June 13, 2024

Dennis Kuhnel, Forest Supervisor
Rio Grande National Forest
1055 9th St.
Del Norte, CO 81132

Re: Rio Grande National Forest Over Snow Travel Management Project #65529

Submitted online at https://cara.fs2c.usda.gov/Public//CommentInput?Project=65529

Dear Supervisor Kuhnel,

On behalf of Winter Wildlands Alliance, I appreciate the opportunity to comment on the Rio Grande National Forest Over-Snow Management Planning scoping documents. Winter Wildlands Alliance (WWA) is a national non-profit conservation organization representing the interests of human-powered winter recreationists. We work to inspire and empower people to protect America's wild snowscapes. Our alliance includes 34 grassroots groups in 16 states, including several in Colorado, and has a collective membership exceeding 130,000. WWA members who live near and/or visit the Rio Grande National Forest enjoy Nordic and backcountry skiing/splitboarding, snowshoeing, and winter hiking on the forest. WWA has been engaged in every Forest Service winter travel planning process initiated since the 2015 Over-Snow Vehicle Rule was enacted and we look forward to working with the Rio Grande National Forest on this travel plan.

We have a number of concerns about how the Proposed Action has been presented and how it relates to the Winter ROS maps, as well as suggestions on topics the Forest Service should analyze in this EIS. In these comments we will also highlight important non-motorized recreation areas that should not be designated for OSV use.

We look forward to working with you and your staff through this process, including once the Forest moves into implementation and enforcement of the new plan.

1. Over-Snow Vehicle Rule Background

In response to the growing use of dirt bikes, snowmobiles, all-terrain vehicles, and other off-road vehicles (ORVs) and corresponding environmental damage and conflicts with non-motorized users, Presidents Nixon and Carter issued Executive Orders 11644 and 11989 in 1972 and 1977, respectively. The executive orders require federal land management agencies to plan for ORV use to protect other resources and recreational uses. Specifically, the executive orders

PO Box 631 Bozeman, Montana 59771
TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org

require that, when designating areas or trails available for ORV use, the agencies locate them to:

> (1) minimize damage to soil, watershed, vegetation, and other resources of the public lands;
> (2) minimize harassment of wildlife or significant disruption of wildlife habitats; and
> (3) minimize conflicts between off-road vehicle use and other existing or proposed recreational uses of the same or neighboring public lands.[1]

Thirty-three years after President Nixon issued Executive Order 11644, the G.W. Bush Administration – citing unmanaged recreation as one of the top four threats facing the national forests – published the Travel Management Rule in 2005. The rule codified the executive order "minimization criteria," but it specifically exempted over-snow vehicles (OSVs) from the mandatory requirement to designate areas and trails in accordance with the criteria.[2] WWA successfully challenged the exemption in federal court. In the resulting 2013 decision, the court determined that Subpart C of the rule violated the mandatory executive order requirement that the Forest Service designate a system of areas and routes – based on the minimization criteria – where OSVs are permitted.[3] The court directed the agency to issue a new rule consistent with the executive orders and the revised Subpart C was finalized in January 2015. Given this history, OSV travel planning is of great interest to WWA.

Revised Subpart C of the Travel Management Rule, the OSV Rule, requires each national forest unit with adequate snowfall and designate and display on an OSV use map (OSVUM) a system of areas and routes where OSVs are permitted to travel; OSV use outside the designated system is prohibited.[4] Thus, rather than allowing OSV use largely by default wherever that use is not specifically prohibited, the rule changes the management paradigm to "closed unless designated open". This puts the onus on the Forest Service to justify OSV designations during travel planning, rather than justifying why an area or route would be closed to OSV use. To support and inform designation decisions, forests must apply and implement the minimization criteria when designating each area and trail where OSV use is permitted.[5] Any areas where cross-country OSV use is permitted must be "discrete, specifically delineated space[s] that [are] smaller . . . than a Ranger District" and located to minimize resource damage and conflicts with other recreational uses.[6] Although not required by the OSV Rule, we also encourage the Rio Grande not to designate small, isolated parcels of land that lack public access or do not provide

[1] Exec. Order No. 11644, § 3(a), 37 Fed. Reg. 2877 (Feb. 8, 1972), as amended by Exec. Order No. 11,989, 42 Fed. Reg. 26,959 (May 24, 1977).
[2] 36 C.F.R. §§ 212.51(a)(3), 212.55(b).
[3] Winter Wildlands Alliance v. U.S. Forest Service, No. 1:11-CV-586-REB, 2013 U.S. Dist. LEXIS 47728, at *27-36 (D. Idaho Mar. 28, 2013) (explaining that OSV "designations must be made and they must be based on the [minimization] criteria") (emphasis in original).
[4] 36 C.F.R. §§ 212.81, 261.14.
[5] 36 C.F.R. §§ 212.81(d), 212.55(b).
[6] 36 C.F.R. §§ 212.1, 212.81(d), 212.55(b).

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TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org

meaningful OSV opportunities. Again, OSV designations must be justified and not designated as open by default.

There is a distinct difference between the process used to determine OSV suitability in a forest plan (winter ROS mapping) and that used to determine OSV designations in a winter travel plan. Therefore, it is concerning to us that the Rio Grande has presented its winter ROS maps as the Proposed Action. Relying on forest plan winter motorized use suitability determinations rather than applying the minimization criteria to determine OSV use area designations was at the heart of *WildEarth Guardians vs. USFS*[7]. In this case, the Court found the procedural requirement under NEPA to be distinct from the agency's substantive duties under Executive Orders11644 and 11989, and the 2005 Travel Management Rule.[8] Federal courts have repeatedly affirmed the substantive nature of the agency's obligation to meaningfully apply the minimization criteria.

To satisfy legal requirements of the OSV Rule during this travel planning process the Forest Service must look closely at the lands deemed suitable for winter motorized use on the winter ROS map and designate discrete, delineated OSV use areas within these places where OSV impacts on the environment, natural resources, and other uses are minimized. Open areas should have easily enforceable boundaries using topographic or geographic features such as a ridgetop, highway, or watershed boundary. All other areas that are not determined to be appropriate for open designation must be closed to OSV use (or limited to use on designated routes). This legally-required approach to OSV planning is not reflected in the Proposed Action, as it appears that the Rio Grande is simply proposing to designate all of lands mapped as suitable for OSV use on the winter ROS map (semi-primitive motorized, roaded natural, and rural). It would have been more appropriate for the Rio Grande to state in its Proposed Action that the Forest Service proposes to designate roads, areas and trails on National Forest System land within the Rio Grande National Forest for public over-snow motor vehicle use within areas mapped as suitable for OSV use on the Winter ROS maps. Conflating acres suitable for OSV designation (per the ROS maps) with acres proposed for designation is inappropriate and has led to considerable public confusion about this process.

To fulfill the Forest Service's OSV designation obligations under the executive orders, the agency must apply a transparent and common-sense methodology for meaningful application of each minimization criterion to each area and trail.[9] That methodology should, at a minimum: provide opportunities for public participation early in the process;[10] incorporate site-specific

[7] WildEarth Guardians v. U.S. Forest Service 790 F.3d 920, 932 (9th Cir. 2015)
[8] *Id* at 931, n.11 ("Although related, NEPA and [the minimization criteria] set forth separate requirements.")
[9] Idaho Conservation League v. Guzman, 766 F. Supp. 2d 1056, 1071-74 (D. Idaho 2011) (agency may not rely on "Route Designation Matrices" that fail to show if or how the agency selected routes with the objective of minimizing their impacts).
[10] 36 C.F.R. § 212.52(a).

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TEL (208) 629-1986 | heisen@winterwildlands.org
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data, the best available scientific information, and best management practices;[11] account for site-specific and larger-scale impacts;[12] account for projected climate change impacts, including reduced and less-reliable snowpack and increased vulnerability of wildlife and resources to OSV impacts;[13] and account for available resources for monitoring and enforcement.[14]

2. Compliance With the Minimization Criteria

In 2017, The Wilderness Society and Blue Ribbon Coalition released joint recommendations on implementing the minimization criteria during travel management planning.[15] These recommendations were directed towards BLM OHV travel planning but hold true for Forest Service OSV planning as well. The following concepts from the TWS/BRC recommendations are particularly relevant to the Rio Grande's OSV planning process:

a) Compliance has a substantive component.
b) Acknowledging or considering the criteria is not sufficient; instead, the agency must apply the criteria and provide sufficient information to explain how they were applied (e.g., the agency cannot rely solely on a broad rationalization that it reduced acreage or route mileage open to OSV use)
c) The minimization criteria concern both site-specific impacts (e.g., soil stability and erosion associated with a particular route) and landscape-scale impacts (e.g., air quality or fragmentation of wildlife habitat based on route density).
d) Compliance does not mean impacts associated with OSV use must be eliminated or reduced to the smallest extent possible.
e) In each situation, there is a range of alternatives that can satisfy the minimization criteria. However, under NEPA, the agency can only carry forward action alternatives for which it can articulate an initial, good faith showing that the designated system satisfies the minimization criteria.
f) Compliance may include a mix of system design elements (e.g., closure or relocation) and other minimization techniques designed to reduce impacts (e.g., seasonal restrictions, minimum snow depth, enhanced signage)
g) The Forest Service should have a reasonable expectation, based on existing and anticipated resources and capacity, that it is capable of implementing,

[11] Idaho Conservation League, 766 F. Supp. 2d at 1074-77 (agency failed to utilize monitoring and other site-specific data showing resource damage); Friends of the Clearwater v. U.S. Forest Service, No. 3:13-CV-00515-EJL, 2015 U.S. Dist. LEXIS 30671, at *24-30, 40-52 (agency failed to consider best available science on impacts of motorized routes on elk habitat effectiveness or to select routes with the objective of minimizing impacts to that habitat and other forest resources).
[12] Idaho Conservation League, 766 F. Supp. 2d at 1066-68, 1074-77 (invalidating travel plan that failed to consider aggregate impacts of short motorized routes on wilderness values or site-specific erosion and other impacts of particular routes).
[13] 77 Fed. Reg. 77,801, 77,828-29 (Dec. 24, 2014) (Council on Environmental Quality's revised draft guidance recognizing increased vulnerability of resources due to climate change and that "[s]uch considerations are squarely within the realm of NEPA, informing decisions on whether to proceed with and how to design the proposed action so as to minimize impacts on the environment").
[14] Sierra Club v. U.S. Forest Serv., 857 F. Supp. 2d 1167, 1176-78 (D. Utah 2012) (NEPA requires an agency to take a hard look at the impacts of illegal motorized use on forest resources and the likelihood of illegal use continuing under each alternative).
[15] See Attachment 1, *Key Concepts for Implementing the Minimization Criteria*

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TEL (208) 629-1986 | heisen@winterwildlands.org
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monitoring, and enforcing the designated system and other elements of each action alternative

The minimization criteria are the heart of any Forest Service travel planning process and we appreciate that the scoping materials include some minimization screening questions. We are generally supportive of the screening questions thus far developed by the Rio Grande but would like clarification or have comments on the following:

Minimize damage to soil, watershed, vegetation, and other resources of the public lands

Winter recreation compacts snow. This can be a cause for concern in areas with off-trail activity, where compaction is somewhat random and not confined to hardened surfaces such as roads and trails. Snow compaction has the potential to affect soils and vegetation.

Snowmobile use has been shown to increase snowpack density, hardness, and ram resistance.[16] In experimental treatments, snowmobile use in areas with shallow snowpack (less than 30 centimeters, or 12 inches) resulted in snowpack hardness that was 500-2,000 times greater than areas of equal snow depth where no snowmobile use occurred. However, the authors found that snowmobile use on snow deeper than 120 centimeters (47 inches) has a limited effect on snowpack density, temperature, hardness and ram resistance. When designating areas for OSV use, the Rio Grande must demonstrate how it has minimized impacts related to snow compaction. This may include, but is not limited to, establishing a minimum snow depth for OSV use, not designating areas with sensitive soil types, and not designating south-facing slopes and/or places that are frequently wind-swept and do not hold as much snow as surrounding areas.

We appreciate that the Rio Grande is proposing to require a minimum snow depth for OSV use and strongly support this management approach. In Region 5, the Forest Service has determined that at least 12 inches of un-compacted snow is required to minimize impacts such as soil compaction and damage to cultural resources from cross-country OSV use.[17] In its winter travel plan FEIS, the Stanislaus National Forest justified a 12-inch (and in some cases 24-inch) minimum snow depth, citing research which found that OSV tracks can break through thin snow cover, disturb soil, and create isolated ruts in the trail surface, especially after repeated passes. Just as with soil damage from wheeled vehicles, these ruts can channelize surface runoff and soil can become mobilized, leading to increases in stream sedimentation. The Stanislaus also

[16] Fassnacht, S. R., J.T. Heath, N.B.H. Venable and K. J. Elder. 2018. Snowmobile impacts on snowpack physical and mechanical properties. The Cryosphere 12:1121–1135.

[17] See for example, Stanislaus National Forest Over-Snow Vehicle Use Designation, Record of Decision (July 2021) page 3: "Over-snow travel in designated cross-country OSV-use areas and along designated OSV use trails, by vehicles designed specifically for that purpose, is only authorized where 12 or more inches of snow is present and no contact is made with native soil or vegetation" https://www.fs.usda.gov/nfs/11558/www/nepa/100952_FSPLT3_5646653.pdf

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relied on minimum snow depth – 24-inches – to reduce acoustic impacts to hibernating amphibians.[18]

The recent Tahoe National Forest OSV plan EIS examines Snow Water Equivalency (SWE) as a better metric for protecting natural resources, concluding that approximately 4 inches of SWE is necessary. This translates to 12 inches of heavy, dense Sierra (maritime) snow. Snow in southwest Colorado, however, is generally much lighter and drier. Therefore, we suggest that the EIS consider additional minimum snow depths in addition to 12 inches, specifically the depth required to achieve 4 inches of SWE in a typical southwest Colorado snowpack, and that the final plan adopt a minimum snow depth appropriate to the Rio Grande and best suited to achieving resource protection goals.

Soils

Snow compaction can lower soil temperatures and reduce the survival of plants and soil microbes.[19] A natural, un-compacted snowpack greater than 45 cm (18 inches) deep will prevent frost from penetrating the soil.[20] However, the thermal conductivity of compacted snow is greatly increased, resulting in both greater temperature fluctuations and overall lower soil temperatures.[21]

In areas of low or no snow, OSV use can cause direct soil compaction, increasing soil density, which reduces permeability of water and air.[22] In turn, these physical changes to soil increase erosion. This erosion can lead to increased soil runoff, causing sedimentation and turbidity in surface waters.[23]

Vegetation

Snow compaction and resultant changes to soil temperatures inhibits the soil bacteria that play a critical role in the plant food cycle.[24] In turn, this can slow or reduce the growth and reproductive success of early spring flowers.[25, 26]

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[18] See Stanislaus National Forest Over-Snow Vehicle Use Designation, Final EIS Volume 1, Table 3 (July 2021): https://www.fs.usda.gov/nfs/11558/www/nepa/100952_FSPLT3_5637608.pdf

[19] Keddy, P.A., Spavold, A.J. & Keddy, C.J. Snowmobile impact on old field and marsh vegetation in Nova Scotia, Canada: An experimental study. Environmental Management 3, 409–415 (1979). https://doi.org/10.1007/BF01866580

[20] Baker, E. and Bithmann, E., 2005. Snowmobiling in the Adirondack Park: Environmental and Social Impacts. St. Lawrence University, Department of Biology.

[21] *Id.*

[22] Switalski 2016 (Water Quality, Soils, and Vegetation)

[23] Olliff, T., K. Legg, and B. Kaeding, editors. 1999. Effects of winter recreation on wildlife of the Greater Yellowstone Area: a literature review and assessment. Report to the Greater Yellowstone Coordinating Committee. Yellowstone National Park, Wyoming. 315 pages.

[24] *Id.*

[25] Keddy et al. 1979

[26] Rongstad, O.J., 1980. Research needs on environmental impacts of snowmobiles. In R.N.L. Andrews and P. Nowak, editors. Off-road vehicle use: A management challenge. U.S. Department of Agriculture, Office of Environmental Quality, Washington, D.C.

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OSV use can also cause direct physical damage to vegetation, slowing growth or causing direct mortality. Abrasion and breakage of seedlings, shrubs, and other exposed vegetation is common in areas where OSV use occurs.[27] In a study of snowmobile impacts on old field and marsh vegetation, researchers concluded that compaction may affect the soil surface microstructure, early spring germination and growth, seed dispersal from capsules still attached to dead stalks, and may modify seed predation patterns by subnivean rodents.[28]

In one study examining damage to vegetation at and above snow surface from OSVs, more than 78% of the saplings on a trail were damaged after a single pass by a snowmobile, and nearly 27% of saplings were damaged seriously enough to cause a high probability of mortality.[29] Young conifers were found to be extremely susceptible to damage from snowmobiles.[30] A more recent study on snowmobile effects to vegetation found that snowmobile activity significantly reduced plant growth (measured as stem height and stem abundance) in riparian plants, with greater impacts in shallow snow (less than 150 centimeters deep).[31] This study postulated that this reduction in plant growth was due to snowmobile compaction of the subnivean environment lowering subnivean temperatures, which caused frost damage to vegetation.[32]

The EIS should address how the Rio Grande will protect plant species of conservation concern when there is low snow cover during the OSV use season, or plant species of conservation concern that grow above the minimum snow depth. The EIS should address these questions for each alternative. In addition, the final Rio Grande OSV plan should include a monitoring plan so that the Forest Service can accurately assess whether OSV use is cause for concern or not for plants, soils, and other natural resources. The monitoring plan should include meaningful measures for assessing compliance with and effectiveness of the OSV plan, including but not limited to Threatened and Endangered species.

Air and Water Quality

Over-snow vehicles can cause significant localized impacts to air quality. Two-stroke engines, which represent the vast majority of OSV use on National Forest lands, are particularly concerning. An older two-stroke snowmobile can emit as many hydrocarbons and nitrogen oxides as 100 cars and create up to 1,000 times more carbon monoxide.[33] Snowmobiles made

[27] Olliff et al. 1999.
[28] Keddy et al. 1979.
[29] Neumann and Merriam. 1972.
[30] *Id.*
[31] Mullet, T.C and J. M. Morton. 2021. Snowmobile effects on height and live stem abundance of wetland shrubs in South-Central Alaska. Journal of Outdoor Recreation and Tourism (33): 100347.
[32] *Id.*
[33] Environmental Protection Agency (EPA), 2002. Environmental Impacts of Newly Regulated Non-road Engines: Frequently Asked Questions. Environmental Protection Agency, Office of Transportation and Air Quality, Washington, D.C. https://nepis.epa.gov/Exe/ZyNET.exe/P1002K1T.TXT?ZyActionD=ZyDocument&Client=EPA&Index=2000+Thru+2005&Docs=&Query=&Time=&EndTime=&SearchMethod=1&TocRestrict=n&Toc=&TocEntry=&QField=&QFieldYear=&QFieldMonth=&QFieldDa

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TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org

since 2006 and sold in the United States have to meet emissions standards set by the Environmental Protection Agency to reduce particulate matter and hydrocarbons in exhaust, but these standards only lessen, not eliminate pollutants. All snowmobiles with combustion engines emit polycyclic aromatic hydrocarbons (PAH) and other pollutants.[34] PAHs are highly persistent in the environment and can accumulate in plant and animal tissues, do not easily dissolve in water, and readily settle on the bottom of lakes and streams adhering to sediment particles.[35]

A study on the Medicine-Bow National Forest documented a decline in air quality with increased snowmobile activity, attributable to snowmobile exhaust.[36] This study measured ambient concentrations of CO_2, NO_x, NO, and NO_2 at a snowmobile staging site and found significantly higher concentrations of these pollutants on days with significantly more snowmobile activity.

Not only do OSVs create localized air pollution, this pollution settles into the snowpack and affects snow chemistry, potentially affecting water quality once the snow melts. Several studies conducted across the United States have found that snow from roadways used by snowmachines contains detectable concentrations of several volatile organic compounds (VOCs), including benzene, methyl tert-butyl ether, m- and p-xylene, o-xylene, and toluene.[37] Musselman and Kormacher (2007) found several changes to snow chemistry on snowmobile trails when compared to untracked snow, including elevated numbers of cations and some anions and a significant drop in pH.[38] A study in Yellowstone – where regulations only allow for "best available technology" snowmobiles – detected concentrations of VOCs in snowmelt in areas that receive high levels of OSV use.[39] Additionally, this study found that snowmelt transported these VOCs to rivers and streams as the snow melted, but at diluted concentrations that are unlikely to pose a danger to aquatic systems. This same study documented large amounts of petroleum-based products in snowmelt, and raised concerns about PAHs in snowmelt and surface water.[40] In the Lake Tahoe Basin, researchers documented significantly greater concentrations of PAH in snow in areas with concentrated snowmobile tracks, and

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y=&IntQFieldOp=0&ExtQFieldOp=0&XmlQuery=&File=D%3A%5Czyfiles%5CIndex%20Data%5C00thru05%5CTxt%5C00000017%5CP1002K1T.txt&User=ANONYMOUS&Password=anonymous&SortMethod=h%7C-&MaximumDocuments=1&FuzzyDegree=0&ImageQuality=r75g8/r75g8/x150y150g16/i425&Display=hpfr&DefSeekPage=x&SearchBack=ZyActionL&Back=ZyActionS&BackDesc=Results%20page&MaximumPages=1&ZyEntry=1&SeekPage=x&ZyPURL

[34] McDaniel, M. and B. Zielinska. 2015. Polycyclic aromatic hydrocarbons in the snowpack and surface water in Blackwood Canyon, Lake Tahoe, CA, as related to snowmobile activity. Polycyclic Aromatic Compounds 35(1):102-119.

[35] Agency for Toxic Substances and Disease Registry (ATSDR). 1995. Toxicological profile for polycyclic aromatic hydrocarbons (PAH's). U.S. Department of Health and Human Services, Public Health Service, Atlanta, Ga

[36] Musselman, R. and J. Korfmacher. 2007. Air quality at a snowmobile staging area and snow chemistry on and off trail in a Rocky Mountain subalpine forest, Snowy Range, Wyoming. Environmental Monitoring and Assessment. 133: 321-34.

[37] Arnold, J.L. and T.M. Koel, 2007. Effects of snowmobile emissions on the chemistry of snowmelt runoff in Yellowstone National Park. Yellowstone National Park, Center for Resources, Fisheries and Aquatic Sciences Section.

[38] Musselman and Korfmacher. 2007.

[39] Arnold and Koel. 2007.

[40] *Id.*

PO Box 631 Bozeman, Montana 59771
TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org

detected PAH in snowmelt and surface water samples in areas with heavy snowmobile activity as well.[41] The Tahoe Basin study found that PAH concentrations in snowmelt from areas with heavy snowmobile use was as much as 6 times as high as in areas without snowmobile traffic.

Soundscapes

Natural soundscapes are intrinsic elements of the environment and are necessary for natural ecological functioning.[42] Motorized winter recreation can severely impact the natural soundscape, with the extent of impact being dependent upon the distance from the source (OSV), number of OSVs in a group, and other variables such as atmospheric conditions, wind speed and direction, topography, snow cover, and vegetative cover.[43] A noise study from Yellowstone involving four-stroke snowmachines found that under a "best case scenario" (upwind, no temperature inversion, soft snow) snowmobiles were audible at distances of up to a half mile.[44] When there was a temperature inversion or firm snow, or when downwind of a snowmobile, the machines could be heard more than two miles away.[45] At Yellowstone's remote Shoshone Geyser Basin, four-stroke snowmobiles can be audible from 8 miles away.[46] Other studies have found that snowmobile noise can travel up to 10 miles.[47] One study of noise impacts to Wilderness areas in the Kenai National Wildlife Refuge indicated that snowmobiling was profoundly impacting natural soundscapes that would otherwise be quiet, with the acoustic footprint of snowmobiles affecting over a third of the Wilderness in the study area.[48] Although newer snowmobiles are quieter than older-model machines, research has shown that a medium-sized group (8) of newest-model snowmobiles has the same noise footprint as an equally sized group of older snowmobiles.[49]

Natural soundscapes assist "in providing a deep connection to nature that is restorative and even spiritual for some visitors".[50] Because many non-motorized winter recreationists seek this

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[41] McDaniel, Mark & Zielinska, Barbara. (2015). Polycyclic Aromatic Hydrocarbons in the Snowpack and Surface Water in Blackwood Canyon, Lake Tahoe, CA, as Related to Snowmobile Activity. Polycyclic Aromatic Compounds. 35. 10.1080/10406638.2014.935449.

[42] Burson, S. 2009. Natural soundscape monitoring in Yellowstone National Park December 2007– March 2008. National Park Service, Yellowstone Center for Resources, Mammoth, WY.

[43] Burson, S. 2018. Winter Acoustic Monitoring in Yellowstone National Park December 2017-March 2018. National Park Service, Yellowstone Center for Resources, Mammoth, WY

[44] Menge CW and Ross JC. 2000. Measurement and modeling of snowmobile noise and audibility at Yellowstone and Grand Teton National Parks. In Noise-CON: Noise-CON 2000. Newport Beach, CA. December 3-5, 2000. Noise-CON.

[45] *Id.*

[46] Burson 2009.

[47] Hastings, A.L., G.G. Fleming, and C.S.Y. Lee. 2006. Modeling sound due to over-snow vehicles in Yellowstone and Grand Teton National Parks. Report DOT-VNTSC-NPS-06- 06, Volpe Transportation Center, Cambridge, MA.

[48] Mullet, T.C., J.M. Morton, S.A. Gage and F. Huettmann. 2017. Acoustic footprint of snowmobile noise and natural quiet refugia in an Alaskan wilderness. Natural Areas Journal 37(3): 332-349.

[49] Keyel, Alexander "Sasha & Reed, Sarah & Nuessly, Kathryn & Cinto Mejia, Elizeth & Barber, Jesse & Wittemyer, George. (2018). Modeling anthropogenic noise impacts on animals in natural areas. Landscape and Urban Planning. 180. 76-84. 10.1016/j.landurbplan.2018.08.011.

[50]Freimund, W., M. Patterson, K. Bosak, and S. Walker Saxen. 2009. Winter experiences of Old Faithful visitors in Yellowstone National Park. University of Montana, Missoula, MT

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TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org

experience, OSV noise is one of the biggest sources of use conflict in winter.[51] OSV noise reduces the quality of the backcountry experience for many non-motorized users, creating an annoyance and may even lead to displacement.[52, 53] In a strictly controlled study in Norway, researchers documented that noise was the single most significant variable to negatively affect a cross country skier's recreational experience.[54] Minimizing noise impacts is a key component to minimizing use conflict when making OSV designations.

Anthropogenic noise is pervasive and has a profound impact on wildlife, causing changes in behavior, density and community structure, and reduced reproduction.[55] OSV use is a concerning source of anthropogenic noise because it often extends far into backcountry environments, and because OSVs emit a low frequency noise that can travel long distances, affecting wildlife in areas that would otherwise provide secure, undisturbed, habitat.[56] As discussed previously, OSV noise can mask or otherwise disrupt animal communications, alter behavior, increase stress, and may reduce survival fitness. The analysis accompanying this OSV use designation project must include a soundscape analysis in order to inform decision-makers and the public of the acoustic impacts of each alternative, and the final decision should minimize acoustic impacts.

National forests in Region 5 conducted noise analyses as part of their OSV designation processes to understand the noise impacts of potential designations. Using the SPreAD-GIS model and average environmental factors for the winter season, the Forest Service modeled sound propagation away from point source sound locations along OSV trails and are located near non-motorized areas or trails.[57] While this modeling exercise does not perfectly capture noise impacts, it provided the Forest Service with at least some understanding of noise impacts resulting from potential OSV designations. Because most OSV use in Region 5 occurs along groomed trails, Region 5 forests chose to focus this modeling on trails. The Rio Grande should consider also applying this modeling to popular OSV use areas or along the groomed trail system.

[51] Switalski, A. 2016. Snowmobile Best Management Practices for Forest Service Travel Planning: A Comprehensive Literature Review and Recommendations for Management – Water Quality, Soils, and Vegetation. Journal of Conservation Planning 12: 8-12.
[52] *Id.*
[53] Adams, J.C., and S.F. McCool. 2010. Finite Recreation Opportunities: The Forest Service, the Bureau of Land Management, and Off-Road Vehicle Management. Natural Resources Journal 49:45-116.
[54] Vittersø, J., R. Chipeniuk, M. Skår, and O. I. Vistad. 2004. Recreational Conflict Is Affective: The Case of Cross-Country Skiers and Snowmobiles. Leisure Sciences 26:227–243.
[55] Barber, J. R., K.R. Crooks, and K.M Fristrup. 2010. The Costs of Chronic Noise Exposure for Terrestrial Organisms. Trends Ecology and Evolution 25:180-189.
[56] Mullet et al. 2017.
[57] See, for example, Stanislaus National Forest OSV Use Designation FEIS Volume 1 pages 106-116. Available online at https://www.fs.usda.gov/project/?project=46311.

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Minimize harassment of wildlife and significant disruption of wildlife habitats.

Over-snow vehicle use can cause mortality, habitat loss, and harassment of wildlife.[58] While most animals are well adapted to survival in winter conditions, the season creates added stress for wildlife due to a harsher climate and limited foraging opportunities.[59] Deep snow can increase the metabolic cost of winter movements in ungulates up to five times normal levels at a time when they are particularly stressed by forage scarcity and high metabolic demands.[60] Indirectly, the noise generated by OSVs 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. Disturbance and stress to wildlife from OSV activities during this highly vulnerable time can cause significant impacts.

Ungulate winter survival strategy hinges on gaining weight in the fall and expending as little energy as possible while they slowly starve their way through winter. Avoiding excess movement is particularly important, as deep snow can increase the metabolic cost of winter movement up to five times normal levels[61] at a time when ungulates are particularly stressed by forage scarcity and high metabolic demands. In one study elk responded to over-snow vehicles in Yellowstone National Park by increasing vigilance and running away from approaching machines.[62] A study conducted in Minnesota found that white-tailed deer responded to even low intensities of snowmobile activity, and that deer were more likely to change their behavior or flee as the amount of time that snowmobiles were in an area increased.[63] This disturbance resulted in displacement of deer from areas near snowmobile trails and increased home range sizes. Even if it does not bring significant changes in habitat use or home range, such flight poses an energetic risk for deer and other wildlife. It is important that this OSV plan reduces the chances that OSV recreation will stress wintering ungulates.

One way that researchers quantify disturbance and stress in wildlife is to measure glucocorticoid (GC) concentrations. Researchers have found that daily GC levels in elk in Yellowstone National Park fluctuated in parallel with the variation in the number of snowmobiles after controlling for the effects of weather and age, and that both elk and wolves in Yellowstone exhibited a strong correlation between GC concentrations with snowmobile

[58] See Boyle, S. A., and F. B. Samson. 1985. Effects of Nonconsumptive Recreation on Wildlife : A Review. Wildlife Society Bulletin 13:110–116 and Oliff, T.K., Legg, K., and Kaeding, B. 1999. Effects of winter recreation on wildlife of the Greater Yellowstone Area: a literature review and assessment.
[59] Reinhart, D. 1999. Effects of Winter Recreation on Habituated Wildlife.
[60] Parker, K.L., Robbins, C.T. and Hanley, T. A. 1984. Energy expenditures for locomotion by mule deer and elk. Journal of Wildlife Management 48:474–488.
[61] *Id.*
[62] Borkowski, J. J., P. J. White, R. A. Garrott, T. Davis, A. R. Hardy, and D. J. Reinhart. 2006. Behavioral responses of bison and elk in Yellowstone to snowmobiles and snow coaches. Ecological Applications 16:1911–1925.
[63] Dorrance, M. J., P. J. Savage, and D. E. Huff. 1975. Effects of Snowmobiles on White-Tailed Deer. Journal of Wildlife Management 39:563–569.

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usage on both daily and annual time scales.[64] In this same study, researchers compared GC levels of wolves in Isle Royale National Park, where there are no snowmobiles, to those of wolves in Voyageurs National Park, where snowmobiling is pervasive. The Voyageurs wolves consistently exhibited higher levels of stress hormones, and when snowmobile use declined in Voyageurs between two winter seasons, there was a corresponding drop in fecal GC concentrations within the park's wolf population.[65]

Ciuti et al (2012) describes the 'landscape of fear' that animals live in, with increased recreation activity resulting in stress levels that exceed those caused by natural predators.[66] In general, wildlife tend to have stronger responses to less predictable forms of recreation (such as cross-country OSV travel) and pregnant females and young tend to be the most vulnerable to disturbance.[67] For these reasons, it is critically important that the OSV plan not permit OSV use in wildlife winter ranges or allow for spring OSV use in calving and parturition areas. Where OSV access through a winter range or winter concentration area is necessary to reach less sensitive wildlife areas, use should be restricted to designated routes.

In addition to the direct physiological effects of disturbance, evidence suggests that popular winter trails can fragment habitat. Busy trails through core areas create an "edge effect" (the negative influence of the periphery of a habitat on the interior conditions of a habitat) and thereby marginalize the vitality of some species.[68] In Yellowstone National Park, heavy snowmobile traffic has been shown to inhibit free movement of animals across roads to preferred grazing areas and temporarily displaces wildlife from areas immediately adjacent to the roads.[69] Other studies have noted the displacement of elk along roads during periods of fairly continuous travel by snowmobiles.[70]

Many areas that have historically been closed to OSV use for the purposes of protecting wildlife habitat are mapped as "suitable" for OSV use on the new ROS maps. For example, the 1996 and 2014 Rio Grande National Forest visitor maps show extensive areas depicted as "Over-snow Motorized Travel Restriction Areas" (marked on the 2014 maps with no snowmobile icons and on the 1996 maps as "B" areas). These restricted areas are primarily lower elevation areas.

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[64] Creel, S., J. E. Fox, A. Hardy, J. Sands, B. Garrott, and R. O. Peterson. 2002. Snowmobile Activity Responses in Wolves and Glucocorticoid Stress Elk. Conservation Biology 16:809–814.

[65] *Id.*

[66] Ciuti, S., Northrup, J. M., Muhly, T. B., Simi, S., Musiani, M., Pitt, J. A., & Boyce, M. S. 2012. Effects of humans on behavior of wildlife exceed those of natural predators in a landscape of fear. PloSONE 7(11): e50611.

[67] Miller, A.B. King, D., Rowland, M., Chapman, J., Tomosy, M., Liang, C., Abelson, E.S. and Truex, R. 2020. Sustaining wildlife with recreation on public lands: a synthesis of research findings, management practices, and research needs. General Technical Report PNW-GTR-993. Portland, OR: U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. 226 p.

[68] Baker, E. and Buthmann, E., 2005. Snowmobiling in the Adirondack Park: Environmental and Social Impacts. St. Lawrence University, Department of Biology.

[69] Aune, K. E. 1981. Impacts of winter recreationists on wildlife in a portion of Yellowstone National Park, Wyoming. Thesis, Montana State University, Bozeman, Montana, USA

[70] Knight, R.L., and D. N. Cole. 1991. Effects of recreational activity on wildlife in wildlands. Transactions of the North American Wildlife and Natural Resource Conference 56:238-247.

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On the 1996 map the management purpose of the snowmobile restriction in B areas is identified as "Big game winter range". The 2014 maps also indicate specific roads through those areas that are "Designated routes through Restriction Area". (green line roads). Given the opacity of the process through which the Rio Grande developed the winter ROS maps, it's not clear how or whether these existing or historic closures were considered when developing the ROS. However, given the Travel Management Rule's requirement that the Rio Grande minimize impacts to wildlife, we expect that this EIS will discuss historic or longstanding wildlife closures and provide clear rationale for any changes. Aside from use on designated routes, OSV use is not appropriate in winter concentration areas, severe winter range, or general big game winter ranges and these areas should not be designated for OSV use in this plan. The Forest Service should work closely with Colorado Parks and Wildlife (CPW) to identify ungulate winter ranges and manage OSVs in these areas in a manner that minimizes impacts to wintering wildlife. For example, CPW recommends that bighorn sheep winter range be closed November 1 - April 30, and that mule deer and elk winter ranges be closed December 1 - April 30.

We appreciate the inclusion of minimization screening questions related to Canada lynx, bighorn sheep, and big game. The EIS should touch on each of these subjects in more detail. For example, the EA should explain what constraints the Southern Rockies Lynx Management Direction places on OSV designations and document how each alternative complies with this Direction.

A study examining dispersed winter recreation in Colorado found that lynx appear to change their activity levels temporally in relation to human activity.[71] Lynx decreased movement rates and were more active at night in areas dominated by high levels of snowmobile use and backcountry skiing. However, lynx in this study appeared to tolerate low and moderate intensity backcountry skiing and packed-trail skiing, as they did not avoid areas in close proximity to trails for these forms of recreation. It is possible that these patterns reflect shared habitat preference of lynx and skiers (high elevation, dense canopy cover and steep slopes) while areas with greater snowmobile use, which lynx avoided, were also lower quality habitat for lynx (mostly lower elevation open areas). However, this study found that lynx habitat use appeared to be strongly influenced by both canopy cover and high intensity dispersed recreation, rather than canopy cover alone, indicating that recreation use does impact lynx habitat use.[72] To further understand lynx habitat selection as related to winter recreation, researchers developed a Resource Selection Model (RSF) for lynx habitat choices vis à vis recreation use patterns.[73] These models showed that lynx avoided areas selected by motorized winter recreationists. This again may be in part because motorized use was restricted to the open areas lynx tend to avoid.

[71] Olson, L.E.; Squires, J.R.; Roberts, E.K.; Ivan, J.S., and Hebblewhite, M. 2018. Sharing the same slope: behavioral responses of a threatened mesocarnivore to motorized and nonmotorized winter recreation. Ecology and Evolution 8:8555–8572.
[72] *Id.*
[73] Squires, J. R., L. E. Olson, E. K. Roberts, J. S. Ivan, and M. Hebblewhite. 2019. Winter recreation and Canada lynx: reducing conflict through niche partitioning. Ecosphere 10(10):e02876. 10.1002/ecs2.2876.

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We also suggest the EIS include the following additional screening questions:

- *Is the road, trail or area within potential wolverine core habitat?*

The state of Colorado recently committed to reintroducing wolverines to the San Juans and there is high potential for this species to be present on the Rio Grande over the lifetime of this OSV plan. Therefore, the OSV plan should proactively address this species.

Wolverines are a snow-dependent species. Researchers and natural resource managers have long expressed concerns about effects of winter recreation on wolverine populations, as dispersed recreational activities have the potential to negatively impact this species, particularly by disrupting natal denning areas.[74] Wolverines have one of the lowest successful reproductive rates known in mammals, and this is hypothesized as linked to winter energy constraints. Female wolverines select and enter dens and give birth in February to mid-March[75] and the overlap of winter recreation with this energetically taxing period is highly concerning. Any disturbance during this important winter period can negatively affect productivity and other vital rates.[76]

Recent research specifically examining how wolverines respond to winter recreation use found that wolverines avoided areas where winter recreation occurred, regardless of whether the recreation activity was motorized or non-motorized.[77] The study found that female wolverine demonstrated the highest avoidance of areas with off-road (dispersed) motorized winter recreation. This research also found that wolverines changed their activity level at time periods and days of higher recreational use, shifting their activity to avoid the most heavily used areas within their home ranges and changing the timing of their activity. Denning female wolverines in areas with high levels of recreation were less active during the day and more active at night compared to females in areas with little recreation.[78] The wolverines in this study also had higher movement rates due to fewer resting periods in recreated areas.These behavioral changes result in functional habitat loss for wolverines and can negatively affect individuals' physiological stress levels and reproductive capacity in several ways. It may reduce the amount of time and thus ability of female wolverines to hunt or to utilize food caches. This would result

[74] Hornocker, M.G., and H.S. Hash. 1981. Ecology of the wolverine in northwestern Montana. Canadian Journal of Zoology 59:1286–1301; Carroll, C., Noss, R. F., & Paquet, P. C. 2001. Carnivores as focal species for conservation planning in the Rocky Mountain region. Ecological Applications, 11(4): 961-980; and Rowland, M.M., M.J. Wisdom, D.H. Johnson, B.C. Wales, J.P. Copeland, and F.B. Edelmann. 2003.Evaluation of landscape models for wolverine in the interior Northwest, United States of America. Journal Of Mammalogy 84:92–105

[75] Magoun, A. J., and J. P. Copeland. 1998. Characteristics of wolverine reproductive den sites. Journal of Wildlife Management 62:1313–1320.

[76] May, R., A. Landa, J. van Dijk, J.D.C. Linnell, and R. Andersen. 2006. Impact of infrastructure on habitat selection of wolverines Gulo gulo. Wildlife Biology 12: 285–295. and Krebs, J., E.C. Lofroth, and I. Parfitt. 2007. Multiscale habitat use by wolverines in British Columbia, Canada. Journal of Wildlife Management 71:2180–2192.

[77] Heinemeyer, K., J. Squires, M. Hebblewhite, J. J. O'Keefe, J. D. Holbrook, and J. Copeland. 2019. Wolverines in winter: indirect habitat loss and functional responses to backcountry recreation. Ecosphere 10(2):e02611. 10.1002/ecs2.2611.

[78] *Id.*

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in significant additive energetic effects, reducing foraging success for adult females already stressed by the demands of bearing and raising a litter.[79] Additionally, this could reduce kit survival rates by increasing the potential for predation and exposure to coldtemperatures.As snowmobiling continues to grow in popularity while snowpack continues to decline due to climate change.

The recent U.S. Fish and Wildlife Service listing decision for wolverine calls out winter recreation as a threat to the species. The decision goes on to say that this threat will become more urgent over time as climate change shrinks snowscapes, squeezing winter recreationists and wolverines into a smaller area.[80] To address this threat, it is imperative that we do not continue to grow our winter recreation footprint in sensitive wolverine habitat. The Rio Grande has a responsibility to heed the science and be proactive in protecting wolverine habitat in order to contribute to the recovery of this species and the success of reintroduction in Colorado.

- *Does the road, trail or area intersect with habitat for Species of Conservation Concern?*

Although the Proposed Action lists screening questions relevant to some Species of Conservation Concern on the forest, not all species are captured by the existing questions. For example, there is high potential for white tailed ptarmigan to be significantly impacted by OSV use considering that the species is found at high elevations in the transition area between alpine and forest ecosystems – prime OSV recreation terrain. It is important that the EIS consider and minimize impacts to this species. In particular, the EIS should address how each alternative minimizes OSV impacts within white tailed ptarmigan winter habitat and feeding areas.

Other species of conservation concern likely to be impacted by this project are American marten and boreal owl. All of the OSV plans underway or completed in Region 5 addressed potential impacts to marten and nesting raptors, including owls, and we suggest that the Rio Grande consult the EIS documents for those plans for relevant literature and analyses.[81]

The duty to minimize impacts to wildlife is not limited to Threatened and Endangered Species of Species of Conservation Concern. Small mammals that remain active during the winter depend on the insulated space between the snowpack and the ground – the subnivean zone – for winter survival and must be considered in this travel plan. When snow compaction from

[79] *Id.*

[80] Endangered and Threatened Wildlife and Plants; Threatened Species Status With Section 4(d) Rule for North American Wolverine. Available at https://www.federalregister.gov/documents/2023/11/30/2023-26206/endangered-and-threatened-wildlife-and-plants-threatened-species-status-with-section-4d-rule-for

[81] See Stanislaus National Forest Over-Snow Vehicle (OSV) Use Designation FEIS Volume 1, available at https://usfs-public.app.box.com/v/PinyonPublic/file/933477339439; Lassen National Forest Over-Snow Vehicle (OSV) Use Designation Revised FEIS Volume 1, available at https://usfs-public.app.box.com/v/PinyonPublic/file/933442326126; and Tahoe National Forest Over-Snow Vehicle Use Designation FEIS Volume 1, available at https://usfs-public.app.box.com/v/PinyonPublic/file/1523577327949

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snowmobiles occurs, subnivean temperatures decrease, which can lead to increased metabolic rates in these small mammal species, such as voles, shrews, and mice. For example, if the subnivean air space is cooled by as little as 3 degrees Celsius, the metabolic demands of small mammals living in the space would increase by about 25 calories per hour.[82]

Through controlled experiments, researchers have demonstrated that compaction due to snowmobile use reduced rodent and shrew use of subnivean habitats to near zero – a decline attributed to direct mortality, not outmigration.[83] Elsewhere, scientists have documented a decline in small mammals following snowmobile activity that compressed the subnivean zone.[84] Because small mammals make up the majority of prey for many species, from raptors to mesocarnivores, habitat changes that affect subnivean populations could cascade through the food chain.[85] One way in which the Rio Grande can minimize OSV impacts to subnivean mammals is to ensure that OSV use only occurs when there is enough snow accumulated to avoid compaction of the subnivean zone. The best way to do this is through implementation of minimum snow depths (discussed previously in these comments).

- *Would OSV use along the road, trail, or in the area create noise impacts to birds that rely on auditory communication?*

Anthropogenic noise, particularly that from motor vehicles, has been shown to alter bird behavior.[86] Snowmobile use has been demonstrated to alter the behavior of many birds that commonly inhabit snowy landscapes – such as the raven, black-capped chickadee, and gray jay – as the frequency and range of sounds emitted from snowmobiles overlaps with their vocalizations. In a 2018 study on the Stanislaus National Forest, scientists documented that the listening area for white-breasted nuthatches was reduced by more than 90 percent within the snowmobile noise footprint zone, preventing intraspecific communication across a large area.[87]

OSV use designations should be located to avoid important bird communication or breeding areas, such as raptor nest sites. Seasonal restrictions can also be utilized to minimize OSV impacts to breeding birds.

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[82] Neumann, P.W. and H.G. Merriam. 1972. Ecological effects of snowmobiles. The Canadian Field Naturalist. 86: 207-212.
[83] Jarvinen, J.A. and W.D. Schmid. 1971. Snowmobiles use and winter mortality of small mammals. In Chubb, M. (ed.) Proceedings of the Snowmobile and Off the Road Vehicle Research Symposium. College of Agriculture and Natural Resources, Department of Park and Recreation Resources, Recreation Resources and Planning Unit, Tech. Rep. 8, Michigan State University, East Lansing, MI.
[84] Sanecki, Glenn & Green, Ken & Wood, Helen & Lindenmayer, David. (2006). The implications of snow-based recreation for small mammals in the subnivean space in south-east Australia. Biological Conservation. 129. 511-518. 10.1016/j.biocon.2005.11.018.
[85] Brander, R.B. 1974. Outdoor recreation research: applying the results: ecological impacts of off-road recreation vehicles. North Central Forest Experiment Station, USDA Forest Service St. Paul, MN. General Technical Report NC-9. https://www.fs.usda.gov/treesearch/pubs/10074
[86] McClure, C.J.W., H.E. Ware, J. Carlisle, G. Kaltenecker, and J.R. Barber. 2013. An experimental investigation into the effects of traffic noise on distributions of birds: Avoiding the phantom road. Proceedings of the Royal Society B 280:20132290.
[87] Keyel, A.C., S.E. Reed, K. Nuessly, E. Cinto-Mejia, J.R. Barber and G. Wittemyer. 2018. Modeling anthropogenic noise impacts on animals in natural areas. Landscape and Urban Planning 180: 76–84.

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Minimize conflicts between motor vehicle use and existing or proposed recreational uses of NFS lands.

As skiers and snowshoers, Winter Wildlands Alliance members are very interested in this element of OSV planning. Minimizing conflict between uses is an important element of the OSV use designation process. In addition to applying the best available science described above regarding air quality and noise, the Rio Grande must consider how OSV use will interact with and impact other uses on the forest. These uses include other recreation uses (such as backcountry skiing) as well as other management uses (such as managing Wilderness areas).

Conflict between motorized and non-motorized over-snow recreation uses are typically asymmetrical, with motorized use having a larger impact on non-motorized uses than vice-versa. OSV impacts to non-motorized winter recreation uses include noise, localized air pollution from exhaust, consumption of powder snow, and rutting of trails and routes. In applying the minimization criteria in regards to conflict between uses, the Forest Service should identify areas where there may be conflicts with non-motorized recreation uses and describe how those conflicts will be minimized. For example, if a particular place or trail is popular with non-motorized winter recreation, that place or trail should not be designated for OSV use. Or, if there will be a shared-use trail or trailhead, the Forest Service should include measures in the Record of Decision that will minimize use conflict. These could include speed limits, separate trails for motorized and pedestrian uses, or only allowing OSV use in alternate years.

It is also important for the Rio Grande to consider how OSV designations may cause conflict with Wilderness or Recommended Wilderness Area management. OSV use is not permitted in these areas and the boundaries of OSV use areas should be located to reduce the likelihood of OSV incursions into these and other non-motorized areas. Likewise, designated OSV areas should align with OSV management on adjacent lands managed by other agencies. For example, OSV use is not permitted on most of the BLM lands bordering the Rio Grande National Forest. In all cases, the Forest Service must locate OSV area boundaries so that they are enforceable and do not facilitate OSV incursions into non-designated or non-motorized areas.

We are concerned that many longstanding non-motorized areas are mapped as suitable for OSV use on the winter ROS maps. However, ROS mapping and winter travel planning are very different (albeit related) processes, with a much greater analysis and justification needed to designate an area for OSV use versus mapping it as potentially suitable for that use. While some places are appropriate for shared use, in order to meet the requirement of minimizing use conflict, the Rio Grande must not designate high value non-motorized areas and trails for OSV use. Already, skiers and snowshoers have been displaced from some areas of the forest that historically were popular, such as the Cumbres-Toltec Narrow Gauge Railroad Loop. On the original Cumbres and La Manga Winter Recreation Map winter recreation map this area was labeled for skiing. Now, however, snowmobilers use the railroad tracks heavily and is no longer

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an area for quiet recreation. By designating specific areas and routes for OSV use this OSV plan will prevent future erosion of non-motorized opportunities on the forest, so long as the plan does not designate important non-motorized areas for OSV use.

We have some comments on the screening questions that the Rio Grande has already developed and recommend additional screening questions as well.

> ***3.b.*** *"Is the road, trail or area within or adjacent to a location valued for non-motorized use such as a permitted ski area, wilderness, or suitable and eligible wild rivers? A Colorado Roadless area? The Cumbres-Toltec railroad? Other areas?*

Along with permitted ski areas, this list should include groomed or designated Nordic ski trails and other trails commonly used for skiing and snowshoeing. The state of Colorado maintains a database of trails – including Nordic ski, snowshoe, and snowmobile – which the Rio Grande should consult to identify trails where there is potential for use conflict. This database (CoTrex) is available at www.trails.colorado.gov. At the very least, no trails that are groomed or otherwise managed/designated for non-motorized winter use should be designated for OSV use in this plan. Trails that are groomed or otherwise commonly used by skiers and snowshoers include the: Big Meadows Campground, East Deep Creek Nordic Trail, FSR 114, the Rock Creek Trails, and the Sixmile Flats Nordic Trails. A map and downloadable geospatial data for these trails is available at https://caltopo.com/m/EGH0A. Because we cannot include geospatial data as an attachment with our comments on the Forest Service CARA form, we will also provide this geospatial data directly to Cheryl O'Brien, the Rio Grande's GIS lead for this project.

The Continental Divide National Scenic Trail (CDNST) and Colorado Trail are unique trails that pass through the Rio Grande National Forest. Congress designated the CDNST in 1978 and the CDNST Comprehensive Management Plan was approved by the Forest Service in 2009. The Rio Grande must comply with this Comprehensive Plan when making OSV use designations that affect the CDNST.

When considering the CDNST, the Forest Service must consider more than the physical trail itself. The trail corridor is defined by the Forest Service as a spatially identifiable area wide enough to encompass the significant scenic, historic, cultural, and natural features that contribute to the trail's setting and significance as a National Scenic Trail.[88] If a corridor has not been identified in the Forest Plan, the one-half mile foreground viewed from either side of the CDT travel route should be the primary consideration in determining corridor width.[89] The Rio Grande forest plan delineated a one mile wide CDNST corridor, or management area, (one half mile on either side of the trail).

[88] FSH 1909.12, Sec. 24.43(2)(f))
[89] FSM 2353.44b(7)

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Although limited motorized use is allowed along the CDNST per the National Trails System Act, the CDNST Comprehensive Plan allows OSV use only if it will not substantially interfere with the nature and purposes of the CDNST.[90] The Nature and Purposes of the CDNST is spelled out in the Comprehensive Plan, clarifying that the intent of the CDNST is for non-motorized recreation and to conserve natural, historic, and cultural resources along the CDNST corridor. This OSV plan is an opportunity to further bring CDNST management in line with the Nature and Purposes of the Trail, similar to how the Forest Service is actively working to reduce wheeled motor vehicle use of the trail. Although the trails are different, there is a great deal that the Rio Grande National Forest can learn about OSV management along National Scenic Trails by reviewing how the Stanislaus, Lassen, and Tahoe National Forests have approached OSV management on and around the Pacific Crest Trail. All three forests have avoided designating OSV use along the trail, locating OSV area boundaries far enough away from the trail to ensure that winter travelers on the PCT have a quiet, non-motorized experience. Each forest has also designated specific OSV crossing points on the PCT to allow for connectivity across the trail. These crossing points generally align with designated summer routes.

The CDNST Scenic Character Descriptions states that "Trail segments in the [semi-primitive motorized] ROS class will be in a natural setting which may have moderately dominant alterations but will not draw attention, as would be judged by motorized observers on trails and primitive roads within the area."[91] Furthermore, the CDNST Experience Statement provides further guidance on how the Forest Service should manage the trail corridor. These include

For the most part, to preserve a non-motorized winter experience on the CDNST, the OSV plan should not designate OSV use within a half-mile of the trail corridor. However, this buffer should be considered a floor, not a ceiling and, importantly, the Rio Grande should not think of the trail corridor as a linear, non-motorized "wall" passing through the forest. Instead, when designating areas for OSV use the Forest Service should locate OSV area boundaries in a way that avoids the trail, considering how topography affects the trail viewshed and soundscape. As the trail corridor is wider than the trail itself, the Forest Service should consider the landscape through which the CDNST passes and how that landscape affects the experience of trail users as well as OSV users. In roadless and semi-primitive areas, where the summer CDNST experience is quite wild and motorized activity is not evident within the vicinity, OSV activity should similarly be far removed from the trail. However, in roaded areas it may be acceptable to have OSV routes cross the trail more frequently. As with how the Forest Service has approached PCT management in winter, the Rio Grande should designate discrete OSV crossing points where OSVs are allowed to cross the CDNST at a 90-degree angle. Designated crossings should generally be no wider than 1/8 mile, but if the distance between crossings is greater than 5

[90] See CDNST Comprehensive Plan, 6(b)(6), available at https://www.fs.usda.gov/sites/default/files/fs_media/fs_document/cdnst_comprehensive_plan_final_092809.pdf
[91] Page 172, available at https://www.fs.usda.gov/sites/default/files/CDT_ScenicCharacterAssessment_Feb2022.pdf

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miles, then up to ¼-mile wide crossings to allow for variable snow conditions may be acceptable.

Roughly 67 miles of the Colorado Trail travel through the Rio Grande National Forest. Segments 16 and 17 are on the Saguache Ranger District and Segments 21-24 are on the Divide Ranger District. Like the CDNST, the Colorado Trail is a non-motorized trail and, like the CDNST, an increasing number of people use the trail in all seasons (not just summer). Therefore, it is important to preserve the non-motorized nature of the Colorado Trail in winter through this OSV plan. To do so, the Rio Grande should not designate OSV use along the Colorado Trail and should locate OSV area boundaries far enough away from the trail to ensure that winter along the Colorado Trail offers the same quiet, non-motorized experience that summer does. As with the CDNST, if it's necessary to allow for OSV use across the trail, this should be restricted to designated crossing points.

A great deal of winter recreation occurring on the Rio Grande is not trail-based but equally important to consider when minimizing use conflict. The category of "other areas" should include the following high-value non-motorized winter recreation areas. A map and downloadable geospatial data for the areas listed below is available at https://caltopo.com/m/EGH0A. Because we cannot include geospatial data as an attachment with our comments on the Forest Service CARA form, we will also provide this geospatial data directly to Cheryl O'Brien, the Rio Grande's GIS lead for this project.

- Big Meadows: There is a natural use dividing point at the "Y" (FR 410 and FR 430) in the road just below the dam. Shared use of FR 410 to the 410/430 junction is necessary to access the area, but motorized use should only be designated of FR410. The area between FR410 and the Town of South Fork is a commonly used motorized area, whereas the area to the south of FR410 is more commonly non-motorized. The campground area is currently groomed for Nordic skiing and the terrain to the south and continuing south to Lobo Peak at Wolf Creek Pass is predominantly used as a moderate backcountry ski area.
- Lobo: The Lobo Peak area has historically had motorized use only on the access road to the towers at Lobo Summit. This use pattern has been in place with rare conflicts between users, although off-the-road motorized intrusions have increased steadily albeit slowly over time. We recommend that motorized access be limited to official tower maintenance only. The ROS map draws a northern line of non-motorized use that appears arbitrary, and not in alignment with the topographic features (drainages and shoulders), or the current and historic non-motorized use. Aside from possibly designating the access road as an OSV route, there should be no OSV use designated between Wolf Creek Pass and FR 410.
- Wolf Creek Ski Area and Adjacent Areas: For what we hope would be obvious reasons, Wolf Creek Ski Area should not be designated for OSV use. In order to provide for public

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safety and protect the skiing experience at and around the ski area, areas adjacent to the ski area should also not be designated for OSV use. This includes the Alberta Lake chutes to the east of Wolf Creek Ski Area is a challenging backcountry and "side country" area for skiers from throughout the region and never accessed via OSVs. It should not be designated for OSV use. Finally, there is a small area between the Continental Divide and the ski area, along the highway on the northwest corner of the ski area permit boundary where OSVs consistently enter into the ski area. Given the ongoing issue of OSV incursions into the ski area, this area should not be designated for OSV use. Considering the important socioeconomic role that the ski area plays for local communities, and the substantial amount of visitation to the ski area in contrast to OSV recreation, it is important that the Rio Grande make decisions in this OSV plan that are not detrimental to ski area operations. Not designating OSV use in terrain adjacent to the ski area, or the Matchless area, will ensure that OSV use does not negatively impact ski area operations or ski area visitor experiences.

- Pass Creek Yurt Buffer: We appreciate that the ROS map delineates this area as semi-primitive non-motorized. As such, this area should not be designated for OSV use. In addition to not designating the buffer marked as semi-primitive non-motorized on the winter ROS map, the Rio Grande should also not designate any of the land between this buffer and Highway 160 adjacent to the Snowshed Parking Lot.
- Chama Chili Ski Race location: This area near Cumbres Pass, below Windy Point, is appropriately mapped as semi-primitive non-motorized on the winter ROS map and should not be designated for OSV use.
- Neff Mountain and Neff Mountain Yurt: This area used to rarely be used by snowmobilers. However, in recent years local private landowners have groomed an unauthorized trail connecting to FR 116. The loop inside FR116 and FR118 and the highway should not be designated for OSV use.
- Flat Mountain Yurt, Grouse Creek Yurt, and Spruce Hole Yurt Buffer: Snowmobiling has increased around these yurts in recent years, degrading the non-motorized experience that yurt guests are seeking and impacting parking access. Each of these yurts should have a non-motorized buffer similar to the Pass Creek Yurt buffer. The surrounding terrain offers a natural border that can be used to delineate the OSV area boundary. The OSV plan should incorporate the buffers delineated in the original Cumbres & La Manga Winter Recreation Map.[92]
- Spruce Hole snowplay area: Approximately 1/2 mile past the Spruce Hole Yurt parking lot, is a very small parking lot that fits 2 or 3 cars. Families are increasingly using this parking area to access a small hill across the street for sledding. This snowplay area should not be designated for OSV use.
- Seepage Creek: This area provides a venue for beginner and intermediate cross-country skiing and should not be designated for OSV use.

[92] https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5347054.pdf

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These specific places have a long history of non-motorized winter recreation use and should not be designated for OSV use in this plan in order to preserve non-motorized winter recreation opportunities. Many of these areas have, at one point or another, been previously closed to OSV use by Forest Service special orders. As a starting point in preparing the EIS, the Rio Grande staff should review existing or expired special orders and maps related to winter recreation use to better understand where OSV use has historically been prohibited to protect non-motorized recreation opportunities. Public comments received during this comment period are another important source of information about which areas of the forest are valued for non-motorized use.

> ***3.d.*** *"Would the road, trail or area receive use by both tracked over-snow vehicles under 50 inches wide and over 50 inches wide? Are these uses in conflict or is there a potential conflict?"*

This question seems more relevant to criteria #4, *Minimize conflicts among different classes of motor vehicle uses of National Forest System lands or neighboring Federal lands*. In addition, while vehicle width serves as a good indicator of vehicle class for wheeled vehicles, the effect a vehicle is likely to have on snow, or a groomed trail, is a better measure for considering classes of OSVs. In its recently-completed OSV plan, the Tahoe National Forest defines Class 1 OSVs include those that typically exert a ground pressure of 1.5 psi or less while Class 2 OSVs typically exert a ground pressure of more than 1.5 psi.[93] The Tahoe only allows Class 2 OSVs on groomed routes, which overlay existing roads.

> ***4.a.*** *"Does the road, trail or area abut federal lands managed by other agencies or state lands not used for motorized travel?"*

This question seems more relevant to criteria #3, *Minimize conflicts between motor vehicle use and existing or proposed recreational uses of NFS lands*.

We also suggest the Forest include the following additional questions in the screening exercise, to better inform the analysis:

- *Would OSV use along the road, trail, or in the area, including at the staging area, create air quality impacts that would be detrimental to forest visitors?*

Motorized and non-motorized winter backcountry recreationists are often confined to the same plowed parking areas to prepare for their day on the forest. However, in these "staging areas" snowmobile emissions can be concentrated and lead to an additional source of conflict and potential health concerns. While technological advances have produced cleaner four-stroke engines (and even zero emission electric snowmobiles), the vast majority of snowmobiles still use two-stroke engine technology. In two-stroke engines lubricating oil is mixed with the fuel,

[93] *See* Tahoe National Forest Over-Snow Vehicle Use Designation ROD, page 2; available at https://usfs-public.app.box.com/v/PinyonPublic/file/1523580402936

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and 20% to 30% of this mixture is emitted unburned into the air and snowpack.[94] In addition, the combustion process itself is relatively inefficient and results in high emissions of air pollutants.[95] As a result, two-stroke OSVs emit very large amounts of exhaust which includes carbon monoxide (CO), unburned hydrocarbons (HC) and other toxins.[96] Carbon monoxide impacts the human body's ability to absorb oxygen,[97] and thus OSV exhaust is particularly harmful to those who are engaging in aerobic exercise (skiing and snowshoeing).
In a study on the Medicine-Bow National Forest researchers documented a decline in air quality with increased snowmobile activity.[98] They measured higher ambient concentrations of CO_2, NO_x, NO, and NO_2 at a snowmobile staging site and found significantly higher concentrations of these air pollutants on days with significantly more snowmobile activity. The researchers concluded that snowmobile exhaust was degrading local air quality.

Concerns over human health related to snowmobile emissions have led to extensive research on snowmobile pollution in Yellowstone National Park,[99] and conclusions from these studies have led to a ban of older technology two-stroke engines from the Park. Emissions from OSVs emit many carcinogens and can pose dangers to human health.[100] Several "known" or "probable" carcinogens are emitted including nitrogen oxides, carbon monoxide, ozone, aldehydes, butadiene, benzenes, and polycyclic aromatic hydrocarbons (PAH). Particulate matter, also found in OSV exhaust, is detrimental in fine and coarse forms as it accumulates in the respiratory system and can lead to decreased lung function, respiratory disease and even death.[101] While these pollutants are more concentrated at OSV staging areas and parking lots, OSV exhaust on trails can dramatically reduce the quality of the experiences of non-motorized users along the trail as well.

Due to concerns with air pollution, particularly at OSV staging areas or where OSV use is concentrated, in addition to screening for air pollution impacts as part of the minimization

[94] Kado, N.Y., P.A. Kuzmicky, and R.A. Okamoto. 2001. Environmental and Occupational Exposure to Toxic Air Pollutants from Winter Snowmobile Use in Yellowstone National Park. Prepared for the Yellowstone Park Foundation and National Park Service. 152p.
[95] USDI National Park Service (NPS). 2000. Air Quality Concerns Related to Snowmobile Usage in National Parks. Washington, D.C.: Feb. 2000. 22p.
[96] Zhou, Y., D. Shively, H. Mao, R.S. Russo, B. Pape, R.N. Mower, R. Talbot, and B.C. Sive. 2010. Air toxic emissions from snowmobiles in Yellowstone National Park. Environmental Science and Technology 44(1): 222-228.
[97] Janssem, S., and T. Schettler. 2003. Health Implications of Snowmobile use in Yellowstone National Park. 27p.
[98] Musselman, R. and J. Korfmacher. 2007. Air quality at a snowmobile staging area and snow chemistry on and off trail in a Rocky Mountain subalpine forest, Snowy Range, Wyoming. Environmental monitoring and assessment. 133: 321-334.
[99] See for example USDI National Park Service (NPS). 2000. Air Quality Concerns Related to Snowmobile Usage in National Parks; Kado, N.Y., P.A. Kuzmicky, and R.A. Okamoto. 2001. Environmental and Occupational Exposure to Toxic Air Pollutants from Winter Snowmobile Use in Yellowstone National Park. Prepared for the Yellowstone Park Foundation and National Park Service. 152p; Janssem, S., and T. Schettler. 2003. Health Implications of Snowmobile use in Yellowstone National Park. .
[100] Eriksson, K., D. Tjarner, I. Marqvardsen, and B. Jarvholm. 2003. Exposure to Benzene, Toluene, Xylenes and Total Hydrocarbons among snowmobile drivers in Sweden. Chemosphere 50(10): 1343-7 and Reimann, S., R. Kallenborn, and N. Schmidbauer. 2009. Severe aromatic hydrocarbon pollution in the arctic town of Longyearbyen (Svalbard) caused by snowmobile emissions. Environmental Science and Technology 43: 4791–4795.
[101] Janssem, S., and T. Schettler. 2003. Health Implications of Snowmobile use in Yellowstone National Park. 27p.

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TEL (208) 629-1986 | heisen@winterwildlands.org
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criteria exercise, we recommend separating motorized and non-motorized winter recreationists to the extent possible. Separate parking lots for motorized and non-motorized users in popular recreation areas can help skiers and snowshoers limit their exposure to snowmobile exhaust. Separating parking areas will also help to relieve congestion as snowmobile trailers take up considerably more space than passenger cars and trucks, often leaving little or no room for non-motorized users to park at trailheads.

- *Would noise from OSVs along this road, trail, or within this area be audible from adjacent non-motorized areas?*

Or

How far would OSV noise from this road, trail, or area travel on a typical winter day?

And

Would sound, emissions, or other factors from OSV use of the road, trail, or area be compatible with the nearby populated area, neighborhood, or community or private land?

The Forest Service has previously recognized that OSV use creates noise that has the potential to impact wildlife and other recreation uses. For example, in the Stanislaus National Forest's OSV designation EIS, the Forest Service considered, by Alternative, the total acres of NFS lands designated for OSV use, and therefore potentially affected by noise, and the acres of Forest Service lands where noise is predicted to increase above ambient levels in sensitive areas (non-motorized recreation areas, communities, wildlife habitat) by 5 or more decibels as a result of moderate to high OSV use levels.[102] As discussed in the Soundscapes section above, the Rio Grande should analyze and compare noise impacts for each Alternative and seek to minimize this impact.

- *Is there a potential for conflicts between OSV use on this road, trail, or in this area and other existing or proposed recreational uses to occur and/or are conflicts already known to be occurring?*

Motorized and non-motorized winter recreationists often seek out the same winter backcountry settings and look for similar experiences such as solitude, fun, and the enjoyment of the natural beauty of the mountains. But as winter recreation grows on Forest Service lands, so does the potential for impacts on natural resources and conflicts between these two user groups. In terms of recreation opportunity, OSV use adversely impacts the recreation experience sought by many non-motorized users, and high levels of motorized recreation can displace non-motorized use, while the reverse is rarely true. This is a phenomenon that has been well documented in Forest Service literature and analyses. Where displacement does not occur because of the high level of demand for a particular area or a lower density of OSV use, conflicts among uses may still be present and can be substantial. Additionally, advancements in technology and changes in use patterns among both user groups have increased the need for proactive management. While early snowmobiles were relatively slow and generally limited to

[102] See Stanislaus National Forest OSV Designation FEIS, available online at https://www.fs.usda.gov/project/?project=46311.

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TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org

groomed trails, today's OSVs can go almost anywhere a skier can go. New technologies, combined with growing numbers of people in the backcountry have led to increased use conflict. For more information on use conflict, and minimization approaches, please see Attachment 2 - Use Conflict in OSV Planning.

National Forests in Region 5 identified several ways in which OSVs can impact the quantity and quality of non-motorized winter recreation opportunities for those seeking solitude and challenging physical experiences.[103] These included: designating for OSV use, popular, highly desirable, non-motorized recreation areas on NFS lands; not preserving areas of NFS lands that are easily accessed for winter non-motorized recreation; reducing the quantity of NFS land available for quiet, non-motorized recreation; and increasing the distance of travel required in order to access desirable quiet, non-motorized recreation areas (perhaps to distances further than an enthusiast is physically able to travel).[104] In turn, the Forest Service stated that OSV designations can lead to conflict between OSV and non-motorized winter recreation by: increasing the area of overlap between non-motorized (e.g., snowshoeing, cross-country skiing, general snow-play) and motorized (i.e., OSV) use; designating non-motorized areas for motorized OSV use; OSVs consuming untracked powder desired by non-motorized winter recreationists, particularly cross-country skiers, snowshoers, and backcountry downhill skiers; OSVs compacting, tracking, and rutting the snow, making the snow surface difficult to cross-country ski, snowshoe, or walk on; OSVs creating concerns for non-motorized winter recreationists' safety where winter recreation trails and areas are shared with OSV usage; OSVs creating noise impacts that intrude on the solitude these enthusiasts seek; OSVs creating local air quality impacts that intrude on the unpolluted air and solitude these enthusiasts seek; OSVs creating visual impacts that intrude on the unaltered scenery these enthusiasts seek; OSVs impacting the quiet characteristics of non-motorized trails; and OSVs impacting the Natural, Undeveloped, Outstanding opportunities for solitude or primitive and unconfined recreation in Wilderness Areas.[105]

In considering the potential for use conflict to occur, it's important for the Rio Grande to include backcountry skiing and splitboarding among the non-motorized uses that can be impacted by OSV use (as a separate and different use than cross-country skiing or ski area skiing). Non-motorized winter recreation - backcountry skiing and splitboarding, cross-country skiing, and snowshoeing - are the fastest-growing segments of the winter recreation industry. There are likely far more people enjoying these activities on the Rio Grande today than there were in the past, or than the Forest Service is aware of. Non-motorized winter recreationists generally stay within 5-10 miles of plowed parking areas because it is difficult to travel further (under one's own power) through snow in a single day. Therefore, these potential non-

[103] See for example, Stanislaus National Forest OSV Designation FEIS, available online at https://www.fs.usda.gov/project/?project=46311.
[104] Stanislaus National Forest OSV Designation FEIS, Volume I, page x.
[105] *Id.*

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TEL (208) 629-1986 | heisen@winterwildlands.org
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motorized envelopes are where the Rio Grande should pay particular attention to the likelihood for use conflict.

In addition to the minimization criteria screening questions, we urge the Forest to think more broadly about current OSV use on the forest, and urge the Forest Service not to consider current use as an accurate baseline for understanding or minimizing potential effects. OSV use has never previously been analyzed or designated and it has spread organically across the forest, often to the detriment of non-motorized uses. On the Rio Grande, as with virtually every other National Forest that supports winter recreation, non-motorized winter recreation has been displaced by OSV use as OSV technology has changed and allowed users to travel in all snow conditions and through all types of terrain and vegetation. Today, almost no terrain is technologically or physically inaccessible to a skilled OSV user with a powerful, lightweight machine.

It's also important to differentiate between mitigation and minimization, as mitigating impacts is not entirely equivalent to minimizing impacts. Federal courts including the Ninth Circuit Court of Appeals have repeatedly affirmed the substantive nature of the agency's obligation to meaningfully apply and implement the minimization criteria. Efforts to *mitigate* impacts associated with a designated OSV system are insufficient to fully satisfy the duty to *minimize* impacts, as specified in the executive orders. *See* Exec. Order 11644, § 3(a) ("Areas and trails shall be *located* to minimize" impacts and conflicts.). Thus, application of the minimization criteria should be approached in two steps: first, the agency locates areas and routes to minimize impacts, and second, the agency establishes site-specific management actions to further reduce impacts. However, mitigation measures are an important element of any travel plan. Related to mitigation, we ask that the design feature "*Where over-snow vehicle trails intersect or travel across non-motorized use trails, over-snow vehicles shall yield to non-motorized users*" be modified to state that over-snow vehicles shall always yield to non-motorized users, rather than just requiring OSVs to yield to non-motorized users when crossing trails. For public safety, and in accordance with standard multiple-use recreation yielding practices, it's important that motor vehicles always yield to pedestrians.

3. **Climate Change**

The Forest Service must plan for OSV management in the context of a rapidly changing climate and address how changing winter seasons and snow packs, more intense storms, and more rain-on-snow events affect winter recreation. These climate-driven changes are already altering winter backcountry recreation use patterns and this trend is expected to continue.[106]

With fewer or smaller areas available for over-snow recreation, these uses will become more concentrated, which may lead to increased crowding, use conflict, new or increased wildlife

[106] Hatchett et al. 2017. Winter Snow Level Rise in the Northern Sierra Nevada from 2008 to 2017. Water: 9(11), 899

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impacts, and resource damage. For example, not only will there be fewer places with persistent snow cover, access to these areas may change or require travel on non-snow surfaces. Climate change is also altering wildlife behavior and habitat use – from shifting ungulate winter ranges to earlier bear emergence in the spring. To preserve quality recreation opportunities, protect wildlife, and minimize natural resource damage, the Forest Service should consider the impacts of a changing climate and how the winter landscape may change over the life of the OSV plan. The Rio Grande should also address how it will manage shoulder-season OSV use to ensure OSVs are traveling on sufficient snow to protect underlying soils and vegetation. The shoulder seasons - late fall and early spring - can be a time of frequent and abrupt change in the mountains, with snow accumulating and melting quickly and snow cover changing daily. Snow accumulation is not an altogether steady process - an early storm may blanket the landscape with snow, only to have it all melt away before "real" winter sets in. Likewise, the spring melt doesn't follow a smooth trend. Spring storms and unseasonably warm days can drastically change snowpacks, especially at lower elevations. We recommend that the Rio Grande employ season of use dates that restrict OSV use to the times of year when there is most likely to be sufficient snow on the ground to protect natural resources alongside a minimum snow depth to create an OSV plan that provides certainty alongside flexibility.

4. **Deficiencies of the Proposed Action**

The Proposed Action fails to comply with the Over Snow Vehicle Rule and is not a legally viable alternative for this EIS. By simply reflecting the winter ROS maps and not showing discrete areas proposed for designation, the Proposed Action does not depict a "closed unless designated open" management plan, does not propose to designate areas that are smaller than a ranger district, and appears to make no effort at complying with the minimization or designation criteria. As we stated earlier in these comments, it would have been more appropriate for the Proposed Action to state that the Forest Service proposes to designate roads, areas and trails on National Forest System land within the Rio Grande National Forest for public over-snow motor vehicle use within areas mapped as suitable for OSV use on the Winter ROS maps.

The Proposed Action is also confusing and contradictory, stating on one hand that the forest proposes to designate approximately 1,382,276 acres for public cross-country over-snow vehicle use while also stating that the proposed action does *not* include designation of areas for over-snow motorized use. The Forest Service is legally required to designate discrete areas for over-snow motorized use in this travel planning process. Arguably, that is the entire point of this process. Please clarify if over-snow vehicle use is different from over-snow motorized use (does over-snow motorized use refer to wheeled vehicles traveling over snow?).

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Going forward, we recommend that the Rio Grande create maps depicting current use compared to each alternative in the EIS. This will help the public compare the alternatives to the status quo and better understand what is being proposed.

Finally, please clarify if the Rio Grande intends to amend the Forest Plan to incorporate the winter ROS maps into the Forest Plan as part of this process. It is unclear from the Proposed Action if the winter ROS maps published in May are final or if the Forest Service is considering additional changes to these maps. Normally winter (and summer) ROS maps are part of a forest plan and, since OSV plans tier to forest plans, the ROS map provides the foundation for the OSV plan. The winter ROS map shows where OSV use is suitable, showing which areas of the forest are available for OSV use designation as well as what level of infrastructure development (including grooming) is appropriate in certain areas. If the Rio Grande were to change its ROS maps in this NEPA process it would defeat one of the primary reasons for creating the maps in the first place. Please clarify how the winter ROS maps fit into this current OSV designation process.

The design criteria and minimization screening questions presented in the Proposed Action are a good starting point and we appreciate that the Rio Grande has put some thought into these important elements of the OSV planning process. We hope that this comment letter has provided useful information for further developing these elements.

5. **Socioeconomic Impacts**

The Rio Grande's most recent National Visitor Use Monitoring surveys (2020) show that participation in downhill skiing (39.1%) and cross-country skiing (4.8%) on the Rio Grande is significantly higher than participation in snowmobiling (2.3% participation). When analyzing the socioeconomic impacts of each alternative, the Forest Service should not limit its analysis to OSV visitor spending and businesses, but also consider how socioeconomics related to or dependent upon other winter activities on the forest would be affected.

6. **Implementation**

Once the plan is finalized, the forest must develop educational resources that will help the public understand and comply with the new travel plan, ideally with buy-in and assistance from local partner organizations. These may include winter recreation maps (pairing OSVUM data with additional information about responsible recreation and opportunities for all forms of winter recreation in the region), trailhead and trail signage, and snow ranger programs. The forest should also have a plan for how it will implement the new OSV plan. We encourage the Forest Service to consider developing an implementation plan congruent with the OSV planning process. Both the White River and Gallatin National Forests created implementation plans shortly after finalizing their respective OSV plans and both provide good examples for an

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implementation plan. More recently, the Kaniksu OSV Plan (Idaho-Panhandle NF) includes an enforcement plan and the final EA describes how the forest will implement the new OSV plan.[107] Steps include:

Signage

- *Install temporary signage and maps at over-snow vehicle parking areas and other access points depicting open trails and areas along with dates these are open by February 1, 2024. This includes Priest Lake (Nordman), Pack River, Snow Creek, Smith Creek, Deer Creek, Trestle Creek, and Bunco parking areas. Also signs at Moose Lake and Roman Nose Lake warming huts with information on late-season open areas. Permanent signs will be installed by November 16, 2024.*

Enforcement

- *Provide two snow rangers to regularly patrol trailheads and trails and contact and educate users as funding allows. Each of the nine trailheads listed above should be visited at least every 2 weeks to conduct snowmobile user counts beginning February 1, 2024. Moose & Roman Nose Lakes should have at least 2 visits each in April (conditions permitting) once they are opened for late season use*
- *The Forest will also develop a standardized snowmobile trailhead monitoring form by February 1, 2024, which will be used by the snow rangers.*
- *Report information about unauthorized use annually by July 1st to the Service as part of the annual report.*
- *Visit warming huts after May 31 to assure food storage order is adhered to and take actions to remedy the situation if it is not.*

Media Outreach

- *Conduct Media outreach prior to March 15, 2024, and prior to winter 2024-2025 on news and social media to inform over-snow vehicle users of new plan and restrictions*
- *Develop snowmobile brochures by March 15, 2024, to raise awareness of over-snow vehicle restrictions. Distribute brochures to local businesses, District offices, etc.*
- *Update the Forest website by February 1, 2024, to include information on snowmobile closures*

The Flathead National Forest has also developed an Information and Education Strategy for Prevention of Over-Snow Vehicle Trespass as part of the OSV plan it is currently drafting.[108] Per the draft EA, this Strategy is intended to serve as a framework for the OSV program

[107] See Kaniksu Over-Snow Vehicle Designation Project, Final Environmental Assessment, FONSI, and Decision Notice, starting on page 136. Available at https://usfs-public.app.box.com/v/PinyonPublic/file/1408190217559.

[108] See Flathead Suitability Changes Draft Environmental Assessment, starting on page 90. Available at https://usfs-public.app.box.com/v/PinyonPublic/file/1491828498399

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TEL (208) 629-1986 | heisen@winterwildlands.org
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management and provide a toolbox for educating the public about motorized winter recreation and preventing over-snow vehicle trespass in places closed to motorized use.

The White River Travel Management Implementation Plan (TMIP)[109] was far more detailed than what the Flathead or Idaho-Panhandle have developed and was specifically focused on the 5-year period immediately following the publication of the travel plan. Recognizing that "without appropriate and adequate information and education materials available for the public, and personnel to create and distribute them, the designation process alone will not provide the change in awareness and behavior necessary to ensure that the desired positive effects of the new travel rule are realized,"[110] the TMIP initially focused on education. The goal of the education component of the TMIP was to provide sufficient information to the public so that enforcement would not need to be the primary focus for travel plan implementation. However, enforcement still plays an important role. At the start of the enforcement phase of the TMIP, the Forest increased the number of staff who were trained and certified as Forest Protection Officers (FPOs) and encouraged all staff to spend more time in the field, to increase Forest Service visibility and presence. The TMIP also calls for close coordination between forest law enforcement officers (LEOs) and district staff, with districts identifying priority or problem areas and LEOs coordinating with FPOs to carry out enforcement. Today, many years into implementation, the Forest continues to conduct routine patrols at identified "hot spots" where compliance is an ongoing issue – such as where Wilderness boundaries are near OSV routes.

The Gallatin Travel Plan Implementation Strategy[111] is not as detailed as the White River TMIP but it provides a basic outline for implementation, similar to the more recent travel plans in Region 1. The Gallatin's 3-phase implementation plan started with setting the stage through educating the public about the new plan, identifying grants and volunteers to help with implementation, initiating monitoring, developing maps, and putting up new signs and removing obsolete signs. The second phase, 1-5 years after the ROD, focused on implementing any site-specific projects necessary to open routes designated in the Travel Plan, increasing enforcement through saturation patrols, formalizing relationships with partners through user group agreements, and designating and managing major forest access corridors. Phase 3 of plan implementation, 5-10 years out from the ROD, focused on implementing the site-specific projects necessary to provide for the non-motorized opportunities in the Travel Plan (the Gallatin Travel Plan addresses non-motorized as well as motorized uses, and addresses summer and winter uses), improving or creating new parking areas where needed, decommissioning roads and trails as called for in the Travel Plan, and conducting routine maintenance and improvements for roads, trails, trailheads, and parking areas.

[109] Available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5365835.pdf.
[110] White River TMIP, page 6.
[111] Available at https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5130759.pdf.

PO Box 631 Bozeman, Montana 59771
TEL (208) 629-1986 | heisen@winterwildlands.org
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Meanwhile, neither the Lassen nor Stanislaus included implementation plans alongside their OSV plans and both have struggled to engage and educate the public or otherwise implement the new OSV plans. For example, the Lassen OSVUM was not publicly available the first season after the plan was completed and few visitors were aware of the new OSV designations, nor did the forest take steps to enforce the new plan. This past winter, the second season that the OSV plan has been in place, was still lacking in signs, other informational material, and enforcement. This is a frustrating situation for the many people and organizations who engaged in the planning process. Over the past year we have been working with the Stanislaus National Forest and Tread Lightly to develop visitor education materials related to the OSV plan and we are beginning to do this work with the Lassen as well. We hope that the materials developed for these forests can provide a template for other forests, like the Rio Grande, to use when implementing other OSV plans.

Regardless of whether the Rio Grande develops an official implementation plan or not, there should be a clear roadmap for implementing the new OSV plan and we look forward to working with you in this future phase of travel management.

****

Thank you for your consideration of our scoping comments and we look forward to seeing the forthcoming draft EIS. All of the scientific studies cited in these comments can be accessed and downloaded from Dropbox at this link: https://tinyurl.com/3cew44jy. These studies should be considered part of the administrative record. If this is not an acceptable way to enter these studies into the record please contact me immediately. In addition, please do not hesitate to contact me if you have any questions regarding these comments.

On behalf of Winter Wildlands Alliance,
Sincerely

Hilary Eisen
Policy Director

PO Box 631 Bozeman, Montana 59771
TEL (208) 629-1986 | heisen@winterwildlands.org
www.winterwildlands.org