



BLM RGFO
OTR Comments
3028 E. Main St.
Canon City, CO 81212

via e-mail: co_otr_comments@blm.gov

September 10, 2010

Dear BLM,

The following are the comments of the organizations described below on the proposed Over-the-River (OTR) project as described in the Draft Environmental Impact Statement (DEIS).

Colorado Wild works to protect, preserve, and restore the native plants and animals of the southern Rocky Mountains, focusing its efforts on habitat protection of Colorado's forested, roadless, public lands and other ecologically important areas.

The Southern Rockies Conservation Alliance (SRCA) is a coalition of environmental and outdoor recreation groups focusing on protection and preservation of public lands in Colorado and southern Wyoming.

Great Old Broads for Wilderness is a 5000-member national grassroots nonprofit organization dedicated to preserving and protecting America's wild, roadless public lands. Today there are Broads of all ages and both genders in every state in the union making their voices heard to protect America's last wild places.

The mission of **High Country Citizens' Alliance (HCCA)** is to champion the protection, conservation and preservation of the natural ecosystems within the Upper Gunnison River Basin. Since 1977, HCCA has been at work protecting Colorado's natural ecosystems while ensuring appropriate public use of those lands and waters.

The mission of **ROAR (Rags Over the Arkansas River)** is to preserve and protect the Headwaters of the Arkansas River, the Bighorn Sheep Canyon, and the inhabitants and communities that depend upon them. ROAR will submit additional, separate comments on the proposal.

Wild Connections works to identify, protect and restore lands of the Upper Arkansas and South Platte watersheds to ensure the survival of native species and ecological richness. We engage

citizens in wilderness advocacy, agency planning, habitat restoration, and travel management planning.

Center for Native Ecosystems is a Colorado-based conservation organization advocating on behalf of endangered species and ecosystems across the Greater Southern Rockies region. We value the clean water, fresh air, sources of food and medicine, and recreational opportunities provided by native biological diversity. We also passionately believe that all species and their natural communities have the right to exist and thrive. We use the best available science to forward our mission through participation in policy, administrative processes, public outreach and organizing, legal action, and education. We have approximately 300 members in Colorado and surrounding states. We have a longstanding interest in the long-term protection of wildlife habitat and riparian ecosystems in and around the Arkansas River system.

The mission of the **San Luis Valley Ecosystem Council (SLVEC)** is to protect and restore through research, education, and advocacy the biological diversity, ecosystems, and natural resources of the Upper Rio Grande bioregion, balancing ecological values and human needs.

Sheep Mountain Alliance is a grassroots citizen organization with 400 members dedicated to the preservation of the natural environment in the Telluride Region and Southwest Colorado. To this end, Sheep Mountain Alliance will provide education for and protection of regional ecosystems, wildlife habitats and watersheds.

WildEarth Guardians is a westwide conservation group that works to protect and restore wildlife, wild places, and wild rivers.

I. THE PROJECT IS MOST INAPPROPRIATE FOR THE ARKANSAS RIVER CANYON.

The undersigned adamantly oppose the proposal to cover up to 5.9 miles of the Arkansas River with fabric. Regardless of the artistic value of this project, it amounts to an industrial scale facility that would be constructed in an area prized for its mostly natural environment. The two-year construction period, followed by a two-three week viewing period and three months or more of deconstruction, would cause significant disruption of wildlife use of important habitat, and also cause massive traffic problems on U. S. Highway 50. The latter would, among other things, disrupt many existing uses of the canyon.

The fact that the project can be considered art, or even a unique form of art, does not make it appropriate for location anywhere on public land, let alone in the Arkansas River Canyon. There are many places to view art, but there is only one Arkansas River Canyon. Attempting to make an art display in the canyon as proposed would despoil it.

The BLM fails to define an agency purpose for the OTR Project. Note that BLM policy requires identifying an agency purpose and need:

For many types of actions, the “need” for the action can be described as the underlying problem or opportunity to which the BLM is responding with the action.

The “purpose” can be described as a goal or objective that we are trying to reach. Often, the “purpose” can be presented as the solution to the problem described in the “need” for the action. ...

The purpose and need for the action is usually related to achieving goals and objectives of the [RMP]; reflect this in your purpose and need statement.

The purpose and need statement for an externally generated action must describe the BLM purpose and need, not an applicant’s or external proponent’s purpose and need...

BLM NEPA Handbook H-1790-1, p. 35; emphasis added.

In spite of these requirements, however, the DEIS defines the purpose and need mostly in terms of a response to the proponent’s desires rather than anything that would advance BLM’s mission, advance goals or objectives of the resource management plan (RMP), or address identified problems:

The BLM needs to determine if the work of art can be accommodated on public land while maintaining resource objectives as described in the 1996 RGFO RMP, including the provisions of the Arkansas Canyonlands ACEC, and to make an informed decision on whether or not to issue the land use authorization. ...

The BLM’s purpose is to ensure that the provisions and objectives established for the management of resources within the RGFO, including the ACEC, are maintained; to ensure that the public uses described herein will not cause unacceptable damage to public lands or ACEC values; and to assure that public health and safety concerns are addressed.

DEIS at 1-15, 1-16. There is a subset to the purpose which weakly identifies a possible agency purpose:

Additionally, the BLM’s purpose for pursuing this action includes advancing the objective of providing a broad range of recreational opportunities on the lands under their administration.

DEIS at 1-16. However, any “advancement” of recreation via OTR would hurt other forms of recreation, and cause considerable harm to wildlife. See sections VI and III below, respectively. Also, OTR would badly violate the RMP. See section II below. In short, the BLM has not at all defined or identified a legitimate agency purpose for OTR.

II. THE PROJECT CANNOT BE ALLOWED UNDER THE RESOURCE MANAGEMENT PLAN. When the Royal Gorge Resource Management Plan (RMP) was approved (1996), nothing resembling the current OTR project had been proposed. Thus the RMP does not directly address such a project. (See DEIS at 1-16.) However, we believe it is clear that the RMP requires

protection of the environment and of existing uses, and that the OTR project, at least as described for alternatives 1a, 1c, and 1d, would be inconsistent with this mandate.

Installation of panels and support structures would be especially inappropriate in the Arkansas Canyonlands Area of Critical Environmental Concern (ACEC). This ACEC is designated

to protect, enhance, and interpret the significant scenic, historic, and archaeological values; the threatened and endangered peregrine falcon; key raptor habitat area; bighorn sheep habitat; and important fisheries.

DEIS at 2-58. Under the RMP, wildlife values in all ACECs are to be enhanced. RMP at 3-18. We believe that the proposed project would harm the existing wildlife and other values. See further discussion in this section and in section III below.

The Glossary for the Royal Gorge RMP defines ACEC as follows:

Area of Critical Environmental Concern (ACEC). An area within the public lands where special management attention is required: (1) to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes; or (2) to protect life and safety from natural hazards.

RMP at GL-1. This is very similar to the definition in the Federal Land Policy and Management Act of 1976, 43 U.S.C. 1702(a).

Under the RMP Record of Decision (ROD), ACECs are “managed to protect and enhance their special values”. ROD at 2-1-11, decision 1-66. Protective measures include: fluid mineral leasing only with no surface occupancy, no locatable mineral entry, and no mineral materials development. Id. at 2-1-12, decision 1-67. See also DEIS at 3-231.

Special status plant and animal species in ACECs will be protected through “elimination of conflicting uses”. ROD at 2-1-5, decision 1-27; and 2-1-6, decision 1-30, respectively. See also RMP at 3-19, 3-20. One special status plant is likely to be adversely affected by fabric panel installation at seven of the eight proposed sites. DEIS at 4-63. One special status mammal would also be adversely affected. See further discussion in section III B below.

Under the Federal Land Policy and Management Act (FLPMA), lands must be managed “in accordance with the land use plan[] developed...”. 43 U.S.C. 1732. FLPMA’s implementing regulations reinforce this notion and specify that all projects must comply with the applicable RMP:

All future resource management authorizations and actions, as well as budget or other action proposals to higher levels in the Bureau of Land Management and Department, and subsequent more detailed or specific planning, shall conform to the approved plan.

43 CFR 1610.5-3(a).

While the proposed project is not expressly prohibited, the ROD for the RMP clearly intends that any management will protect the values of the environment, especially in the ACEC. It would be quite a stretch to maintain that an industrial-scale facility like the proposed project could be allowed under the ROD. Such a facility would exist in glaring contrast to the natural environment of the Arkansas River canyon and be in conflict with existing uses.

If the BLM approves alternative 1a, 1c, or 1d, the ACEC would effectively have no protection whatsoever, as the BLM would have a difficult time justifying denial of other, similar industrial activities such as hardrock mining or oil or gas drilling. For example, if the BLM permitted the drilling of 9100 holes for cable anchors (per alternative 1a, the applicant's proposed action), how could it deny a mining company's request to drill a few holes in a search for locatable minerals?

Recreation facility development "will be accomplished to reduce use conflicts and to improve visitor health and safety". ROD at 2-1-15, decision 1-82; see also RMP at 3-31. The project, a "facility" of sorts, would lead to increased conflict with wildlife, boaters, hikers, and tourists, as is clear from the DEIS. See, e. g., id. at 4-191. See further discussion on conflicts with wildlife in section III below.

The project would be well out of compliance with visual management requirements in the RMP. See detailed discussion in section IV below.

We do not at all understand how the BLM could "determine[] general conformance with the RMP". DEIS at 1-18. Rather, we believe strongly that the evidence is compelling: the project would blatantly violate the RMP, and thus the BLM absolutely cannot approve at least the portion of the project in the ACEC.

III. THE IMPACTS TO WILDLIFE ARE POTENTIALLY QUITE SIGNIFICANT AND NOT NECESSARILY TEMPORARY. The one- or two-year (depending on alternative) construction period, with the presence of large equipment crews and noise from operations, would be a great deterrent to use of habitat by many species of wildlife. The disturbance accompanying the installation and viewing of the panels, as well as the panels themselves, would force wildlife to go to other areas for feeding and drinking water. That may make them more vulnerable to predators. For wildlife species with fidelity to nests sites or particular feeding areas, it may force them to leave the area altogether or to stay and endure high stress-producing activities by humans.

A. BIGHORN SHEEP. Of the greatest concern is the likely impact to bighorn sheep. The herds in the Arkansas River canyon, after being nearly extirpated, have, with the help of transplants, reached a stabilized population levels over the last 5-10 years. DEIS at 3-3, 3-5. The sheep that inhabit the north side of the river use the river daily for drinking. Id. at 3-5. Ewes with lambs need even more frequent access to the river Id. at 4-6.

Installation and viewing of the proposed project are quite likely to stress bighorn sheep. Two areas of proposed panel construction – Parkdale and Western Spike Buck – have a strong potential to affect bighorn sheep. Id at 3-4. But it is possible that sheep would be adversely affected at six of the proposed eight panel locations. Id. at 4-8. Overall, more than 200 of the estimated total population of 410 sheep¹ could be displaced. Since sheep have high fidelity to their home range, disturbance for more than two years (during installation, display, and demobilization) may force them to stay in the area and suffer considerable stress, or flee, with high energy expenditure, into marginal habitat with unreliable water sources. Id. at 4-7. Either scenario could be devastating to sheep in winter, when food sources are limited. Stress is well known to increase susceptibility to disease. Id. at 3-6 and 4-5.

If project activities could force sheep into poorer habitat with inadequate access to water, it would make them more vulnerable to predators. Id. at 4-7. And if the sheep do flee to new habitat, they might not return to the original habitat closer to the river after the project is removed, i. e., they would stay on inferior habitat and would suffer accordingly. If that occurred, it would be a permanent impact from the project.

Given that there has been no railroad traffic in the canyon for many years, the sheep population is not accustomed to this disturbance. Id at 4-8. Thus using railcars for delivery of supplies and machinery during installation and exhibition (see DEIS at 2-5), and to haul in passengers for viewing during the display period, would result in additional stress and possibly death from collisions. While sheep may have adapted somewhat to noise (id. at 3-6) and human presence at a distance (i. e., across the river), they might not be able to adapt to the very high levels of humans viewing the panels during the display period, nor to the extended periods of at least moderately increased human presence and loud noise from drilling into rock to place the anchors during installation. See additional discussion on noise impacts in section V below.

Under the proposal, installation and viewing would not be done during the lambing period (May-June), but installation would occur during the rut (November-December). Id. at 4-4. This “has the potential to lower the probability of ewe impregnation”. Id. at 4-5. Some of the panels would be installed in areas of sheep winter or severe winter range. See maps 3-10 through 3-13. Disruption of use of winter range and the additional stress caused by activity and blockage of the river² would further reduce impregnation and retard the development of fetuses in ewes that did get pregnant. Id at 4-5. Reduced impregnation and poorer development of fetuses, including increased mortality, could lead to a reduction in size of the herd, as males and non-pregnant females would also have a harder time surviving winters. A strongly negative effect on sheep reproduction could result in a population decline that might last for many years or even decades.

The proposed panels at the Parkdale site are of the utmost concern. The panels here would be nearly four miles long with no significant breaks. DEIS at 4-11. Also, Tallahassee and Bootlegger Draws, are “of critical importance” (id.; emphasis added) for access to the Arkansas River in this area. Panel installation here could cause a major displacement of sheep.

¹ DEIS at 3-3.

² The sheep might be able to get under the panels to access the river for drinking water (DEIS at 4-11), but they would not likely feel comfortable doing so, given that they rely on sight over long distances to avoid predators.

Shorter sections of panels are proposed for the Spike Buck, Three Rocks, Texas Creek, and County Line sites (id. at 4-11, 4-12), but sheep use in these areas is significant, and sheep use of these areas and the river would be disrupted. Id. at 4-11. The panel installation at the Texas Creek site, along with the high level of activity from the staging area there “would result in an extensive barrier to sheep seeking to reach water”. Id.

At a bare minimum, the BLM must not approve the panel installation proposed in the full-build alternatives at the Parkdale or Texas Creek sites. Even with alternative 3, under which there would be less panel installation and larger gaps in the sections with panels, sheep could be deterred from the river by the omni-presence of people. DEIS at 4-15, -16.

The proposed mitigation measures (DEIS at 5-2, 5-3) are generally good, but would surely be insufficient to reduce the impacts to bighorn sheep to an acceptable level, as sheep would still not be able to access the river at many of the locations where panels would be installed. The “adaptive habitat enhancement project” would not likely alleviate the impacts. This would be an attempt to create habitat for bighorns where none currently exists by reducing pinon-juniper cover³ and somehow establishing more favorable vegetation composition and structure and new water sources. It is not clear that such areas contain the steep terrain sheep need for escape from predators or even if it did, that such habitat creation would be successful enough to lure sheep away from the areas closer to the river they now use and that would be adversely affected by the project. Sheep have high fidelity to their home range, thus it is unlikely they would leave their current range for habitat likely to be inferior.

In sum, any of the full-build alternatives (1a, 1c, and 1d) would likely have strongly adverse impacts on bighorn sheep. The effects are not completely known, but they may not be temporary, even if the proposed project installation is considered temporary. The DEIS admits that under these alternatives, the short- and long-term effects on sheep are likely to be moderate to significant. DEIS at 4-3. The aforementioned alternatives are therefore unacceptable and must not be approved.

If any version of the project is approved, the proponent must be required to post a bond that would be sufficient to restore the bighorn sheep herds and habitat to their pre-project population levels and condition, respectively. The BLM clearly has authority to require such a bond under 43 CFR 2920.7(g).

B. MULE DEER. Panels would be installed in areas of mule deer winter range. Compare map 3-14 with map 2-3. As such, the impacts would be similar to those for bighorn sheep – additional stress and displacement from favored habitat to poorer habitat, and an increase in exposure to predators. See DEIS at 4-9. Any impacts would be intensified because project activities would occur in severe winter range. See id. and Map 3-14.

³ If more than a minor amount of pinon-juniper would be removed, there would be adverse effects on various wildlife species, such as pinon jay and mule deer. The impacts would have to be disclosed prior to undertaking any such effort. We do not see any such analysis in the DEIS.

C. TOWNSEND'S BIG-EARED BAT. Two of only 15 known maternity roost sites for this BLM sensitive species⁴ and State species of concern are located in the project area. They are either near the Parkdale and County Line panels (DEIS at 3-9), or they are near Cleora and Wellsville, 0.5 miles and 1-2 miles, respectively, from the proposed County Line panels (id. at 4-53). The BLM needs to clarify where the maternity roosts are located and how they might be affected by panel installation and the increased human presence and activity during the display period.

Also, a fall/winter hibernaculum is located near Tallahassee Gulch in the Parkdale area. Panel installation here could stress and/or displace hibernating bats. At least some effects are likely because this species does not tolerate human presence. Id. at 4-53. Panel installation must not be allowed near the maternity roosts or the hibernacula, as the installation activity and huge human presence near these important habitat areas could disrupt brood rearing and hibernation.

It is also possible that any bat species would not detect panels or cables, and could suffer injuries or deaths from collisions as a result. In fact, as the DEIS admits, some bat mortality is likely. Id. at 4-52. Since Townsend's big-eared bat has low population numbers, any project-caused mortality would be a moderate to significant impact. Id. at 4-53.

D. OTHER WILDLIFE. Numerous other wildlife species will likely suffer some adverse impact from the project. Feeding would be disrupted for: bald eagle, golden eagle, American dipper, belted kingfisher, various species of swallows, osprey, Lewis woodpecker, and peregrine falcon. All of these species feed in and along the river. Most or all use the river corridor for roosting or nesting. See DEIS at 3-17 and -18, 4-19, and 4-54 through 4-58.

IV. IN CONTRADICTION TO THE RMP, VISUAL RESOURCES WOULD BE CONSIDERABLY DEGRADED. The entire project area is in visual resource management (VRM) class II. DEIS at 3-231 and map 3-91. Rights-of-way are not to be granted across VRM class II areas in the ACEC. ROD at 2-1-11, decision 1-56; see also RMP at 3-30. Such areas are withdrawn from mineral entry. ROD at 2-1-12, decision 1-63.

VRM Class II has the following objective:

Class II Objective: To retain the existing character of the landscape. The level of change to the characteristic landscape should be low.

From the description of BLM's VRM system, available at http://www.blm.gov/wo/st/en/prog/Recreation/recreation_national/RMS/2.html

The DEIS further elaborates requirements for protection of VRM class II areas:

⁴ Any sensitive species is a "special status" species, which must be protected under the RMP.

Management activities may be seen, but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

DEIS at 3-231.

The proposed project would create a glaring contrast with its surroundings, as the project proponent unabashedly admits. See DEIS at 4-286, -287. In fact, it would dominate the landscape:

As a major modification to the existing character of the landscape, the installed project would dominate the view and be the major focus of viewer attention. The[] construction activities and associated impacts would be highly visible from US 50, watercraft, and [Arkansas Headwaters Recreation Area] within 0.5 miles of the panel displays.

DEIS at 4-288.

There would be a high contrast created by construction of staging and viewing areas, especially at Texas Creek. DEIS at 4-289. Visual contrast would continue during, and to some extent, even after, project removal. Id. at 4-294, -295.

It is very clear that VRM Class II requirements would not be met:

Where within view of the panel displays and staging areas, VRM Class II objectives would not be met in the short-term as construction nears completion, during the exhibition period, or immediately following during demobilization. ...

Where within view of the panel displays and staging areas, BLM VRM Class II objectives within the Arkansas Canyonlands ACEC would not be met in the short-term. By definition, this would be a significant, short-term visual impact.

Id. at 4-296.

The fact that the project would be “temporary” does not exempt it from complying with this requirement. A project spanning the better part of three years (installation, viewing, and demobilization) isn’t really temporary. DEIS at 3-232 notes that some effects may persist even after the project is removed.

V. NOISE COULD HAVE SIGNIFICANT EFFECTS ON WILDLIFE, BUT IT IS INADEQUATELY ANALYZED.

Notably, the DEIS, while otherwise commendably quite thorough in describing the possible impacts of OTR, does not specifically discuss the effects of noise on wildlife. The section of the

DEIS discussing noise impacts, pp. 4-305 through 4-310, only states the possible impacts on humans. It states:

Overall, the drill noise would be very audible along the river within about 300 feet of the drilling operation, and would be regarded as loud by rafters and fishermen on the river.

DEIS at 4-306. The increase in sound intensity would be 10-20 dBA. An increase in 5 dBA is said to be easily audible by humans, and an increase of 10 dBA is observed to be twice as loud. Id. at 4-308. If the expected drilling noise has this effect on humans, it will surely have some adverse impact on bighorn sheep, mule deer, elk, bats (which use echolocation to avoid objects and detect prey) and some other species of wildlife. The potential impacts from increased noise on wildlife must be described in the FEIS.

The DEIS fails to use the best available acoustic science for wildlife. The Sound Resources and Noise section of Chapter 3 in the DEIS is overly simplistic and inaccurately based on the hearing sensitivity of the human ear.

Sound is quantified using a logarithmic unit called a decibel (dB). Because the human ear is more sensitive to middle and high frequency sounds than it is to low frequency sounds, sound levels are often weighted to more closely reflect human perceptions. This type of weighting is called "A weighting," and is expressed as dB(A), which corresponds to the threshold of hearing.

DEIS at 3-24.

The human ear is far less sensitive compared to many wildlife species, as humans' hearing capability occupies only a small portion of the audible spectrum that wildlife can detect. Therefore, it is insufficient to use the dB(A) weighted unit when attempting to assess the impact to terrestrial and avian wildlife. Aside from this, the DEIS limits its assessment of impacts to wildlife simply by identifying terrestrial and avian wildlife as additional receptors without investigating any of the potential impacts that these receptors would be exposed to.

Indirectly, the noise generated by vehicles and machinery can adversely impact animals impairing feeding, breeding, courting, social behaviors, territory establishment and maintenance, increasing stress, and/or by making animals or their young more susceptible to predation (Janssen 1978, Weinstein 1978, Luckenbach 1975, Wilshire *et. al.*, 1977, EPA 1971, Bury 1980, Jeske 1985, Burger 1981, Vos *et. al.*, 1985, Baldwin 1970, Rennison and Wallace 1976). According to the Environmental Protection Agency, noise acts as a physiological stressor producing changes similar to those brought about by exposure to extreme heat, cold, pain, etc. (EPA 1971). The EPA states that:

Clearly, the animals that will be directly affected by noise are those capable of responding to sound energy and especially the animals that rely on auditory signals to find mates, stake out territories, recognize young, detect and locate prey and evade predators. Further, these functions could be critically affected even if the animals

appear to be completely adapted to the noise (i.e., they show no behavioral response such as startle or avoidance). Ultimately it does not matter to the animal whether these vital processes are affected through signal-masking, hearing loss, or effects on the neuro-endocrine system. Even though only those animals capable of responding to sound could be directly affected by noise, competition for food and space in an ecological niche appropriate to an animal's needs, results in complex interrelationships among all the animals in an ecosystem. Consequently, even animals that are not responsive to or do not rely on sound signals for important functions could be indirectly affected when noise affects animals at some other point in the ecosystem. The 'balance of nature' can be disrupted by disturbing this balance at even one point.

Furthermore, the EPA anticipates that the consequences of a loss of hearing ability could include a drastic change in the prey-predator situation. It states:

The animal that depends on its ears to locate prey could starve if auditory acuity decreased, and the animal that depends on hearing to detect and avoid its predators could be killed. Reception of auditory mating signals could be diminished and affects reproduction. (Masking of these signals by noise in an area could also produce the same effect). Detection of cries of the young by the mother could be hindered, leading to increased rates of infant mortality or decreased survival rates.

Preserving quiet as a landscape characteristic should be a centerpiece of the Arkansas Canyonlands ACEC. It is well documented that sound travels farther in canyons and when there is less vegetation cover; both of these conditions exist in the Arkansas River Canyon. Acoustic scientists and other researchers are actively developing a greater understanding of the effects of noise on wildlife and the public. Public lands, and particularly areas with special BLM designations, should provide an opportunity to escape the artificial sounds of everyday life and to offer a chance to listen to the natural sounds of nature.

Natural soundscapes are intrinsic elements of the environment and are necessary for natural ecological functioning. Acoustic science suggests that extraordinary and/or increased incidents of noise from vehicles and machinery severely affects the soundscape and impacts both wildlife and other visitors. Animals exposed to high-intensity sounds can suffer both anatomical and physiological damage, including both auditory and non-auditory damage.

Sounds can occur in both a continuous and intermittent manner. At high intensities, sounds can have a deleterious impact on human hearing if sustained for certain lengths of time (Brattstrom and Bondello 1983). Intermittent sounds or startle noises have been shown to have many effects on humans including annoyance, disruption of activity, increase in heart rate, vasoconstriction, increase in blood pressure, stomach spasms, headaches, stress, fetal convulsions, ulcers, and coronary disease (Baldwin and Stoddard 1973, Brattstrom and Bondello 1983). However, the larger, more sophisticated, better protected human ear is capable of withstanding high intensity sounds which easily damage smaller, more simplistic ears of many species of wildlife (Brattstrom and Bondello 1983) and thus animals may be more affected by noise compared to

humans. Thus, a vehicle noise limit acceptable in urban areas may be capable of severely damaging the hearing of exposed wildlife populations (Brattstrom and Bondello 1983).

The types and levels of non-natural noise that will likely accompany the construction of the project alone is cause for concern. While wildlife commonly found in the Arkansas River Valley may have become somewhat accustomed to the daily vehicular noise, the relatively long-term presence of a new and extraordinary noise generator will have impacts that are not being addressed adequately.

Additionally, the DEIS fails to recognize and analyze whether or not two-three years constitutes an excessively long time for wildlife.

The proposed work of art would cause only temporary effects on area noise and a noise analysis is not generally considered necessary for such work....

DEIS at 3-241.

Arguably, two-three years is nearly a life time for some species. At the very least, the DEIS should have take into consideration that while humans can conceptualize length of time and may consider two years a relatively short time frame, wildlife have no such conceptual ability. Therefore, the two-three years of intense noise disturbance may be enough to significantly and permanently alter the behaviors and movement patterns of these animals, placing them at higher risks for stress, disease, mortality and reproduction deficiencies.

Therefore, the FEIS must assess the real and potential impacts of noise on wildlife by using best available and wildlife specific acoustic science. The DEIS to date has not done that sufficiently.

To aid in this effort, we recommend the utilization of the *System for the Prediction of Acoustic Detectability* (SPreAD; Harrison et al. 1980)⁵ that has recently been adapted to an ArcGIS environment. SPreAD is designed for use in assessing the effects of motor vehicle noise, but it should still be useful for the Over-the River project, given that the persistent use of rock drills and other noise-producing mechanical equipment would be necessary for installation.

The goal of SPreAD-GIS is to provide a straightforward, accurate, and affordable approach for modeling noise impacts and forecasting potential noise impacts from vehicle activity in natural ecosystems. Therefore, the use of SPreAD-GIS promises to greatly simplify the analysis that is necessary to model and understand the propagation of vehicular noise in a particular landscape based on the terrain features and other factors.

VI. THE PROJECT WOULD CAUSE A MAJOR DISRUPTION OF NORMAL ACTIVITIES IN THE CANYON. With lane closures on a two-lane highway during project construction (for 380 days – DEIS at 2-36) and massive traffic during the viewing period, normal activities, including commuting and hauling of goods, would be severely disrupted. Emergency services, such as medical evacuations, would be greatly delayed or thwarted altogether. And as discussed

⁵ Reed, et al, 2009.

above, the huge increase in people in the canyon will cause potentially significant effects on a variety of wildlife species. We believe this is a good set of reasons to not approve the project.

The project is not needed to support the local economy, as it would only provide, at best, a very short-term boost via an increase in visitors during the season (late summer) when motels, restaurants, and other tourist-oriented businesses already have more customers compared to most other times of the year.

The existing uses of boating, fishing, hunting, and general recreation usage and tourism collectively support the economy quite well during this time. Notably, some of these uses would be hurt by the project. For example, there would be a safety risk for rafters during construction. DEIS at 4-191. There would be less money generated by hunting and fishing to the local economy. DEIS at 4-121, 4-122, and 4-133. Bicycles would not be allowed on Fridays through Sundays during exhibition. DEIS at 2-5. All of this would reduce any economic benefit.

CONCLUSION. For the reasons detailed above, the BLM simply must not approve any of the full build alternatives – 1a, 1 c, or 1d. Approving any of these would blatantly violate the RMP.

We do not believe that the proposed project in any form is appropriate for the Arkansas River Canyon, but if any version of it is approved, it must: a) stay completely out of the ACEC; b) have demonstrably minimal or no impacts on: bighorn sheep, mule deer, Townsend's big-eared bat, all raptors, and visual quality; and c) fully comply with the RMP. Also, before any action alternative is approved, the FEIS must fully analyze the impacts of noise on wildlife.

The BLM must do its duty and protect the wonderful resources of the Arkansas River. The agency must uphold the promise it made to the American people in the RMP to protect the resources of the canyon. The wildlife, plants, and many of the people who reside in or near the canyon or use it insist on nothing less.

Sincerely,

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