



## **SHEEP MOUNTAIN ALLIANCE**

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Mr. Steve Tarlton, Program Manager  
Radiation Control Program  
Hazardous Materials & Waste Management Division  
Colorado Department of Public Health and Environment  
4300 Cherry Creek Drive South HMWMD-B2  
Denver, CO 80246-1530

December 20, 2010

Dear Steve,

In addition to our previously submitted comments from Stratus Consulting, Dennis O'Leary and Powers Consulting as well as our initial comments on the completeness of the application and multiple legal comments submitted throughout the last year, Sheep Mountain Alliance would like additionally submit the following comments focused on impacts to nonhuman species and why such impacts should prevent approval of the mill application.

### **Overview**

The Piñon Ridge Uranium Mill, if constructed, will significantly alter the landscape of Paradox Valley and surrounding areas. Impacts to land by the industrial complex, roads, and uranium mining will negatively affect habitats and corridors for many species, some of them federally threatened or of sensitive or critical concern. Negative consequences to water quantity and quality by drawdown of the aquifer and uranium mine tailings will affect species in the Colorado River, the Dolores River and nearby streams. Airborne contaminating particles associated with the mill facility will accumulate on the surface of water and land, exposing species to radioactive and chemically toxic metals.

Extensive biological surveys should have been performed to identify species present at the site, but the methods employed by Energy Fuels were narrow in time duration and inconclusive. The Kleinfelder biological measurements should have been evenly spaced to account for seasonal changes. Instead, the fall survey was conducted only three weeks after the summer survey. Both were done between late August and mid September, leaving questions as to which species occupy the site during early summer and late fall. The WestWater survey took place on one day, August 24, 2009. It does not account for any seasonal flora and fauna species. A full NEPA review should have been conducted to include cumulative impacts, as required under federal laws which Colorado is implementing under the Agreement State Program.

Employees of the U.S. Department of the Interior and the U.S. Geological Survey authored a Scientific Investigations Report in 2010, entitled, *Biological pathways of exposure and ecotoxicity values for uranium and associated radionuclides*, by Hinck et al. The purpose of the report was to recognize species which are susceptible to effects of uranium and its decay products through uranium mining and milling, to scientifically collect species threshold levels for effects from uranium and radioactive progeny, and to identify routes of exposure for species. We will draw upon findings of Chapter D of the report throughout our comments.<sup>1</sup>

Significant findings of the 2010 report, which relate to uranium milling, are: 1) Fish and plants near uranium mill tailings possess higher amounts of radionuclides and pose health risks to human and wildlife food chains<sup>2</sup>, 2) Small milled particles are dispersed by wind and precipitation and the metals contained in them are likely to remain as a film on the surface of land and water where such particles come to rest<sup>3,4,5</sup>, 3) Existing studies reveal that species which come into acute contact with mill tailings receive near-lethal damage.

Further drawing from the report, routes of heavy metal and radiation exposure from uranium mining and milling are: “atmospheric deposition, dust, runoff, erosion and deposition, ground water and surface water, and the food chain” (p. 295). Wildlife intake heavy metals and radiation through ingestion of food and water and absorption through the skin or inhalation. Heavy metal uptake in aquatic species occurs through ingestion of contaminated particles, sediments or food and through absorption by respiration. Various studies proposed threshold radiation levels ranging from .01-.4 milligray per hour to protect terrestrial wildlife, aquatic species and flora.

### **Species impacted by the proposed mill**

#### *Endangered species-Colorado River Fish*

The direct, indirect and cumulative impacts of milling and associated mining operations may impact four federally endangered fish species: the razorback sucker, the humpback chub, the bonytail chub and the Colorado pikeminnow. All four of the endangered Colorado River fish species may be present in the Colorado River just downstream from the confluence with the Dolores. Colorado pikeminnow occurred historically in the Dolores River and still persist in the Colorado River downstream from the confluence

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<sup>1</sup> Hinck, J.E., Linder, G., Finger, S., Little, E., Tillitt, D., & Kuhne, W. (2010). *Biological pathways of exposure and ecotoxicity values for uranium and associated radionuclides*. Found at: [http://pubs.usgs.gov/sir/2010/5025/pdf/sir2010-5025\\_biology.pdf](http://pubs.usgs.gov/sir/2010/5025/pdf/sir2010-5025_biology.pdf)

<sup>2</sup> International Atomic Energy Agency. (2004). The long term stabilization of uranium mill tailings—Final report of a coordinated research project 2000–2004: International Atomic Energy Agency IAEA-TECDOC-140 (as cited in Hinck, et al.).

<sup>3</sup> Jones, K.C., Lepp, N.W., & Obbard, J.P. (1990). Other metals and metalloids, in Alloway, B.J., ed., *Heavy metals in soils*: New York, Blackie/John Wiley & Sons, Inc., (as cited in Hinck et al.).

<sup>4</sup> Hem, J.D. (1992). *Study and interpretation of the chemical characteristics of natural water* (3d ed.): U.S. Geological Survey Water-Supply Paper 2254, (as cited in Hinck et al.).

<sup>5</sup> Zhang, P.C. & Brady, P.V. (2002). *Geochemistry of soil radionuclides*: Madison, Wis., Soil Science Society of America, (as cited in Hinck et al.).

with the Dolores River. The razorback sucker may occur in the Colorado River downstream from the confluence with the Dolores River and is stocked in the Colorado River upstream of the confluence with the Dolores River. There are relatively large and healthy populations of humpback chub in the Colorado River near the confluence with the Dolores River. One of the very few remaining wild populations of bonytail occurs in the Colorado River upstream from the confluence with the Dolores River, and since 1996 bonytail have been stocked in the Colorado River in Utah near the confluence with the Dolores River. In addition, critical habitat for all four of the endangered Colorado River fish has been designated in portions of the Colorado River downstream from the confluence of the Dolores River. Uranium milling and associated mining operations may affect these fish species in two synergistic ways: water depletion and pollution.

Milling operations will result in the loss of 227 acre feet per year in the Colorado River Basin. Mining operations on the ULP tracts will result in consumptive use of a minimum of 140 acre feet of water per year from the Dolores and Colorado River Basins. For example, Edge Environmental confirmed that the Dolores River has flowed at less than two cubic feet per second 14 times in the past 40 years. Use of 141 gallons per minute from the aquifer is 15 percent of river flow at that level, enough to harm the Colorado pikeminnow, which grows up to 80 pounds, and is found in the Dolores River.<sup>6</sup>

These depletions must be considered in combination with past, present and reasonably foreseeable other actions on DOE lease tracts and BLM lands in the region that have depleted water from the Dolores and Colorado Rivers. The direct, indirect, and cumulative effect of these depletions to the fish must be considered. Those effects may include loss of aquatic habitat, reduced quantity of river habitat, and reduced quality of habitat, especially those habitat attributes associated with minimum base and peak flows (such as spawning and backwater habitats) that may be affected by reduced water availability.

Reduced water volumes in the Dolores and Colorado Rivers will exacerbate pollution effects of uranium milling and associated by increasing the concentration of milling and mining pollutants in the river. Uranium mining and milling operations may result in discharges of pollutants that may be toxic to the fish, including uranium, selenium, ammonia, arsenic, molybdenum, aluminum, barium, copper, iron, lead, manganese, vanadium and zinc. Selenium is an element of particular concern, as elevated selenium can be taken up directly from water by aquatic organisms, resulting in acute toxicity at relatively high concentrations, and accumulate in the aquatic food chain.<sup>7</sup> This can result in myriad adverse effects on fish and waterfowl populations, including impaired reproduction, deformities, reduced survival and other problems.<sup>8</sup> Selenium contamination in the Colorado River basin has been implicated in the decline of the four endangered

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<sup>6</sup> Colorado Division of Wildlife. (2010). Species profiles: Colorado Pikeminnow. Found at: <http://wildlife.state.co.us/WildlifeSpecies/Profiles/Fish/PikeMinnow.htm>

<sup>7</sup> Hamilton, SJ. 2004. Review of selenium toxicity in the aquatic food chain. *Science of the Total Environment* 326: 1-31. *See also* Lemly AD. 1999. Selenium impacts on fish: an insidious time bomb. *Human and Ecological Risk Assessment* 5: 1139-1151.

<sup>8</sup> *Id.*

Colorado River fish species, and may be impeding their recovery.<sup>9</sup> There is evidence that high selenium levels may adversely affect reproduction and recruitment in these fishes.<sup>10</sup> Treatment of high levels of selenium in Energy Fuels' Whirlwind mine has proven elusive. Selenium has contributed to numerous violations of water quality standards and the current shut-down condition of the Whirlwind mine.<sup>11</sup>

#### BLM designated sensitive species of fish

Colorado Division of Wildlife (DOW) states that the presence of the mill would also impact three sensitive species of fish in the Dolores River through aquifer drawdown: bluehead sucker, flannelmouth sucker, and roundtail chub. DOW requested that water used for milling operations not be hydrologically connected to the Dolores River<sup>12</sup>, but there is a hydrological connection, as established by the loss of 227 acre feet per year from the Colorado River Basin.

#### Aquatic species

Hinck et al. explains that metals concentrate in sediments at the bottom of streams. In streams receiving drainage from uranium mills, aquatic species which feed on or near sediments have higher concentrations of uranium and thorium than predatory fish.<sup>13</sup> Although the proposed mill is supposed to be a "zero containment" facility, Golder Associates explained that significant runoff will occur during spring snowmelt and high precipitation events<sup>14</sup>. Any runoff into streams from the site will harm bottom feeding fish.

#### Candidate species-Gunnison sage-grouse

Colorado DOW determined that the mill would have a negative impact on Gunnison sage-grouse migration patterns.

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<sup>9</sup> Hamilton SJ. 1999. Hypothesis of historical effects from selenium on endangered fish in the Colorado River Basin. *Human and Ecological Risk Assessment* 5: 1153-1180.

<sup>10</sup> Such effects may not be limited to the four endangered Colorado River fish species. Runoff or discharge of water with very low concentrations of selenium can result in adverse impacts on many species of fish and fish-eating waterfowl and mammals. One study in waters downstream from uranium mining and milling operations in Canada found that in areas where water concentrations of selenium are very low, selenium has been incorporated into the food chain via primary producers, gradually built up in sediments and benthic biota, and reached levels that have the potential to cause reproductive impairment in fish. In addition, a short pulse event can quickly load an aquatic environment with selenium, and that selenium could then be conserved in the ecosystem for long periods of time. Muscatello JR, Belknap AM, Janz DM. 2008.

Accumulation of selenium in aquatic systems downstream of a uranium mining operation in northern Saskatchewan, Canada. *Environmental Pollution* xx: 1-7.

<sup>11</sup> <http://drmsweblink.state.co.us/drmsweblink/0/doc/903977/Page1.aspx?searchid=7f62aa7a-ff27-4934-86a4-068b7c425518> (Colorado letter identifying selenium discharge violations.)

<sup>12</sup> DelPiccolo, Renzo. (2008). Piñon Ridge Mill Facility-comments to Montrose County, CO. Colorado Division of Wildlife.

<sup>13</sup> Swanson, S.M. (1985). Food-chain transfer of U-series radionuclides in a Northern Saskatchewan aquatic system. *Health Physics* 49(5), 747, (as cited in Hinck et al.).

<sup>14</sup> Golder Associates. (2010). *Potential impacts to the Dolores River from the Piñon Ridge project, Montrose County, Colorado.*

While its historic range may have included parts of Colorado, Utah, New Mexico, Arizona, the species now occurs only in eight small populations in southwestern Colorado and southeastern Utah. Gunnison sagegrouse have experienced significant declines from historic numbers and only about 4,000 breeding individuals remain (Figure 1)<sup>15</sup>.

Additionally, Center for Biological Diversity reported a continued decline in 2009 with some populations of sage grouse of less than 10 birds. Two birds were wintering on the proposed mill site in 2002, according to Colorado Division of Wildlife. If populations consist of less than 10 birds, then two birds is a significant find. The birds' recent presence at the site demonstrates that future occupation of the site is likely, if their habitat is maintained.

According to DOW, the mill site is a one mile corridor separating populations in Dry Creek Basin and suitable potential habitat in East Paradox Valley. Energy Fuels plans to reduce the amount of available sagebrush by 248 acres. This significant loss of sagebrush, which is of high value to the Gunnison sage-grouse, coupled with destruction of the migration corridor, prompted DOW to necessitate mitigation efforts for the loss. Although Energy Fuels complied with the request to increase habitat elsewhere, which has proven exceedingly challenging for wildlife experts, cumulative impacts of the mill and mines near the Dry Creek Basin population will harm this species. It is unlawful for CDPHE not to address such impacts.

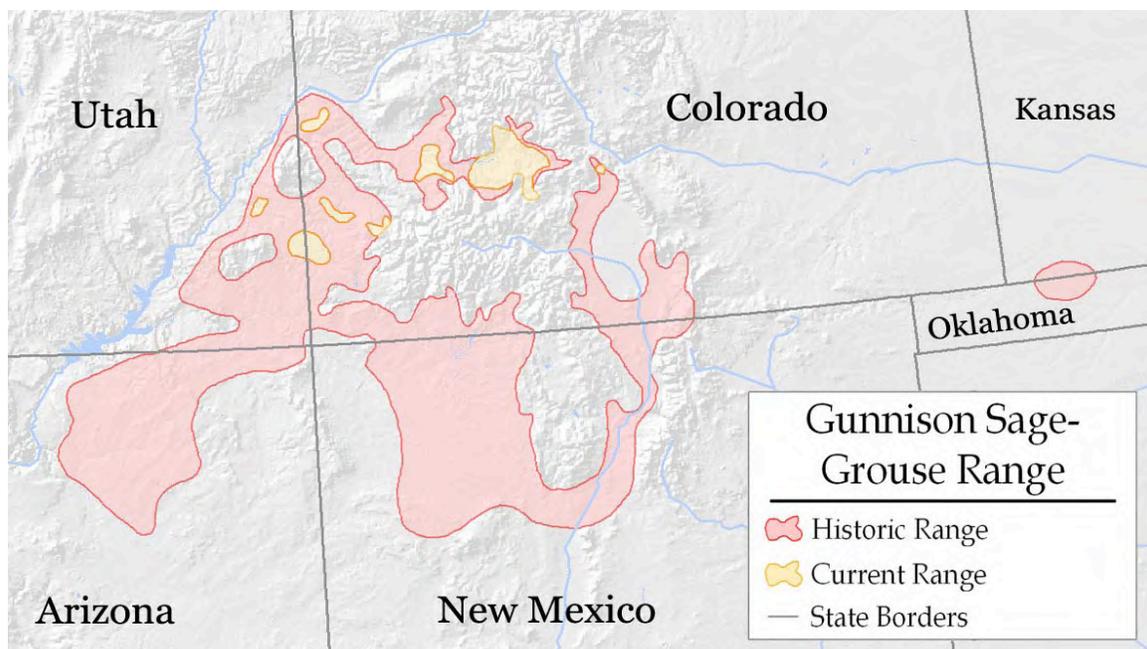


Figure 1 Map created by WildEarth Guardians, 2008

<sup>15</sup> Salvo, Mark. (2008). *The shrinking sagebrush sea* (p.14). WildEarth Guardians. Santa Fe, NM.

Federally threatened species-Mexican spotted owl

Worldwide, “The estimated population of surviving Mexican Spotted Owls is now only between 350 and 600 pairs”<sup>16</sup>. Biological surveys apparently were unable to determine if these owls are present at the proposed site, but they are known to occur in Montrose County and along the Dolores River Corridor near the proposed site. Energy Fuels’ claim that such a rare animal is probably not present is insufficient; such claims must be substantiated. Any disturbance to Mexican spotted owls is unlawful.

BLM designated sensitive species-Western burrowing owl

Burrowing owls were found one and a half miles west of the mill site during the single day WestWater survey and the Environmental Report, Section 3, categorizes them as present at the site. These owls are of special concern for exposure to chemical and radiological metals. Burrowing animals receive higher dosages of metals and radon than animals on the surface because burrowing animals are surrounded by contaminated soils for 360 degrees<sup>17</sup>.

Burrowing owls require open grasslands with abundant food sources, minimal vegetative cover to guard against predators and nest burrows dug by burrowing mammals<sup>18</sup>. Loss of 167 acres of grasslands and existing burrows, reduction in prey species, construction noise during breeding season, and spoil storage sites 30 feet tall will likely displace the present owls. Results, according to the Environmental Report, Section 4, will be overcrowding and increased competition.

While we compliment Energy Fuels on its efforts to maintain a disturbance buffer around occupied burrows, we are concerned that industrial activities and contamination will overwhelm the present population of burrowing owls, leading to displacement or destruction.

BLM designated sensitive species-bald eagle

A bald eagle was recorded at the proposed mill site during the biological site survey work and DOW affirms the site is in bald eagle winter range. In 2007, there were only 65 pairs of bald eagles in Colorado<sup>19</sup>.

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<sup>16</sup> Silver, Robin, M.D. (1989). Formal petition to the U.S. Fish and Wildlife Service to list the Mexican Spotted Owl on the federal list of Threatened and Endangered Species. Center for Biological Diversity. Found at: [http://www.biologicaldiversity.org/species/birds/Mexican\\_spotted\\_owl/pdfs/19248\\_1540.pdf](http://www.biologicaldiversity.org/species/birds/Mexican_spotted_owl/pdfs/19248_1540.pdf)

<sup>17</sup> Macdonald, C.R., & Laverock, M.J. (1998). Radiation exposure and dose to small mammals in radon-rich soils. *Archives of Environmental Contamination and Toxicology*, 35(1), 109, (as cited in Hinck et al.).

<sup>18</sup> Center for Biological Diversity et al. (2003). *Petition to the state of California Fish and Game Commission and supporting information for listing the California population of the burrowing owl as endangered or threatened under the California Endangered Species Act*. Found at: [http://www.biologicaldiversity.org/species/birds/western\\_burrowing\\_owl/pdfs/petition.pdf](http://www.biologicaldiversity.org/species/birds/western_burrowing_owl/pdfs/petition.pdf)

<sup>19</sup> Center for Biological Diversity. (2007). [Map]. Most recent count of eagle pairs in the lower 48 states. Found at: [http://www.biologicaldiversity.org/species/birds/bald\\_eagle/report/index.html](http://www.biologicaldiversity.org/species/birds/bald_eagle/report/index.html)

Bald eagles are sensitive to human activities. The U.S. Fish and Wildlife Service states this:

Human activity may agitate or bother roosting or foraging bald eagles to the degree that interferes with or interrupts their breeding, feeding, or sheltering behavior, causing injury, death, or nest abandonment. If activities you propose to conduct potentially disturb roosting or foraging bald eagles, please contact your local Fish and Wildlife Service Field Office for advice and recommendations to avoid such disturbance, based on site-specific information<sup>20</sup>.

No evidence has demonstrated that Energy Fuels performed this consultation.

#### Species-big game

Big game animals and their predators will be harmed by the mill through ingestion of radioactive and heavy metals from the surface of plants on which mill particles deposit. Large mammals are also more vulnerable than small mammals to radiation risks because they are larger targets for ionizing radiation<sup>21, 22</sup>. Moreover, Hinck et al. states that big game animals are more sensitive to radiation than other species, such as aquatic organisms. As these large mammals are more sensitive and more vulnerable to radiation than other species, if they reside near the site during operations, they will be impacted more severely than other wildlife by the facility.

WestWater states that elk rely on grasses for food and mule deer rely on sagebrush. With the loss of 167 acres of grasslands and 248 acres of sagebrush, the total loss of over 400 acres of winter habitat is significant. Comments by DOW explain that deer and elk in this portion of Colorado are limited by the amount of available winter habitat. Two winters of possible construction will serve to disturb these animals even outside the zone of habitat loss, resulting in possible overcrowding of already populated areas. Additionally, big game collision deaths will increase proportionally with increase of traffic to the area.

While we appreciate the applicant's coordination with DOW in forming a Habitat Improvement Plan to increase big game habitat elsewhere, we believe that the Plan will be inadequate because all exposure pathways were not examined by Energy Fuels or DOW. The combination of habitat loss, sensitivity and vulnerability to radiological effects, and increased dosage of radionuclides and heavy metals through food sources will harm big game animals in the vicinity of the proposed mill in unanticipated ways.

#### Candidate species-Gunnison prairie dog

Gunnison prairie dogs previously inhabited the site, and there are two colonies within one and a half miles of the site, according to the WestWater survey. Although not a candidate

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<sup>20</sup> U.S. Fish and Wildlife Service. (2009). *Bald eagle* (under Threats). Arcata Fish and Wildlife office. Found at: [http://www.fws.gov/arcata/es/birds/baldEagle/b\\_eagle.html](http://www.fws.gov/arcata/es/birds/baldEagle/b_eagle.html)

<sup>21</sup> Bytwerk, D.P. (2006) *An allometric examination of the relationship between radiosensitivity and mass* (p. 70). Oregon State University: Corvallis, OR, (as cited in Hinck et al.).

<sup>22</sup> Higley, K.A., & Bytwerk, D.P. (2007) Generic approaches to transfer: *Journal of Environmental Radioactivity* 98(1-2), 4, (as cited in Hinck et al.).

species in the Paradox Valley region, the prairie dog exists in symbiosis with the sensitive Western burrowing owl; harm to the prairie dog directly harms the owl. Prairie dogs, as burrowing animals, will face increased exposure to heavy metals and radon from contaminated soils.

*BLM sensitive species-canyon tree frog*

Canyon tree frogs possibly occur within the site, according to the Environmental Report. Any runoff into canyon tree frog habitats onto the site or from the site will degrade water quality at such habitats. As already established in these comments, the proposed facility will not be a “zero discharge” facility, and significant runoff from the mill site is expected under certain normal conditions. “Further, grading and construction of the site will result in nearly doubling the amount of the proposed mill site which drains into East Paradox Creek”<sup>23</sup>. Impaired water quality from runoff will harm this species.

*BLM designated sensitive species-Townsend’s big-eared bat, Botta’s pocket gopher, river otter, and midget faded rattlesnake*

Each of these species is either likely or possibly found on the site. 1) Bats will be impacted by water contamination, habitat loss, disruption of hibernation and interruption of echolocation, according to Section 4 of the Environmental Report. Also, bats hibernate in uranium mines, which makes them more vulnerable to chemical and radiological effects.<sup>24</sup> 2) Pocket gophers will be destroyed by contact with raffinate or through entanglement in nets. Gophers are burrowing animals and they will receive higher dosages of chemical toxicity and radon through contaminated soils. 3) River otters will be affected by contaminated surface water runoff and by radioactive and heavy metals that accumulate on surface water and in prey species. 4) Midget faded rattlesnakes will have increased vehicle collisions.

*Other species, including 30 types of non-game vertebrates, 18 types of migratory birds with declining populations, raptors and small game*

Numerous species will be displaced, destroyed or disturbed by habitat fragmentation, vehicle collisions, noise and night lighting, nets and contact with raffinate. Center for Native Ecosystems reports that habitat fragmentation is the leading cause of species decline. Displacement of species caused by industrial processes will increase competition and vehicle collisions.

The proposed nets will be too large to keep out migratory birds and wildlife will become entangled in them<sup>25</sup>. Either entanglement in nets or contact with raffinate will cause hemorrhage, according to Hinck et al., through inhalation or ingestion of radioactive source materials.

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<sup>23</sup> Stills, Travis & Parsons, Jeff. (2010). Comments on draft permit and water quality assessment for Cotter Corporation, JD-7 and JD-9 mines, CO-0036251, (p. 8). Energy Minerals Law Center: Durango, CO.

<sup>24</sup> Hinck, J.E., Linder, G., Finger, S., Little, E., Tillitt, D., & Kuhne, W. (2010). *Biological pathways of exposure and ecotoxicity values for uranium and associated radionuclides*. Found at: [http://pubs.usgs.gov/sir/2010/5025/pdf/sir2010-5025\\_biology.pdf](http://pubs.usgs.gov/sir/2010/5025/pdf/sir2010-5025_biology.pdf)

<sup>25</sup> Holmes, Jamie. (2010). Review of Piñon Ridge Mill proposal. [PowerPoint presentation]. Prepared for Sheep Mountain Alliance by Stratus Consulting.

A great blue heron rookery exists near Bedrock, on the Dolores River (Magee, 2010, personal communication) and this species is found on DOE uranium lease tracts. This species has a higher exposure potential due to its long life, its predation and its specific territory requirements<sup>26</sup>. Contamination of surface water by the proposed mill and mining activities may negatively affect this species, whose diet consists primarily of fish.

BLM designated sensitive plant species-Paradox Valley Lupine and Paradox breadroot Energy Fuels Environmental Report, Section 3, states that Paradox breadroot and Paradox Valley lupine likely occur on the site. Eastern Paradox Valley has the best occurring species of the imperiled Paradox Valley lupine in the world and Paradox breadroot is vulnerable and rare in Colorado<sup>27</sup>. Hinck et al. reports that uranium and its decay products, including radioactive and toxic metals associated with mills, are more easily transferred to plants in dry habitats than humid habitats. The plants will likely receive higher amounts of radioactive and toxic metals because of the arid atmosphere, contributing further to their decline.

### **Cumulative impacts**

Addressing cumulative impacts of uranium mining and milling in the region is legally required under NEPA. Cumulative impacts should be analyzed including related groundwater and surface water supply, airshed effects, and restrictions and mitigation to be undertaken for wildlife harm habitat loss. Depending on mine locations, most, if not all species, which are expected to be negatively impacted by the mill would be further impacted by the presence additional uranium mines.

According to Center for Biological Diversity, “Pollutants from the mining of uranium can contaminate aquatic ecosystems for hundreds of years, threatening downstream communities and fish and wildlife”<sup>28</sup>. Also, Megan Mueller, a biologist with Center for Native Ecosystems stated, “Even small amounts of some of these pollutants, like selenium, can poison fish, accumulate in the food chain and cause deformities and reproductive problems for endangered fish, ducks, river otters and eagles”<sup>29</sup>. On numerous occasions, Energy Fuels released selenium at concentrations above water quality standards from the Whirlwind Mine<sup>30</sup>.

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<sup>26</sup> Seston, R.M., Zwiernik, M. J., Fredricks, T.B., Coefield, S.J., Tazelaar, D. L., Hamman, D.W., Paulson, J.D., Giesy, J.P. (2009). Utilizing the great blue heron (*Ardea herodias*) in ecological risk assessments of bioaccumulative contaminants. *Environmental Monitoring and Assessment*. 157, 199

<sup>27</sup> BLM Uncompahgre Field Office. (2010). *Draft Evaluation of Proposed and Existing Areas of Critical Environmental Concern for the Uncompahgre Planning Area* (p. 65). Found at: [http://www.blm.gov/pgdata/etc/medialib/blm/co/field\\_offices/uncompahgre\\_field/rmp/rmp\\_docs.Par.96192.File.dat/Draft%20ACEC%20Report%20071510.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/uncompahgre_field/rmp/rmp_docs.Par.96192.File.dat/Draft%20ACEC%20Report%20071510.pdf)

<sup>28</sup> Center for Biological Diversity (2010). Uranium, (para. 2). Found at: [http://www.biologicaldiversity.org/programs/public\\_lands/energy/dirty\\_energy\\_development/uranium/index.html](http://www.biologicaldiversity.org/programs/public_lands/energy/dirty_energy_development/uranium/index.html)

<sup>29</sup> Sands, W. (2009, April 23). Busting the boom. *Durango Telegraph*.

<sup>30</sup> Energy Fuels Resources Corporation (2008). Submittal of December 2007 discharge monitoring report and notification of non-compliance. Colorado Department of Health Water Quality Control Division, Denver, CO, (as cited by Mueller, 2009).

The DOE uranium lease program is currently in litigation with environmental groups, including Sheep Mountain Alliance, for, among other problems, failure to investigate impacts on endangered Colorado River fish. “Uranium tailings on Department leases and other tracts have already contaminated the Dolores and San Miguel River watersheds, seriously degrading water quality in both rivers. Proposed uranium mines and mills in the area (including the Whirlwind mine and the Paradox uranium mill) may also result in runoff and discharge of contaminants into the Dolores River basin”<sup>31</sup>. The basin not only continues to be harmed by existing contamination, but also some uranium leases in the Uravan Mineral Belt lying within citizen’s proposed wilderness areas, Colorado Natural Heritage Program potential conservation areas<sup>32</sup>, and proposed Areas of Critical Environmental Concern<sup>33</sup>. The Dolores River Basin has enormous potential for federal and state protections, due to its natural beauty and unique landscapes, flora and fauna.

In 2010, scoping comments were sent to the BLM on revision of the Uncompahgre Resource Management Plan (RMP) by Colorado environmental groups. Collectively, these groups, including Sheep Mountain Alliance, represented hundreds of thousands of members. In regard to the Dolores River corridor, the comments assert:

The RMP also needs to prohibit uranium mining within the river corridor. All permitted mines in the resource area must prove that there will be no harm to both surface and ground water quality and quantity; prove that the long-term ecological health of the area will not be jeopardized; have viable reclamation plans in place before permits can be granted; and have an adequate bonding mechanism in place sufficient enough to cover the entire cost of reclamation. BLM must ensure that all state and federal laws are applied to any permitted mines. The BLM must also ensure that a viable long-term plan for dealing with any radioactive or contaminated materials as well as any other waste products is securely in place.

In addition, the Dolores River in Paradox Valley and below has been deemed eligible for a Wild and Scenic river designation by BLM. The public comments submitted throughout the determination process again emphasize that to protect eligible Wild and Scenic river segments, such segments should be withdrawn from mineral leasing.

## Conclusion

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<sup>31</sup> Center for Biological Diversity (2010). Uranium, (para. 8). Found at: [http://www.biologicaldiversity.org/programs/public\\_lands/energy/dirty\\_energy\\_development/uranium/index.html](http://www.biologicaldiversity.org/programs/public_lands/energy/dirty_energy_development/uranium/index.html)

<sup>32</sup> Center for Native Ecosystems. (Map). *Sensitive Species and Lands in the Pinon Ridge Mill and the Uravan Mineral Belt Area*. Produced for Southern Rockies Conservation Alliance.

<sup>33</sup> Bureau of Land Management, Uncompahgre Field Office. (2010). Draft and evaluation of proposed and existing Areas of Critical Environmental Concern for the Uncompahgre planning area. Found at: [http://www.blm.gov/pgdata/etc/medialib/blm/co/field\\_offices/uncompahgre\\_field/rmp/rmp\\_docs.Par.96192.File.dat/Draft%20ACEC%20Report%20071510.pdf](http://www.blm.gov/pgdata/etc/medialib/blm/co/field_offices/uncompahgre_field/rmp/rmp_docs.Par.96192.File.dat/Draft%20ACEC%20Report%20071510.pdf)

The presence of the proposed Piñon Ridge Uranium Mill will negatively affect all wildlife in the area through loss of water quantity, harm to water quality, loss of habitat, and increased industrial activities. The extended cumulative presence of uranium mines in the region will exacerbate harm to most or all species. Uranium milling activities concentrate and improve the transport of radioactive and toxic metals to expose plants, aquatic species, burrowing animals and terrestrial wildlife. Biological surveys were not conducted adequately by the applicant and CDPHE has not complied with federal and state law requiring this information from the applicant.

As demonstrated by the negative impacts the proposed mill will impart to nonhuman species, the mill should be denied.

Sincerely,

A handwritten signature in black ink, appearing to read "Hilary White", with a stylized flourish at the end.

Hilary White  
Executive Director

Mary Brooke Sunderland  
Project Coordinator