (December 21, 2011), p. 12.

<sup>2</sup> Id.

<sup>3</sup> [https://www.fws.gov/greatersagegrouse/PDFs/GrSG\\_Finding\\_FINAL.pdf](https://www.fws.gov/greatersagegrouse/PDFs/GrSG_Finding_FINAL.pdf)

<sup>4</sup> State of Nevada Sagebrush Ecosystem Program, 2014 Greater Sage Grouse Conservation Plan, October 1, 2014.

<sup>5</sup> <https://minerals.usgs.gov/minerals/pubs/commodity/gold/mcs-2017-gold.pdf>

<sup>6</sup> <https://minerals.usgs.gov/minerals/pubs/commodity/gold/mybl-2014-gold.pdf> (Table 3)

<sup>7</sup> <https://minerals.usgs.gov/minerals/pubs/mcs/2017/mcs2017>.

<sup>8</sup> Id. 209 tons of gold were produced by new mine production; 130 tons were produced by secondary (new and scrap).

<sup>9</sup> <https://minerals.usgs.gov/minerals/pubs/commodity/gold/mcs-2017-gold.pdf>

<sup>10</sup> 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>.

<sup>11</sup> <https://pubs.usgs.gov/circ/1405/pdf/circ1405.pdf>; <https://water.usgs.gov/watuse/data/2010/>

<sup>12</sup> Myers, Tom. Ph.D., Hydrogeology of the Humboldt River Basin, Impacts of Open Pit Mine Dewatering and Pit Lake Formation, June 2015.

<sup>13</sup> 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.

<sup>14</sup> Id.

<sup>15</sup> NDOW, Mule Deer Herd Prescription Management Area 6, 2007.

<sup>16</sup> U.S. BLM, *Draft Supplemental Environmental Impact Statement, South Operations Area Project Amendment Cumulative Effects*, August 2007.

<sup>17</sup> Id.

<sup>18</sup> 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>

<sup>19</sup> Id.

<sup>20</sup> 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](http://www.ndow.org/uploadedFiles/ndoworg/Content/Wildlife_Education/Publications/2014-Big-Game-Status-Book.pdf)

<sup>21</sup> U.S. BLM, *Draft Supplemental Environmental Impact Statement, South Operations Area Project Amendment*, August 2007.

<sup>22</sup> Id.

<sup>23</sup> U.S. BLM, *Draft Supplemental Environmental Impact Statement, South Operations Area Project Amendment*, August 2007.

<sup>24</sup> Id.

<sup>25</sup> US BLM, *Betze Pit Expansion Project, Draft Environmental Impact Statement*, August 2008. p. 3.8-11.

<sup>26</sup> Id.

<sup>27</sup> US BLM, *Final Environmental Impact Statement for the Bald Mountain North Operations Area Project*, August 2009.

<sup>28</sup> Id.

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<sup>29</sup> 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:

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