



June 22nd, 2022

Bureau of Land Management
Moab Field Office
Attention: Camping Proposals
82 East Dogwood
Moab, UT 84532

RE: Managing Camping within the Two Rivers SRMA (DOI-BLM-UT-Y010-2021-0096)
Managing Camping within the Utah Rims SRMA (DOI-BLM-UT-Y010-2021-0095-EA)
Managing Camping within the Labyrinth Rims/Gemini Bridges SRMA (DOI-BLM-UT-Y010-2021-0094-EA)

Dear BLM Planning Team:

Please accept this correspondence from the above organizations as our official comments regarding the Two Rivers, Utah Rims, and Labyrinth Rims/Gemini Bridges camping proposals. Most campsites in the Two Rivers planning area are accessed by river, but some are accessed by motor vehicle, and this river-canyon setting provides some of the highest-quality camping available to motorized recreationists. The Utah Rims SRMA and the area southwest of there to Cisco provide a high concentration of motorized trails (especially singletrack) and convenient-yet-scenic campsites. The Labyrinth Rims / Gemini Bridges SRMA, including the north extension to Green River, contains many premiere motorized trails and campsites. Although we recognize the need to more actively manage camping in these areas, the process warrants more public participation and guidance to ensure that a range of quality camping opportunities remain plentiful.

1. Background of Our Organizations

In our comments, the "Organizations" will refer to the following four groups:

Colorado Off Road Enterprise (CORE) is a motorized action group based out of Buena Vista Colorado whose mission is to keep trails open for all users to enjoy. CORE achieves this through trail adoptions, trail maintenance projects, education, stewardship, outreach, and collaborative efforts.

The Colorado Off-Highway Vehicle Coalition (COHVCO) is a grassroots advocacy organization of approximately 2,500 members seeking to represent, assist, educate, and empower all OHV recreationists in the protection and promotion of off-highway motorized recreation throughout Colorado. COHVCO is an environmental organization that advocates and promotes the responsible use and conservation of our

public lands and natural resources to preserve their aesthetic and recreational qualities for future generations.

Ride with Respect (RwR) was founded in 2002 to conserve shared-use trails and their surroundings. Since then, over 750 individuals have contributed money or volunteered time to the organization. Primarily in the Moab Field Office, RwR has educated visitors and performed over twenty-thousand hours of high-quality trail work on public lands. RwR has also participated greatly in the Moab Resource Management Plan 2008 revision and subsequent amendments.

The Trails Preservation Alliance (TPA) is an advocacy organization created to be a viable partner to public lands managers, working with the United States Forest Service (USFS) and the Bureau of Land Management (BLM) to preserve the sport of motorized trail riding and multiple use recreation. The TPA acts as an advocate for the sport and takes necessary action to ensure that the USFS and BLM allocate a fair and equitable percentage of public lands to diverse multiple-use recreation opportunities.

2. Introduction

We appreciate the BLM's Moab Field Office (MFO) for taking the initiative to plan for dispersed camping. However, we strongly urge the BLM to further analyze camping use, propose specific sites, and solicit more public input before limiting dispersed camping to designated sites. The size of these planning areas¹, effects on neighboring areas (BLM, other public lands, SITLA, and private property), and need for a greater range of alternatives call for a complete plan, whether in the form of a more robust Environmental Assessment (EA) or an Environmental Impact Statement (EIS).

In addition the Draft EAs are presented as camping plans, however, they include proposed restrictions that make them travel management plans (TMPs) and wilderness-characteristics preservation plans. Even if the camping plans close only those routes that were not designated open to begin with, those routes were never analyzed for designation in the 2008 RMP by virtue of their short length, making these camping plans the first opportunity to analyze them and provide for public comment. The camping plans need to state explicitly in the title, introduction, and body of each document that the scope encompasses all three of these planning goals.

That said, we support the other three proposals (requiring a portable toilet, fire pan, and bringing one's own firewood instead of cutting/gathering), and suggest establishing those supplementary rules without delay². In fact, the supplementary rules could apply to a larger geographic area³. However, we take issue with many other aspects of the Draft EA's lone action alternative, and call upon the BLM to widen and

¹ The Labyrinth Rims/Gemini Bridges planning area has 120,037 acres of BLM land and 19,000 acres of SITLA property, plus Canyonlands National Park immediately south. Adding Utah Rims/Sunshine Wall (16,704 acre) and Two Rivers (9,180 acres) totals 164,921 acres (258 square miles), which comprises about 9% of the 1.8 million acres managed by the MFO and contains many of the most prized motorized trails in the region.

² Requiring a portable toilet calls for working with partners to encourage the use of preferred equipment and best practices. The BLM and partners should also provide disposal facilities to avoid improper disposal or placing the burden on local businesses, parks, etc..

³ Wood collection should still be accommodated where appropriate, such as in the pine forests found at higher elevation.

deepen its analysis. In the interim, the Organizations and others can assist in education and enforcement to deter driving or even parking outside of truly barren surfaces, whether for camping or other purposes.

3. Benefits of Designating Campsites

The MFO's 2008 RMP attempts to limit vehicle-based camping simply by requiring vehicles to stay on routes designated open by the TMP. Unsustainable results may stem from several problems, including that:

1. The BLM and its partners have not widely communicated this TMP restriction in the context of camping,
2. Many visitors are accustomed to adjacent field offices and USFS districts allowing vehicles to park anywhere within a certain corridor of designated routes for the purpose of camping,
3. The TMP generally has overlooked routes like camping spurs that are under a hundred-yards long so, in lieu of designated spurs, the camping ethic has been to park on any existing spur,
4. New spurs created by those who assumed they could park within a corridor are then further established by those who are merely trying to follow existing spurs,
5. Non-vehicle aspects of camping such as tents and kitchen areas have created barren ground that essentially extends the existing spur, and
6. Camping spurs have been inadvertently followed by motorized recreationists who are just trying to stay on the designated route, which sometimes leads to further spur proliferation.

All of these problems would be solved simply by designating the camp spurs and roughly defining the boundaries of where vehicles can park (and where campers can set up a tent, kitchen area, etc.), so we support limiting dispersed camping to designated sites.

4. Meaningful Public Involvement

A complete plan should include full transparency and input from the range of recreationists rather than token outreach and administrative decree. The Draft EAs state "Following the establishment of Supplementary Rules, campsites would be chosen for designation following an interdisciplinary team process. Existing dispersed campsites would first be inventoried." We take issue with relying solely on an interdisciplinary team process without the public input necessary to ensure that all stakeholder perspectives are represented as required. Under "Public Involvement," the Draft EAs state:

"During preparation of this EA, the public was notified of the project by posting on the BLM's ePlanning website on August 9, 2021. The BLM received an email from one member of the public as a result of this posting who expressed his concern and asked for answers to some questions, which were supplied via email. The BLM also received a telephone call in support of the Proposed Action."

One email and one phone call from members of the public, during a period of peak summer travel, hardly constitutes a cross-section of public opinion.

Further, we have specific concerns about the proposed interdisciplinary team process, as demonstrated by a number of unsupported statements in the Draft EAs regarding visitor use, wildlife and other resource impacts. One of the most disconcerting aspects of the Draft EAs is their highly speculative assessment of threats to wildlife, that in effect, elevates hypothetical threats from recreational use to the level of worst-

case scenarios that require new restrictions. A full public process would ensure that unsupported statements are vetted and either strengthened or rejected to reach the best decision.

5. Supporting Data

The Draft EAs rely upon surmise and opinions, rather than data, to justify a number of proposed actions, stating:

“...the MFO hosts approximately 3 million visitors per year and a substantial, but unknown number, of these visitors wish to camp. Visitation to the Moab BLM has increased over the last ten years, and dispersed camping pressures have increased commensurately as have the resource impacts, particularly in the last five years.”

However, the “3 million” figure likely refers to visits rather than visitors. Since the same individual may make many visits to the MFO in a given year, the number of visitors is likely a fraction of 3 million. Behind its numbers, the Draft EAs present no data and quantitative analysis to support the proposed action of restricting camping and public access to 164,921 acres of combined planning area. More specifically, they don’t provide evidence of:

1. An increase of dispersed camping in the planning areas (expressed as the annual percentage increase in camping nights or sites),
2. Locations where this increase in dispersed camping has occurred, and
3. Quantified impacts to any “resources such as soils, floodplains/wetlands, vegetative resources, wildlife habitat, cultural resources, paleontological resources, recreation opportunities, and scenic values.”

Without this data, especially without a basic inventory of camping sites and their use in the first place, the BLM is basing its proposed action upon surmise and opinion. Therefore, the BLM is putting the “cart before the horse” in proposing these Draft EAs without clearly documenting need. A complete plan should inventory in detail the campsites, resource conflict areas, and other necessary data to support a range of alternatives and measured analysis.

6. Specificity of Campsites

To justify the need for camping restrictions and solicit meaningful public input, the BLM’s proposal should show a thorough inventory of the existing campsites and a proposal of whether each one would be designated open or closed. The MFO may have previously designated campsites without this public review, but it was for smaller planning areas with much fewer existing campsites.

The Draft EAs state “The exact number of dispersed campsites within the SRMA is not known with certainty, but observation shows that dispersed camping has increased over the years.” Yet they present no data to show that dispersed camping has increased, where it has increased, and where it has increased in sites that would represent a demonstrable threat to the continued existence of any of the species mentioned in the plans. Absent an inventory of dispersed campsites and their presumed overlap with resources, including wildlife resources, the Draft EAs are founded upon speculation.

Such an analysis would be easily accomplished with a combination of publicly available satellite imagery in combination with field surveys to validate results. Changes in usage over time in campsites may be quantified by comparing historical vs. recent satellite imagery, either manually or with change-detection

software. The degree of use can be estimated based on ease of access (i.e. distance from road/trailhead, size of disturbed area, presence of firepits, and other variables). Overlapping existing resource layers with a map of dispersed campsites would be a straightforward GIS exercise that would provide a transparent and quantitative basis for proposed actions.

Other BLM field offices have allowed the public to comment on campsite inventories and designations of specific sites that were dispersed and free of any user fees. We understand that future proposals to collect fees (whether for campgrounds or dispersed sites) would trigger additional planning, but site-specific public input is warranted now, as well-over a hundred sites may be designated open or closed. Granted, some of the BLM's existing parameters will close sites with little debate, but other sites are more complex. The MFO may have done a good job previously designating campsites on a smaller scale, but when it comes to assessing well-over a hundred sites, the public would provide valuable insight. Assessing the current conditions and describing the proposed actions in order to analyze the impacts are not only fundamental tenets of NEPA, they also yield a smarter plan. Plus they garner more buy-in, which could be particularly helpful when blocking off campsites in remote areas.

7. Providing for the Projected Use

If current use levels are unsustainable, that's only because the current camping rules and lack of communication have been a poor fit for high use levels in this high-desert setting. However, merely by designating campsites and defining their boundaries, the planning areas could easily handle current use levels and in fact some projected growth. The proposal should aim to designate enough campsites to accommodate this growth, as it will ensure the availability of sites, thus increasing compliance.

8. Diversity of Campsites

The proposal should identify different kinds of camping to ensure that campsites are designated to provide a range of opportunities. Some camping is focused on convenience or socialization, and can be satisfied by almost any site that's near a main road. Other camping is more focused on recreational activities, so it should be located near the recreational destination, plus some scenery and probably ample room for an RV or group of vehicles. Yet other camping is more focused on the setting, so it should view the best scenery, and sites should be more spread out for solitude. Even when it comes to activity-focused camping, providing significant space between sites can prevent conflict between campers by reducing impacts like dust, sound, and lights.

9. Coordination with Developed Campgrounds

The planning areas encompass many developed campgrounds, and several more have been approved for development. This proposal should specify and invite public comment on the approximate buffer distance between developed campgrounds and dispersed campsites. Further it should specify and invite public comment on the locations of potential campgrounds so that future development can be considered when designated dispersed campsites.

10. Coordination with Trails

We appreciate the proposal's aim to avoid designating campsites in a way that would negatively impact recreational trails, specifically that "Limiting dispersed camping to designated sites would allow the BLM to place campsites in locations that would not cause deleterious impacts to the recreational experience of those attempting to enjoy their public lands. For instance, designated campsites would not be placed within view of popular biking/motorcycle trails..." Indeed, designating sites adjacent to trails can lead to social trails and other management headaches, plus potential conflicts for both the campers and the trail users. In some cases, even though the trail predated the campsite, it may be best to relocate the trail. For example, campsites have encroached Overlook Loop (motorized singletrack along the rim of Westwater Mesa in Utah Rims SRMA), but those sites could be designated open by relocating those segments of Overlook Loop down below the rim. The rim is gentle enough for the trail to dip below it and, even if it lowers the scenic quality of the trail, other segments of the trail will remain quite scenic. One way or the other, providing distance between campsites and motorized routes will enable the sites and routes to be enjoyed fully without having to resort to the placement of constraints upon either one.

11. Affordable Housing

The increasing cost of housing, especially for tourism employees, has become a major issue for communities like Moab. More housing options can be provided on private and SITLA properties in Spanish Valley, so it's not the BLM's responsibility to solve this problem. However it is the BLM's responsibility to avoid inadvertently making private-lands housing more expensive by making public-lands camping less available. It's the BLM's responsibility to accommodate camping, from the most primitive sites to developed ones with toilets and shade structures. Otherwise off-grid camping would be displaced to private lands, competing with other uses of private land, further increasing the cost of housing. This may not be the case in regions where public lands are scarce and private lands are plentiful but, in the MFO, BLM campsites should remain in the hundreds.

12. Economic Impacts

The proposal should analyze economic impacts to the region. As the campsites become more organized, the activity may become less burdensome to local services. Campers often bring significant revenue to nearby towns as they resupply and sometimes even visit restaurants, entertainment venues, etc.

13. Extent of Planning Areas

If the MFO will invite public review of campsite inventories and designations of specific sites, then the boundaries for two of the planning areas should be expanded to encompass the full area of comparable terrain that is desirable for camping. Specifically extend the Labyrinth Rims/Gemini Bridges planning area from Tenmile Point Road north to the outskirts of Green River, with the east boundary following the Blue Hills. Likewise extend the Utah Rims planning area from the Westwater Put-In Road southwest to the Cisco Boat-Launch Road, with the north boundary following the highways. These boundaries will exclude the relatively-barren shale soils where camping is less common and less concerning in regard to natural and cultural resources. These boundaries will include the more rugged and colorful formations where camping is more common and comparable to the current planning areas. They will include motorized

singletrack like Mel's Loop and the Dubinky trail system surrounding White Wash, plus Crystal Geyser 4WD trail, which could benefit from the proactive planning of dispersed campsites.

14. Extent of Restrictions for Wildlife

The Organizations welcome camping restrictions that are necessary to maintain healthy populations of wildlife. However we are unconvinced that the extent of proposed restrictions is warranted, resulting in the closure of many well-established and high-quality campsites unnecessarily. Upon careful review of the Draft EAs, the Organizations developed a wildlife report (enclosed) to refine your guidelines, ensuring both sufficient habitat and camping opportunities where compatible.

15. Additional Comments to Consider

We generally support the detailed comments from our partners at ORBA and the other national OHV groups, so we're submitting them (enclosed) as part of our own comments, and hope you will carefully consider them to improve your proposal.

16. Conclusion

NEPA requires analysis of the affected environment and impacts to the affected environment, including impacts to the human environment. Such analysis of a proposal to limit camping across a large and popular area is simply impossible without identifying the sites to which camping would be limited. Consequently the Draft EAs fail to account for the negative impacts that concentrating use would cause on camping in the designated sites and reducing use would cause on surrounding areas. Such impacts can be mitigated, but only if the proposal first identifies the campsites and a range of alternatives, as required by NEPA.

In the three planning areas, it would be appropriate to limit camping to designated sites so long as the BLM provides significantly more analysis and opportunities for public comment. The additional work will be worthwhile to designate campsites open or closed through a thorough process. In the meantime, negative impacts from camping can be greatly reduced by advancing the other three proposals (requiring a portable toilet, fire pan, and bringing one's own firewood), plus more widespread education that vehicles may not park off-trail in order to camp.

Sincerely,



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Chad Hixon
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Marcus Trusty
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Scott Jones, Esq.
Authorized Representative
Colorado Off-Highway Vehicle Coalition

June 21st, 2022

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Wildlife Report

In this report, the “Organizations” will refer to the Trails Preservation Alliance (TPA), Ride with Respect (RwR), Colorado Off-Highway Vehicle Coalition (COHVCO), and Colorado Off Road Enterprise (CORE).

A. General Concerns

1. Buffer Distances between campsites or travel routes and “sensitive species” are proposed without a sound scientific basis.

The proposed, one-size-fits all buffers and restrictions are without a sound scientific basis. In justification of buffers and restrictions, the Draft Environmental Assessments (EAs) presume worst-case scenarios of what “may,” “could,” or “possibly” happen to the species in question, and thus a heavy-handed approach appears to be needed. In our view, this appears to be contrary to the scientific integrity guidelines, multiple-use mandate of the BLM, and the Information Quality Act.

From our discussions with subject matter experts, it also appears that some of the “science” cited in support of the impacts in the EAs are not as conclusive as they may appear to be. An expert examination of some of the most influential papers cited in the EAs reveals that some of the conclusions and management recommendations are regrettably based upon surmise and opinion, omissions and misrepresentations, examples drawn from species on other continents, and in one case, simulation modeling that is so bold as to make impact predictions 100 years into the future. (A review of the primary issues with key scientific papers cited in the EAs, especially on bighorn sheep, may be found below). The EAs also cite review papers that summarize the opinions of previous authors rather than actual results based upon data. And finally, some of the study findings appear to be simply taken out of context by the authors of the EAs. Because we understand the difficulty the BLM has working under deadlines with limited staff resources to digest complex, technical subject matter, we are happy to work with them to assist in developing scientifically defensible guidelines for protecting wildlife and other resources.

2. Accurate and Transparent Data is required for mapping the potential for human-wildlife interactions for different species.

We are concerned that the point/line/polygon data layers used in BLM’s GIS analyses will be approximations of *potential habitat* rather than verifiable data on species occurrence(s). We are further

concerned that polygon layers could weight all habitat or nesting sites equally, regardless of when use was last documented. In other words, we have observed a tendency in some GIS analyses to extend polygons to capture and weigh all historical locations regardless of how many years ago they were made and how rarely the area is used (see Turner et al. 2004 and 2006 for examples specific to bighorn sheep). Therefore, we specifically request that the BLM utilize a transparent approach and verifiable location data in its GIS analyses so that validation by independent experts and qualified members of the public would be possible. Additionally, we propose that actual location data be plotted to delineate habitat rather than GIS-modeled potential habitat, to determine overlap with bighorn sheep, sensitive plant species, and/or raptor nesting locations.

We strongly discourage the use of arbitrary buffers, kernel functions plotted around location data from individuals (i.e. no 50, 90, or 95% kernels as these include large areas of unoccupied or non-habitat), and hypothetical movement corridors. We propose that the BLM employ the practice of using “smart buffers” that are tailored to the unique topography, likelihood of animal being present, type of species habitat or resource, and the sound and viewshed unique to individual campsites, roads, or trails that are immediately adjacent to or overlap with wildlife habitat. We encourage the BLM to utilize location data from recent years (i.e. the past decade), especially in the case of plants and raptor nests which can shift year to year among alternative nests.

The Organizations stand ready to provide unbiased, professional, subject matter experts to assist the BLM in preparation of criteria for tailored set-backs for species of conservation importance.

In this way, the BLM’s decisions will be based on defensible scientific information, and in conformance with the Information Quality Act. This is just one reason why the complete planning of a much more thorough EA or Environmental Impact Statement (EIS), including robust data and transparency, is needed to evaluate proposed actions and alternatives for the planning areas.

3. The Organizations support sound scientific research as a basis for decision making by land managers.

We request that the BLM, and their NPS partners at Canyonlands and Arches national parks, make available to the public copies of current research proposal abstracts on species named in the EAs.

4. Wildlife habitat should be based upon verifiable data and not on modeled potential habitat.

We are concerned that recommended buffer distances for wildlife in the EAs are designed for the convenience of GIS analyses without any data that demonstrate permanent abandonment of an area or reproductive failure by the species of bird or mammal in question would result from specific camping or travel route use.

We are also concerned that BLM decisions on camping, roads, and trails could be erroneously based upon the State of Utah’s “modeled habitat”, which is really potential habitat that includes physical characteristics rather than recent occurrence data, or “occupied habitat” that is a misnomer because it encompasses large swaths of non-habitat between areas of modeled habitat, rather than inhabited areas based upon recent, verifiable radio-collar and observational data. The problem with basing restrictions on the State’s “modeled habitat” and “occupied habitat” is that those will lead to unnecessary restrictions

on the recreational community while not benefiting bighorn sheep or other species. Therefore, we urge the BLM to only base their decision-making on inhabited habitat that is based upon recent, verifiable radio-collar and observational data.

B. Bighorn Sheep

1. A narrative is developed in the Draft EAs that wildlife populations are threatened from currently regulated recreational use.

It is important that the BLM acknowledge that there is no demographic data that indicates a long-term decline in bighorn sheep inhabiting the La Sal/Potash/South Cisco population unit, or a decline in individual bighorn sheep fitness in this population that can be directly attributable to “human use.” It is therefore disingenuous that the Labyrinth Rims/Gemini Bridges EA attempts to link a study about bighorn sheep vigilance (Sproat 2012) without first demonstrating that there has also been bighorn sheep abandonment of an area and/or population-level decline, in order to justify new camping and travel route restrictions in the EA.

As an initial matter, all the cited studies in the EA on human disturbance of bighorn sheep cited in the study share the following important characteristics:

- a) None of the studies have shown a demonstrable, causal link between human activity and population decline, loss of individual fitness, or permanent habitat abandonment that is *independent of other factors* (i.e. predation, disease, livestock, drought, or permanent removal due to agriculture or development).
- b) The studies rely on speculation, that the worst-case circumstances they describe “could,” “may,” or “potentially” lead to population declines. The authors of these papers generally *assume*, without supporting demographic data, that any observed effect in flight distance or time spent foraging or scanning results in a decrease in individual fitness and ultimately population number.
- c) Anecdotes and opinions expressed by authors, often in the conclusions or management implications of their papers, have been erroneously cited by subsequent authors, as if these anecdotes and opinions were actual demographic results. This leads to a “snowball effect” of opinions, beliefs, and biases becoming uncritically entrenched in the “scientific literature” on human disturbance of bighorn sheep. In other words, if repeated often enough, anything can take on the appearance of truth.
- d) The authors fail to acknowledge that their study population has been repeatedly exposed to humans as predators either through hunting and/or repeated capture and handling (for radio-collaring, research, or translocation). Both of these activities can be expected to result in bighorns having increased wariness around humans. The simple fact is that bighorn sheep, like many other animals, habituate to predictable and non-threatening human behavior (i.e. they will habituate to humans if they are not hunted or otherwise pursued).

Despite dire predictions of what could happen in the cited studies, there is no compelling data to indicate that the La Sal/Potash population has declined, has abandoned habitat critical to survival, or that recruitment and adult survival have been compromised due to human disturbance from recreational use, including camping. Quite to the contrary, the State of Utah allows hunting of this population on BLM and

State lands outside of Canyonlands and Arches National Parks. Furthermore, this population has also had bighorn sheep regularly captured and removed for translocations elsewhere for decades.

2. The BLM presents no data on bighorn sheep locations to indicate that they are habitat limited.

We are concerned that some of the language in the EA and proposed conservation measures are built on the false premise that the resident bighorn sheep population is in decline or in imminent threat of decline due to recreational use. However, no data are presented in the EA that bighorn or wildlife populations are in decline, or that populations are declining as a result of recreational use of a road and trail network that has been in continuous use for over 50 years. The BLM presents no data on bighorn sheep locations to indicate that they are habitat limited.

3. The EA has an over reliance on papers that misrepresent conclusions.

In order for the BLM to take a more measured and scientifically-defensible view of the data and issues surrounding bighorn sheep in the SRMA, we ask that the BLM reconsider its reliance on the following papers as they misrepresent the factual basis of their conclusions and therefore are not up to the data quality standards required of the BLM. (Reasons are detailed in the attached reviews below). Those papers include: Papouchis et al. 2000, 2001; Sproat 2012 and Sproat et al. 2019, and Widedmann and Bleich 2014.

A review of scientific issues in Papouchis (2000, 2001):

Papouchis did not design the study or participate in the fieldwork, but was recruited by the late Dr. Francis Singer to analyze and publish a paper out of the data gathered, essentially to salvage results from a flawed study design.

The study by Papouchis et al. (2000, 2001) was methodologically flawed and biased in its interpretation of results because the “hikers” in that study were actually researchers who used telemetry to locate radio-collared bighorn sheep and intentionally harassed them until they fled by approaching directly, off-trail and on foot. Thus, the results of Papouchis et al. (2000, 2001) were an artifact of the experimental design rather than an unbiased comparison of bighorn reaction to “hikers.” Thus, no conclusions can be drawn to hikers on trails or humans in campsites. The intentional harassment used in Papouchis et al. (2000, 2001) is clearly a different circumstance from trail hikers and even the occasional cross-country hiker who does not have the intention or means of locating, tracking, and approaching bighorn sheep until they flee. Instead, the methods of Papouchis et al. (2000, 2001), as well as similar harassment used in MacArthur (1979) and Phillips and Alldredge (2000), more closely approximated the behavior of hunters pursuing their quarry. The BLM needs to understand and acknowledge this fundamental bias in the results and conclusions of Papouchis et al. (2000, 2001).

The authors of Papouchis et al. (2000, 2001) did not acknowledge that the bighorn sheep in their study, and the population of bighorn sheep in general, had already been subject to capture and handling by humans and that bighorn in that study population are hunted on BLM land outside of the national parks. Thus, the bighorn sheep were pre-conditioned to react to humans approaching on-foot and in close proximity.

Notably, Papouchis et al. (2000, 2001) reported that the radio-collared ewes whose home ranges were along road corridors had obviously habituated to cars, and recommended that these habituated bighorn should not be captured and removed for translocations. Such captures and removals would deplete the population of resident bighorn that had habituated to habitat along roads in Canyonlands National Park, which is also a safe haven from hunting. This is an important finding because it underscores how bighorn sheep readily habituate geographically to predictable and non-threatening human activity. This habituation is also why desert bighorn sheep near Palm Springs, California wander into the suburbs and city, why hikers have to walk around them on trails, and why they have to be shooed off of lawns and golf courses in the area. Other examples of habituation in desert bighorn include those along the banks of the Green and San Juan rivers in Utah, as well as in the Grand Canyon and along roads in Canyonlands National Park.

The only quantitative data used by Papouchis et al. (2000, 2001) to distinguish human use in the high vs. low-use areas was as follows, “Approximately 1 vehicle passed along roads/hour during peak visitor months in the low-use area. ... Between 5 and 13 vehicles passed along roads/hour during peak visitor months in the high-use area.” Papouchis et al. (2000, 2001) also did not mention whether this human use statistic was on paved or dirt roads, the footprint of roads in bighorn habitat, the types of use or intensity of other human use in bighorn habitat, and most importantly, differences in habitat quality which would lead to differences in bighorn sheep density and behavior. The purported increase in human use in the study area was entirely anecdotal.

A review of scientific issues in:

Sproat 2012a, thesis, *Alteration of behavior by desert bighorn sheep from human recreation and Desert Bighorn Sheep Survival in Canyonlands National Park: 2002 – 2010;*

Sproat 2012b, report and presentation, *Potash Desert Bighorn Sheep Research;*

and

Sproat et al. 2019, publication, *Desert bighorn sheep responses to human activity in south-eastern Utah.*

The titles used by Sproat (2012) and Sproat et al. (2019) were not accurate because the authors never actually measured bighorn reactions to human activity. Instead, the authors measured scanning vs. foraging behaviors in two different areas, designated high and low human use, but made no attempt to quantify habitat differences, bighorn density, or predation rates that would have influenced their results.

The author(s) of Sproat (2012a,b) and Sproat et al. (2019) assume that a bighorn sheep observed “scanning” is looking at “threats” resulting from human use of the environment although they never consider any alternative hypotheses. Those alternative hypotheses include (a) the bighorn is looking for other bighorn sheep, (b) the bighorn is scanning to locate additional food resources, or (c) the bighorn is scanning for predators, including mountain lions, coyotes, bobcats, and golden eagles, all of which prey on bighorn sheep or their lambs. The authors present no data that time spent scanning vs. grazing has a fitness consequence to the bighorn population.

In the abstract of their paper, the authors of Sproat et al. (2019) make several bold and inaccurate statements. For example, under “Implications” the author(s) state:

“From 1979 to 2000, human recreation increased over 300% in areas occupied by desert bighorn sheep (*O. c. nelsoni*) in south-eastern Utah. Concurrently, the population of desert

bighorn sheep occupying the Potash Bighorn Sheep Management Unit of south-eastern Utah was in steep decline.”

“We raise a cautionary flag because recreational use in bighorn sheep habitat near Moab, Utah, continues to increase and bighorn numbers continue to decline.”

However, no bighorn sheep population data was presented by the authors of Sproat et al. (2019) to support these statements. Quite to the contrary, data from the State of Utah (2019) for the La Sal-Potash population, which includes bighorn sheep in Island in the Sky, Potash, Professor Valley and Dolores Triangle subpopulations, clearly refutes this claim. The State data reveal that this population had increased despite both repeated captures and removals of bighorn sheep from the La Sal-Potash population for translocations, with 289 bighorn captured and translocated between 1982-2008, mainly from the Potash area and other parts of Canyonlands National Park (Wild Sheep Working Group 2015). Additionally, 2 to 4 bighorn sheep are hunted annually on BLM, state, and private land outside of the national parks (including the Potash area), with 31 bighorn sheep killed by hunters between 2010 and 2019 (see big game report above). This bighorn population increase also occurred despite the fact that predation accounted for 44% of radio-collared mortalities reported by Sproat (2012b). And most importantly, the bighorn population increase occurred despite the reported increase in recreational use which Sproat et al. (2019) attempted to link to a non-existent bighorn sheep decline.

Something is clearly amiss with Sproat et al. (2019) because in Sproat’s own words (Sproat 2012b, which included annual survival data from radio-collared bighorn), he concluded:

“Survival for desert bighorn sheep in CNP [Canyonlands National Park] was relatively high (83%—88%; Table 7), as evidenced by population estimates ($n = 400$, status = stable/increasing). Our statistical analyses indicate that temporal variables (season and month) had the greatest effect on survival.”

And in the discussion of Sproat et al. (2019), those authors state:

“We determined that bighorn sheep grazed less and scanned more in areas of high human use, but there was no apparent effect on the survival rates of adult desert bighorn sheep in the study area, as documented by Sproat (2012).”

Oddly, in the concluding sentences that follow, Sproat et al. (2019) tried to qualify this non-effect by reiterating speculation that increasing human use will have population level impacts on bighorn that needs to be mitigated and further research is needed. Specific wording includes “links among human activity, behavior of bighorn sheep and resulting consequences for fitness [which] will provide additional information useful to managers.” This inability to let go of a desired but undemonstrated research outcome is typical of some of the most frequently cited literature on human disturbance of wildlife. Also typical is the call for more data but never the critical tests that could potentially falsify their human disturbance hypothesis. It appears that Sproat (and his coauthors) were attempting to squeeze a conclusion out of data that are contrary to that conclusion.

In the discussion of their paper, Sproat et al. (2019) attempt to build a case that bighorn sheep habitat in Canyonlands is under threat of being abandoned citing other bighorn studies. Contrary to Sproat et al’s (2019) assertion, Longshore et al. (2013) did not report any abandonment of habitat or population

decline in Joshua Tree National Park, instead those desert bighorn sheep ewes merely moved away from centers of human activity on busy weekends and moved back during the week when human use was lower. No deleterious effect on demography was reported. We also note that those desert bighorn sheep in Joshua Tree are not hunted. As pointed out in the attached reviews, Wiedmann and Bleich (2014) did not even attempt to rule out more obvious cases for decline and eventual abandonment in a study area in North Dakota along the Little Missouri River; namely, extensive residential, commercial, and agricultural development, and suboptimal habitat to begin with. They did not rule out these factors because they never admitted that they existed.

Also cited by Sproat (2019) is the thesis by Courtemanch (2014) which presented data about constriction of winter range bighorn habitat by backcountry skiers and snowboarders in the Tetons of Wyoming. However, neither that study nor Sproat et al. (2019) mentioned the fact that bighorn sheep from the Teton bighorn population are hunted, which results in bighorn avoiding humans because they are potential predators. In addition to bighorn, mountain goats that utilize the same habitat as bighorn in the Tetons, are hunted on USFS land just outside the Grand Teton National Park. The State of Wyoming Bighorn Sheep Hunt Area #6 lists a quota of one bighorn sheep annually with a hunting season extending from August 1st through October 31st. This bighorn population also overlaps Mountain Goat Hunt Areas #2 and #5 with a current quota of 4 and 8 mountain goats respectively and a hunting season from August 15 to October 31st. While these quotas may not seem high, it is significant that hunters and their guides often spend weeks scouting and hunting in bighorn and mountain goat habitat, approaching their potential quarry as predators, and killing them with archery or rifle. Consequently, it should come as no surprise that bighorn sheep in the study by Courtemanch (2014) avoided other humans as potential predators.

Like the subpopulation studied by Wieddemann and Bleich (2014), the Grand Teton bighorn sheep population was also compromised by extensive development, as Courtemanch (2014) notes:

“The Teton bighorn sheep population has experienced numerous changes to its habitats and migration patterns due to residential development, construction of roads and fences, historical livestock grazing, and wildfire suppression, culminating in the population abandoning its traditional low elevation winter ranges (Whitfield 1983).”

Also unusual is the fact that 78% of backcountry skiers and snowboarders in the study by Courtemanch (2014) accessed the backcountry and bighorn habitat from ski lifts in Jackson Hole Mountain Resort and Grand Targhee ski resorts, a situation very different from the desert of southeastern Utah.

In conclusion, Sproat and the EA make apples-to-oranges comparison to studies with very different circumstances and uncritically accept the authors conclusions without first evaluating the assumptions, methods and data used.

A review of scientific issues in Wideman and Bleich (2014):

The paper by Wiedmann and Bleich (2014), cited by Sproat et al. (2019) and in the EA, attempted to lay blame for the abandonment of habitat by a ewe group on construction of a trail, while ignoring other, far more obvious factors for the decline and eventual abandonment of this translocated ewe group and associated lambing area. The authors of that paper failed to account for and test other, far more obvious factors, including disease, habitat fragmentation and development. Additionally, because Wiedmann and Bleich (2014) erroneously cited the speculation in Papouchis et al. (2000,

2001) as if they were data-driven results, other authors have used this study to further reinforce their belief that human recreational disturbance of bighorn sheep is deleterious to their health and population survival. However, a closer examination of that paper reveals it to be factually deficient and misleading.

The authors of Wiedemann and Bleich (2014) failed to acknowledge that Sully Creek was a marginal site to translocate bighorn sheep into for reasons that now appear to be obvious. This area has low topographic relief as it is along the river breaks of the Little Missouri River in North Dakota. Connectivity to the northern ewe groups required that bighorn ewes migrate along a river corridor under or over the four-lane highway (Interstate 94), across a railroad track as well as across numerous paved and unpaved roads, and around development. The close proximity to the town of Medora, North Dakota and availability of private land, where the bighorn were released in the 1950's, would inevitably lead to extensive development of the surrounding area including habitat occupied by bighorn. Seen from Google Earth historical imagery, permanent land conversion and development over the past 20 years in (and surrounding) the Sully Creek ewe home ranges and lambing areas has included: a golf course, a bible camp, agricultural field development, livestock, new private home construction, expansion of existing ranching and private land infrastructure (trailers, pens, fences, outbuildings, livestock, paved and dirt roads), oil and gas development, and artificial water ponds. This land conversion and development fragmenting and encroaching on the limited bighorn sheep habitat and movement corridors was not mentioned at all by Wiedemann and Bleich (2014).

And finally, given that bighorn sheep are highly susceptible to strains of bacteria that cause fatal respiratory pneumonia in bighorn sheep and that the State of North Dakota has over 72,000 domestic sheep, it would seem obvious that disease should be strictly ruled out as a cause of decline before invoking other causes. However, none of the tonsillar swabs used to test for this disease were taken from sick or dying lambs. The only tonsil swabs were taken from healthy ewes that were captured for radio-collaring and the authors did not mention the number of samples that were taken from the Sully Creek ewe group.

In conclusion, if obvious sources of bighorn population loss, including capture and removal for translocations and ongoing mortality from hunting and predation have not been found to negatively affect population status, then why is the BLM proposing additional restrictions in bighorn sheep habitat? Can the BLM demonstrate why (and where) previous regulations and restrictions were found to be inadequate for maintaining a stable bighorn sheep population? Is the BLM willing to base its wildlife regulations on the hypothetical threat that bighorn sheep are not eating enough in areas where humans are present, based on worst-case scenarios from a study that could not find those effects? Why does the BLM not acknowledge in the EA that bighorn sheep habituate to predictable and non-threatening human behaviors?

C. Raptors

(1) Raptor Guidelines are Applicable to New Projects Rather than Existing Uses

As stated in the 2002 raptor guidelines (Romin and Muck 2002), the guidelines are applicable to new projects and expanding development/activity, rather than existing land uses to which raptors have habituated, such as those in the SMRA. Therefore, rather than restrict or eliminate existing campsites and travel routes within the 0.5 mile one-size-fits-all buffer zone of raptor nests, as proposed in the EAs, we

recommend retaining these but posting educational signage and/or physical impediments (i.e., logs or boulders) to discourage use outside of the existing campsite and travel route envelope. The BLM could also monitor these raptor nesting locations as part of its adaptive management strategy to evaluate and refine future mitigation measures with systematically collected data.

The above strategy would be separate from the process involved in the BLM evaluation of new campgrounds.

(2) Raptors and Adaptation to Human Activity

The BLM needs to acknowledge the fact that raptors do adapt to human activity that is much closer and more intense than camping and recreational use. For example, the specific language in the Romin and Muck (2002) guidelines are as follows:

“Prior disturbance history and tolerance of raptors -- As mentioned previously, some individual and breeding pairs of raptors appear relatively unperturbed by some human disturbance and human-induced impacts and continue to breed successfully amid these activities. Nesting within or near human-altered environments may be a manifestation of the decreased availability of high-quality natural nest sites; indicative of high densities of breeding birds; indicative of abundant or available prey; or simply a display of higher tolerance for disturbance by certain individuals or breeding pairs. Accordingly, it is not the intent of these guidelines to restrict current land use activities in those situations where raptors appear to have acclimated to the current level of disturbance and human-induced impacts. However, these Guidelines should be closely followed if proposed land use activities may result in exceeding the current levels and timing of disturbances.”

As discussed in the raptor guidelines, this habituation has been documented to occur at more intense levels of human disturbance, and more frequently than that associated with campsites and travel routes, trails, and current recreational activities in the planning areas:

“Some individual breeding pairs appear relatively unperturbed by human disturbance and human-induced impacts and continue to breed successfully amid development (Mathisen 1968, Bird et al. 1996). In addition, some land-use actions are potentially beneficial for some raptor species, such as: selective logging, utility lines, dams and reservoirs, farming, grazing, fire, mechanical/chemical, and public observation (Olendorff et al. 1989). For example, peregrine falcons and prairie falcons have been observed nesting on transmission towers, bridges, and buildings in many cities and raptors, including bald eagles and golden eagles, have nested within a few hundred meters of airports, blasting, construction, quarry, and mine sites (Pruett-Jones et al. 1980, Haugh 1982, White et al. 1988, Holthuijzen et al. 1990, Russell and Lewis 1993, Steenhof et al. 1993, Bird et al. 1996, Carey 1998).”

(3) Raptor Nest Buffer Distances

Raptor Nest Buffer Distances should be revised based on data rather than opinion, as they are currently in the EAs and papers cited in the EAs. Raptor buffer distances around points, such as the 0.5 mile-radius buffer, is a one-size-fits-all buffer that lacks a sound scientific basis (e.g., data that can show a reduced survivorship of individuals or a population-level effect at distances less than this threshold). In fact, none

of the species listed in the EAs are notably sensitive to human presence and the often-repeated myth of human disturbance causing nest abandonment or failure comes from decades in the past (i.e., before the 1970s and the environmental movement). Those early documented cases of "human disturbance" leading to nest failure were actually from the destruction of golden eagle nests, killing of young, and shooting of adults from the ground near nests and birds in flight from aircraft. This misguided persecution was carried out by domestic sheep producers and ranchers in the USA (Nelson 1982). In fact, Colorado had a hunting season on golden eagles until 1966. The killing of eagles by Native Americans for feathers used in ceremonial headdresses was another documented form of "human disturbance" (Nelson 1982). During the same period, "human disturbance" of peregrine falcons was from egg collectors who "roped" into nests and were mistakenly referred to in the past as "climbers." And in Scotland and the UK, game keepers shot peregrine falcons on sight to protect game birds (Ratcliffe 1993). Although that dark chapter of persecution of raptors is now closed, some uncritical authors still conflate past human disturbance that had lethal intent, with contemporary use of the term "human disturbance" that refers to any human presence in the vicinity of nests, even if it is benign.

Experimental evidence reveals a greater tolerance of golden eagles (and other raptors) to human presence and activities than is typically parroted in the literature and in various well-intentioned guidelines that are based upon opinions rather than experimental data. Three studies on human disturbance of raptors stand out in contrast to the trend described above because they relied on controlled experiments to test the effects of human disturbance on the fitness of raptors (White and Thurow 1985, Holthuijzen et al. 1990, Grubb et al. 2007, 2010). All three utilized disturbances that were clearly threatening (e.g. blasting, threatening approach via foot/vehicle/helicopter, gunshots and noisemakers), as compared to relatively benign activities such as hiking, rock climbing, horseback riding, and driving vehicles. Yet, all three reported a remarkable tolerance of human presence, a decreased response when habituated, and recommended substantially smaller buffer zones than those typically imposed. The BLM needs to acknowledge this tolerance and habituation to human activities that are far more threatening than recreational uses in the planning areas.

More specifically, the activities include those in three studies that we'll summarize. First, Holthuijzen et al. (1990) measured the effects of nearby blasting on nesting prairie falcons, as compared to undisturbed controls. They reported:

"This study demonstrated that, in general, blasting had no severe adverse effects on the falcon's behavioral repertoire, productivity, and occupancy of nesting territories. Therefore, we suggest that when blasting does not occur prior to aerie selection and ceases prior to fledging, blasting that takes place at least 125 m from occupied prairie falcon aeries need not be restricted, provided that peak noise levels do not exceed 140 dB at the aerie (i.e., the noise level we measured for our experimental blasts). We recommend that no more than 3 blasts occur on any given day or 90 blasts during the nesting season."

Second, White and Thurow (1985) used an experimental approach to quantify the effects of human disturbance on nesting ferruginous hawks. Their "low level" disturbance involved approaching nests on foot while firing a rifle every 20m, driving up to nests, and continuously operating a 3.5hp gasoline motor or noisemaker within 30-50m of a nest. They reported:

"Unlike previous reports of substantial nest desertion by raptors as a result of human activity, the number of disturbed nests that were deserted in our study was unexpectedly low."

“Our observations suggest that a sufficient buffer zone for brief human disturbance around ferruginous hawk nests is 250 m. Adults will not flush 90% of the time if human activity is confined to distances greater than this.”

Third, Grubb et al. (2007, 2010) directly approached golden eagle nests at close range via helicopter, and quantified behavior and nest success. This study was a poignant refutation to an often repeated but erroneous perception (discussed above) that golden eagles are highly susceptible to human disturbance. The authors reported results contrary to expectations:

“Multiple exposures to helicopters during our experimentation in 2006 and 2007 had no effect on golden eagle nesting success or productivity rates, within the same year, or on rates of renewed nesting activity the following year, when compared to the corresponding figures for the larger population of non-manipulated sites. During our active testing and passive observations, we found no evidence that helicopters bother golden eagles nor disrupt nesting. In 303 helicopter passes near eagles, we observed no significant, detrimental, or disruptive responses. 96% of 227 experimental passes of Apache helicopters at test distances of 0-800 m from nesting golden eagles resulted in no more response than watching the helicopter pass (30%). “

“We found no relationship between helicopter sound levels [even though Apache helicopters were twice as loud as the civilian helicopters] and corresponding eagle ambient behaviors or limited responses, which occurred throughout recorded test levels (76.7-108.8 dB, unweighted).”

“Between all the other aircraft and human activities occurring in the Tri-Canyon Area, as well as their long term coexistence with WPG and apparent indifference to current operations, golden eagles in the area appear acclimated to current levels of activity. “

“For the specific question of WPG operating in the Tri-Canyon Area without potentially impacting nesting golden eagles, we found no evidence that special management restrictions are required. (Authors' Note: The results of this research were very much unexpected since helicopters are usually considered more disruptive to bald eagles than any other type of aircraft. Plus, golden eagles are traditionally thought to be more sensitive, and therefore more responsive, to human intrusions than bald eagles. However, **we found the golden eagles studied during this project to be just as adaptive, tolerant, and acclimated to human activities as any bald eagles in our rather considerable, collective experience with this species. We hypothesize this may at least be in part due to the proximity of the large, growing, and outdoor-oriented population of the Salt Lake Valley and Wasatch Front.**”

The experimental results of the three studies above should serve as an inspiration to the BLM to incorporate an adaptive management strategy into the planning process for evaluating the influence of specific types and locations of recreational use on nesting raptors.

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