



December 11, 2018

USDA Forest Service
Att: Randy Moore, Regional Forester
1323 Club Drive
Vallejo, CA 64592

Re: Eldorado NF OSV usage/objection

Dear Sirs:

Please accept this correspondence as the objection of the Off-Road Business Association ("ORBA") and the California-Nevada Snowmobile Association ("CNSA") with regard to the above decision regarding OSV usage on the Eldorado National Forest¹. Prior to addressing the specific basis of objection/objection regarding the revised preferred alternative ("the Proposal"), a brief summary of each Organization is needed. ORBA is a national not-for-profit trade association of motorized off-road related businesses formed to promote and preserve off-road recreation in an environmentally responsible manner and appreciates the opportunity to provide further information on this objection. CNSA represents all snowmobilers throughout California and Nevada to promote safety and good will for the snowmobile community and provide a voice for the individual snowmobiler in all matters relating to the sport of snowmobiling. For purposes of this objection, ORBA and CNSA will be referred to as "the Organizations". The Organizations have been both actively involved in and closely following the court challenges to both the groomed route system in California and the Winter Travel Management Rule in Idaho and have worked hard with Eldorado Forest representatives to develop a sustainable and enjoyable winter recreational experience for all uses on the forest and to avoid user conflicts for decades.

The Organizations support the fact that most current management standards, such as mileages of groomed routes and existing area boundaries, are generally carried forward in the revised decision. The Organizations believe that the revised version of the preferred Alternative reflects the extensive analysis of OSV travel that has been undertaken previously and that current management is highly effective. The Organizations are also submitting these documents under the assumption that any decision from the various California NF (Eldorado, Stainslaus, Tahoe and others) that are moving forward with winter travel management as required under

¹ Complete version of documents being objected here: <https://www.fs.usda.gov/project/?project=46034>

previous settlement agreements addressing winter grooming will again be sued by Winter Wildlands and others regardless of the decisions that are provided for winter travel. This position is based on the recently filed legal challenge to the issuance of OSVUM on the Payette, Bridger-Teton and Payette NF in Idaho by WWA, where the OSVUM were based on existing planning on these forest for OSV usage.² Despite these maps based on existing planning being specifically allowed in the settlement of previous litigation, they were immediately challenged by WWA and others.

As a result of this assumption of litigation, the Organizations vigorously assert that any decision must be based as most completely as possible on best available science in order to provide a legally defensible decision. The Organizations are concerned that even litigation addressing issues or uses not directly related to OSV travel will result in closures or loss of opportunity for the OSV users. The sensitivity to this issue is high as it is the OSV community who have spent lifetimes and millions of dollars in creating and defending the foundational element of winter travel, mainly that winter travel is a significantly different resource management issue for managers due to the snow buffer between recreational activity and the resource concerns under the buffer.

Objection issue 1. Snow depth amounts for usages conflicting between adjacent forests.

Objection issue one addresses generally the inconsistency of regulations on the Eldorado with adjacent forests and the failure of the Eldorado OSV plan to recognize snow compaction is a natural process and results in greater resource protections with lesser amounts of snow. The Organizations vigorously support the implementation of the 6-inch minimum for OSV usage on roads and trails and 12 inches for off trail usage that has been adopted on many forests adjacent to the Eldorado such as the Tahoe NF, which provides as follows:

“Implement forest wide snow depth requirements for public OSV use by:

- ◆ Allowing public, cross-country OSV use in designated OSV areas only when there is adequate snow depth to avoid damage to natural and cultural resources. To avoid damaging resources, a minimum of 12 inches of un-compacted snow is typically needed. On designated OSV trails with underlying roads, a minimum of 6 inches is typically needed to avoid damage to the underlying road surface; and

² See, Winter Wildlands Alliance and Wild earth Guardians v. US Forest Service, Case 1:17-cv-00376-CWD; September 8, 2017

◆ Follow California State Parks' Off-Highway Motor Vehicle Recreation Division snow depth standards for grooming, currently 12 to 18 inches of snow.”³

The Organizations object to the 12 inches depth requirements for all activities proposed on the Eldorado⁴. By comparison, the Eldorado NF Draft ROD and FEIS provides for the following standards:

“Alternative 2 proposes a minimum snow depth requirement of 12 inches within the designated cross-country OSV-use areas; 6 inches along designated OSV trails; and 12 to 18 inches along designated groomed trails (consistent with California Snowmobile Grooming Standards).”⁵

The above citation is not intended to be an exhaustive list of the conflicting standards merely as an example of the situation on the ground in Region 5. The Organizations submit that consistency across these adjacent forests in terms of specific standards for OSV usage on trail, off trail and grooming operations that are being adopted will be a significant step in the success of the OSV planning efforts. The Tahoe and Plumas amounts reflect the local managers familiarity with snowfall referred to as Sierra Cement, where only a few inches are sufficient to provide extensive resource protection. The Organizations submit that any snow depth requirements must recognize that snow compaction is a natural process and that in most situations compacted snow provides a similar or greater level of resource protection than uncompacted snow.

The Organizations are enclosing a copy of significant new scientific snow management standards and analysis from globally recognized experts to support the snowfall amounts in the adjacent forests and addressing compaction of snowfall and how protection of resources increases with the natural process of snow compaction. This information also clearly concludes that the results of snow compaction via natural processes results in snow that is far heavier and denser than could ever result from OSV usage. The Organizations have heavily relied on the fact that operating a snowmobile with minimal snowfall amounts can result in serious damage to the snowmobile due to the fact that the snowmobile relies on snow to cool the motor by throwing snow on the rear tunnel area of the snowmobile. Often only a short period with insufficient snow contacting these heat exchangers in the rear of the snowmobile tunnel can result in serious damage to the snowmobile engine, and many newer snowmobiles require more snow than older units to cool the engine and newer engines simply are not as tolerant of any extra heat in the engine.

³ See, USDA Forest Service; *Tahoe NF OSV Over the Snow vehicle designation; draft EIS*; April 2018 at pg. v.

⁴ See, USDA Forest Service; *Eldorado NF OSV Use Designation Draft ROD*; November 2018 at pg. 4.

⁵ See, USDA Forest Service; *Eldorado NF OSV designation Draft EIS*; October 2018 at pg. xiv.

The Organizations are aware that often parking or trailhead facilities are located in areas where there may be minimal snowfall but exceptional recreational opportunities remain for the snowmobile community in areas that are higher and colder and may have numerous feet of snow when compared to the parking area. The Organizations submit that adoption of the 6-inch minimum for usage of roads and trails recognizes this situation and provides a quality recreational experience for winter users and protects resources as this standard would only be applied to existing summer routes. This also reflects the fact that all groomed routes are occurring on corridors that are designated routes for usage in the summer and as a result have been the subject of extensive hardening and increased maintenance for the usage of wheeled travel in the summer. As a result, any impacts from utilizing these routes in times of lesser snowfall would be minimized and that such management is clearly based on best available science.

The Organizations are objecting to the fact that there are different standards for similar forms of OSV usages on forests that are immediately adjacent to each other. Not only does this conflict cause concern about the scientific basis for each standard, the differing standards will prove to be exceptionally difficult to enforce as users will have to be educated regarding forest specific standards and boundaries of forest areas where these standards will be changed. This will simply result in completely unnecessary conflict between users and land managers and significant costs for educational materials and enforcement activities.

1b. Snow compaction is a natural occurrence throughout the world and results in material density similar to asphalt.

The Organizations are also aware that snow compaction has been a significant factor in allowing OSV travel on roads and trails with lower amounts of snow. This allows for use earlier in the year, when snow is naturally compacted and resource risks are minimal due to the fact the usage is only allowed on designated roads and trails. These types of opportunities are important to the OSV community due to the fact riders may be new to the sport, breaking in new equipment or simply insuring that their existing equipment is performing properly and can be used safely in deeper snow situations. The following materials are submitted with this objection in addition to the summaries of more than 50 years of scientific research that has been summarized in the “Facts and Myths of Snowmobiling” booklet addressing possible resource impacts from OSV travel on a wide range of specific resources that has been submitted as Exhibit “1” to the comments previously submitted and as Exhibit 1 to this objection.

The Eldorado single depth standards fail to address that snow compaction is a natural process, these oversights in the foundational assumptions of research and can directly impact the credibility of the standards that fail to recognize this fact and process. Understanding the effects of natural processes that cause snow compaction without human intervention, such as wind and gravity, on snow is a critical to understanding the levels of resource protection that are provided by snow as these natural processes are applied to the snow.

There is an exceptionally well-developed body of research regarding snow compaction from natural processes, a process which is commonly identified as snow sintering or snow metamorphosis. This large body of research is most directly targeting avalanche safety but also is directly involved with issues such as large construction projects on snow such as roads or mines, the monitoring of polar ice cap activity with satellites⁶, flooding in high alpine communities and the advancements in the construction of ice breaking vessels. Additionally, the Department of Defense has a well-developed guidance protocol for the operation of military basis in artic climates. The Organizations assert that snow compaction is the same regardless of what natural force is compacted and the conclusions of research should be the same regardless of what continent the research is performed on.

In this portion of our objection, the Organizations are not seeking to provide a complete outline of this rapidly developing snow science body of research that has resulted from the avalanche research community generally. In order to provide a complete review of this evolving body of global knowledge the Organizations have enclosed a complete copy of the 2016 textbook entitled *"Snow and Ice Related Hazards, Risks and Disasters"* edited by Wilfried Haeberli as an Exhibit to the comments previously submitted to the Eldorado. Collectively referred to as the "Haeberli Text" in this objection. Generally, Chapters 2 through 4 of the text provide an introduction to the compelling body of work that now supports snow sintering and metamorphosis and significant data that clearly can be relied on in defense of the varying snowfall totals based on surfaces under the snow and explaining why current management has been so successful. While this text has only become publicly available recently, this text appears to be the most complete peer reviewed body of work on this issue and represents a consolidation of an enormous number of articles from globally recognized leaders in snow science.

This global summary of snow science research starts with the recognition that:

⁶ See, Arthern et al; *In situ measurements of Antarctic snow compaction compared with predictions of models*; JOURNAL OF GEOPHYSICAL RESEARCH, VOL. 115, F03011, doi:10.1029/2009JF001306, 2010

“Modeling of fresh snow density remains highly uncertain, due to the large number of factors and range of environmental conditions through which snow falls before reaching the ground. Once deposited on the Earth’s surface, snow and its density increases through metamorphism, eventually approaching the density of ice. Metamorphism is a combination of both physical and thermal properties of snow.”⁷

Given this conclusion, any assertion that there should be a single snow depth across the nation or even at a regional level to trigger OSV travel is simply not based on science and must be avoided. While we have all known that snow in California is different than snow in Colorado, which is still different than snow in Maine, this recognition by best available science on this issue should not be overlooked. However, these types of national concerns are mitigated when planning is undertaken on a more localized level, such as the numerous forests in California that have been addressing OSV issues, where forest boundaries are combined in the LTBMU. Generally, snow scientists recognize that:

“New snow generally has the lowest densities with about 100 kg/m⁻³ and densities increase with aging snowpack due to metamorphism to about 350-400 kg/m⁻³ for dry old snow and up to 500 kg/m⁻³ for wet old snow.”⁸

The researchers investigating snow compaction in relation to developed ski areas have also addressed this issue and found that fallen/existing snow is subjected to additional snow load on top of the compacted snow densities continue to increase. Why is the ongoing sintering or metamorphosis process an issue for the downhill ski community? The industry is trying to resolve the problem of skiers catching an edge on a ski run, which at best provides for a lower quality skiing experience for users and can also result in serious injury or death to skiers if an edge is caught at the wrong time or locations or occurs under competition conditions. The conclusions of this long-term snow compaction research for developed ski areas are outlined as follows:

“Fresh fallen snow has a low density, <100 kg/m³. The snow is a mixture of solid snow crystals, liquid water and gaseous air. Over time it is compacted by wind. Snow crystals are sintered by daily temperature variations. The snow loses most of its gaseous and liquid content and,

⁷ See, Haeberli at pg. 38.

⁸ See, Haeberli et al at pg. 101.

because of this, snow densities rise to 100–500 kg/m³. After a long time, snow converts to firn (500–800 kg/m³) and, under the load of newer snow, it even transforms to ice (917 kg/m³).”⁹

Given that best available science clearly concludes that the impacts of natural processes, such as wind, sun and gravity, can compact snow to a density of 5 to 9 times what the density of uncompacted snow, the Organizations submit that such a factor MUST be addressed in any scientific research that might be identified as the basis for management changes. The failure to correct for these types of significant natural forces is concerning. The Organizations would also note that these natural factors of compaction have been accurately addressed in current snow depth requirements as there is no allegation of resource impacts being made in the Proposal despite OSV travel occurring on the ENF for almost 50 years. While there may not have been a complete understanding of this issue when management was originally developed, clearly the managers understood the issue and achieved proper management standards.

The scientific conclusions that the natural compaction of fallen snow results in snow density levels of 500-917 kg/m³ is significant for other reasons as well. These conclusions become more compelling when this density is compared to many other common road and construction materials as many land managers are far more familiar with the highly rigid behavior of these materials when forces are applied to them. By comparison, the average weight and density of common building materials for roads and skyscrapers hundreds of stories tall is as follows:

<u>Material</u>	<u>Density kg/cubic meter</u>
Compacted Snow	500-917
Asphalt ¹⁰	712
Cement	1,400
Lightweight Concrete ¹¹	1,700

The relationship of the density of compacted snow and asphalt cannot be overlooked as this comparison adds good context to the levels of protection from possible OSV impacts to resources that is provided by compacting snow. This information also provides scientific context and defensibility to explain why current

⁹ See, Mossner et al; *Measurement of mechanical Properties of snow for the simulation of skiing*; Journal of Glaciology, Vol 59, No 218 2013 at pg. 2013. See Also, Fauvre et al; *Optimal Preparation of Alpine Ski Runs*; Proceedings of the 2004 International Snow Science Workshop, Jackson Hole, Wyoming; University of Montana; 2004.

¹⁰ See, <https://theconstructor.org/building/density-construction-materials/13531/> for values of asphalt and cement

¹¹ See, <https://hypertextbook.com/facts/1999/KatrinaJones.shtml> for density of lightweight concrete

management is effective in protecting resources. While land managers are very familiar with the performance of asphalt roads in avoiding contact with resources that might be under that roadway often their experiences with snow are very limited. Given that the average road appears to receive 2-3 inches of asphalt with 4-6 inches of base under it to support motor vehicle traffic that commonly approaches 80,000 lbs. for a commercial motor vehicle on the asphalt for decades, even a minimal amount of compacted snow is sufficient to provide resource protection at levels very similar to asphalt when forces of an OSV are applied.

The relationship between the weight of compacted snow and asphalt cannot be overlooked in determining what is sufficient snow and what levels of resource protection are provided by snow from the time it falls to the times when it is fully compacted. Given that a snowmobile only applies .5 lbs. per inch on the snow, while natural processes result in pressures many hundreds of times that of an OSV clearly the significant factors identified above must be addressed in any research addressing additional impacts to compacted snow from OSV travel. Additionally, the similarity in weight of snow and asphalt gives rise to another question, mainly if resources can survive the hundreds of Kg of pressure on them that can result from a meter of snow being on them, why would the .5psi of pressure from an OSV be a concern? Often these resources are buried under several meters of compacted snow for extended periods of time and emerge from the burial in the spring without issue. Several meters of compacted snow can easily result in sustained pressures on any resource of tons of force for many months drawing concerns about snow compaction into further question.

While not as developed to the research and analysis levels referenced above, the Organizations believe the position of the downhill ski industry regarding the impacts of snow sintering or metamorphosis is also very important to this discussion as the downhill ski industry has developed extensive technologies to improve mechanical grooming of downhill ski runs to address the continued impacts of sintering after the initial grooming of ski runs.¹² These technologies are relevant to this discussion as downhill ski grooming and snowmobile trail grooming occur with the same pieces of equipment and there is no question that the sintering process continues after the grooming has completed. Asserting that sintering does not continue after grooming simply is not an option in the skiing or avalanche community, and the Organizations believe this compaction is equally relevant in the OSV world as a result of natural processes snow compacts into stronger and stronger layers and into layers that are far more compacted that could ever result from OSV traveling over

¹² For a representation of this technology please see https://www.prinoth.com/fileadmin/user_upload/pdf/prinoth_snowdepthmeasurement_EN_NA_01.pdf

the snow. The Organizations believe this compaction provides continued protection for resources even after the depth of snow from a storm has ended and has been compacted.

1c. Snow compaction has already been recognized as a natural process in best available science by the USFS.

As discussed above, there is a huge body of work now available that clearly identifies the impacts of natural processes such as gravitational, thermal and physical forces on snow over time and conclude that these factors can significantly improve the ability of the snow buffer between recreation and any resource to function. This type of protection is significant in allowing OSV usage on roads and trails with lower amounts of snow that is often the result of compaction. The Organizations would also note that the failure to address the natural forces resulting in snow compaction directly conflicts with best available science identified by land managers. The USFS, USFWS and BLM experts have concluded this by clearly stating as follows:

“Snow compaction in the Southern Rocky Mountain region is frequently a result of natural process and not recreational usage;”¹³

Given that the natural process causing the compaction of snow has already been recognized as best available science on what is a natural process occurring throughout the world, the Organizations must question how research can be identified as best available science on any issue involving snow depth without addressing this factor in some manner. The Organizations submit that best available science brings new information and understanding to allow managers to explain why current management of OSV travel on the ENF has been effective rather than providing the basis for change of this management.

1d. Snowmobiles apply only a small portion of the forces to the ground when compared to natural processes of snow compaction.

The Organizations are intimately aware that the behavior of snow and the snow buffer between resources and recreational activity will vary greatly throughout the country due to variations in snow density and rates of natural compaction. Uncompacted Rocky Mountains snow is VERY light and dry and compacts to a dense form of snow while snowfall in California or the Northeast often falls as dense, heavy wet snow and is very

¹³ See, Interagency Lynx Biology Team. 2013. *Canada lynx conservation assessment and strategy*. 3rd edition. USDA Forest Service, USDI Fish and Wildlife Service, USDI Bureau of Land Management, and USDI National Park Service. Forest Service Publication R1-13-19, Missoula, MT. at pg. 26.

similar to heavily compacted snow in other locations in the country. The variations in density over time and geographic location may impact the amount of snow necessary to adequately protect resources. This situation has provided a difficult question to land managers developing OSV plans, mainly what is sufficient snowfall for protection of resources?

While the specific answer to the question of minimum snowfall at a location necessary for resource protection does not appear to have been scientifically concluded at this time, there is a large body of high-quality research that has been developed by those researching snow characteristics in relation to avalanche activity. Some of these works have addressed the levels of force that snow applies to resources under the snow and have measured the transmission of physical forces through snow with high levels of specificity and detail in order to more fully understand how avalanches are triggered. While this information is not dispositive on minimum snowfall, many of the conclusions are highly valuable in understanding the effects of natural forces on snow and how recreational activities relate to these natural forces.

A compelling body of work has generally originated out of the University of Calgary and has been driven by Professor Bruce Jamieson who has researched the behavior of snow in the development and actions of avalanches for more than 2 decades in the Canadian Rockies. The Organizations would like to direct USFS to a series of three studies Mr. Jamieson conducted with Scott Thumlert and several others, published in the *Journal of Cold Regions Science and Technologies*, which for purposes of this document will be referred to as the “Jamieson/Thumlert” studies. Copies of each of these research documents have been included with this objection for your convenience as Exhibit “2”. The Jamieson/Thumlert studies were generally in light snow as the densities were 191 kg/m³, 203 kg/m³ and 219 kg/m³, respectively (averaged for the top 90 cm) and as a result are addressing snow densities that are simply unheard of on the ENF but in later stages of the research, the scope was expanded to include more compacted/multilayer snow in the research process. In this research, snowmobiles climbing a hill under full throttle and skiers were traversing down the same hill were measured and factors such as snow displacement were incorporated into the analysis. This research concluded:

“the static stresses applied to the surface of a mountain snow cover are similar for a typical skier (2.6 kPa, from 85 kg skier, 0.32 m² area) compared to a typical snowmobile (3.8 kPa, from 350 kg machine and rider, 0.9 m² area). The fact that the magnitude of stress added to the snow cover should be similar for skiers and snowmobiles was further evidenced in Fig. 5

which showed stress vs. effective depth. There is no substantial difference between the fitted curves for the skier and snowmobile data.”¹⁴

A variety of testing processes were used over the three years started with skiers simply skiing over the test areas and advancing to skiers falling onto the testing areas and snowmobiles simply traveling over the area to snowmobiles jumping onto the test area or climbing uphill in the test area to simulate worst case scenario conditions. Video available for their research process here.¹⁵ While the Jamieson/Thumlert studies provide ground breaking information into snowmobiles and skiers for application of force on snow, the scale or context of the work is difficult to understand for the creation of management decisions and the works are more targeted at how these forces are related to avalanche triggering rather than application of force on flat ground.

While the conclusions of the Jamieson/Thumlert series of works are valuable alone as it is precedent setting nature of the dynamic measurement of force on snow from OSV/skier travel, these works are complex and difficult to place in a context for comparison. Earlier works of Bruce Jamieson with Brown provide good context for comparison of the Jamieson/Thumlert conclusions, as these earlier works provide conclusions around generalized force from compacted snow on materials under the snow. This earlier research provides as follows:

“Figure 7 illustrates the response of weak layer shear strength to increasing overlying load due to continued snowfall. The weak layer deposited on 16 January had an initial shear strength of 195 Pa and strengthened over 9 days to 1532 Pa (Fig. 7a). **Overlying load increased by 196 Pa during the same interval. For the layer deposited on 21 February, Figure 7b shows shear strength and load increasing by 403 and 216 Pa, respectively over 5 days.**

For three separate time series measured shear strength is plotted against the overlying load (Fig. 8). At each observation snowfall had increased the load and strengthening in the weak layer was measured. **In all three cases strength is positively correlated with load (Fig. 8; Table**

¹⁴ See, Thumlert/Jamieson et al; *Measurements of localized dynamic loading in a mountain snow cover*; Journal of Cold Regions Science and Technology; Vol 85 ed 94-101; 2013 at pg. 99 emphasis added.

¹⁵ See, <https://vimeo.com/20563669>

2). The average loading rate and average strengthening rate varied for each time series resulting in different slopes of linear trend lines fit to the data.”¹⁶

The data set for the above conclusions is provided in the following charts:

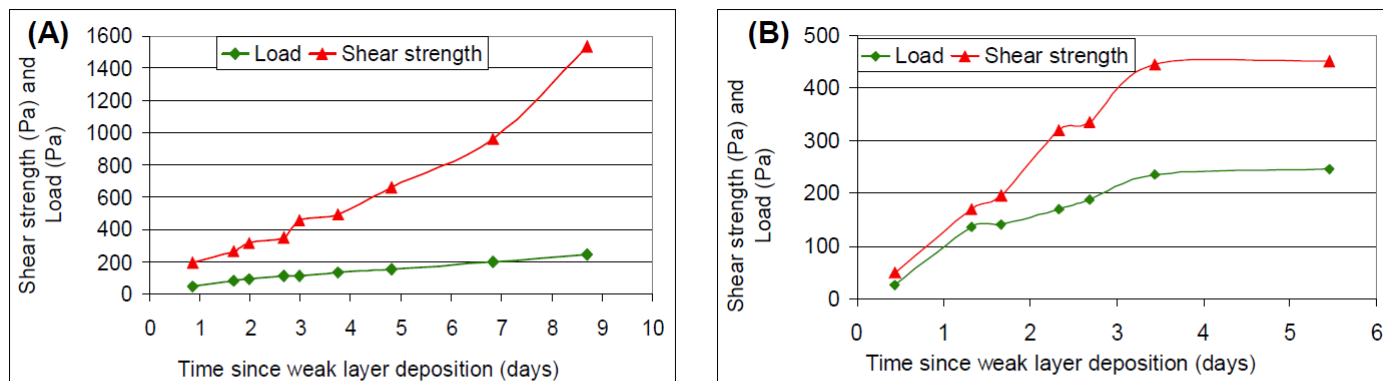


Figure 7. Time series graphs of weak layer shear strength and overlying load for two separate weak layers: (A) layer deposited on 16 January 2006 was 10 mm thick, consisting of stellar crystals (1-2 mm) and decomposing fragments (1-2 mm), and had an initial (measured) and final (estimated) density of 56 and 188 kg/m³ respectively, (B) layer deposited on 21 February 2006, with an initial and final measured density of 38 and 135 kg/m³ respectively, was 45 mm thick at time of deposition and consisted of stellar crystals (1-3 mm). Markers represent an average of 12 measurements made at each observation.

When the conclusions of the Jamieson/Thumlert works, mainly that skiers apply 2.6 kPa and snowmobiles apply on average 3.8kPa of force on the snow, is compared to the conclusions of the 2006 Brown/Jamieson research, mainly that natural snow compaction results in between 196 kPa and 216 kPa the conclusions are highly valuable and provide highly valuable conclusions in terms of scale of forces being applied. When the force of an OSV or skier through minimal amounts of snow is compared to the force of the snow on the ground, the conclusion is that the snow provides almost 50 times more force on the ground than an OSV. While this is not dispositive for management, the fact that natural resources commonly survive application of forces averaging 50 times more than an OSV applies through minimal amounts of snow is highly valuable. This information is being provided to allow for a more detailed analysis and understanding of why current management has been effective in resource protection and why lesser amounts of snow may be permitted in certain circumstances, such as use of OSVs on developed roads and trails.

Resolution objection Issue #1

¹⁶ See, Brown & Jamieson; *Evolving Shear Strength, stability and snowpack properties in storm snow*; Proceedings of the International Snow Sciences Workshop 2006 Telluride Colorado at pg. 15. (Emphasis added.) A complete copy of this research has been included with these Objection as Exhibit ""

Create sufficient snowfall depths that are consistent with adjacent forests and recognize that snow compacts naturally and this compaction results in greater resource protection than uncompacted snow.

Objection #2. Minimum elevations are simply not acceptable triggers for winter travel management.

Objection issue two addresses the use of elevational floors for the triggering of OSV decisions, as these triggers entirely lack scientific basis and will result in boundaries that make no sense on the ground and will be very difficult to educate users regarding. The Organizations object to any elevationally based triggers for OSV travel, such as the 4,000 ft minimum in preferred alternative of the Proposal. This standard is reflected in the FEIS as follows:

“Alternative 5 was developed in response to comments on the DEIS that identified high-value OSV opportunities, important non-motorized opportunities in areas that have been historically closed to OSV use, and areas generally at or above 4,000 feet in elevation that receive sufficient snow for OSV use.”¹⁷

The Organizations are unsure what management concern or resource protection issue is being resolved by this new standard and there is simply no discussion of why 4,000 ft was chosen instead of 3,500ft or 4,500ft. The imposition of such a standard would be a new and significant change in OSV management under the Proposal which do not reflect actual conditions and are entirely redundant for the protection of any resources when minimum snowfall standards that are proposed are applied. The Organizations are entirely unable to locate any basis for such a standard and are very concerned that such an arbitrary standard could result in numerous issues with the implementation and ongoing issues, both long and short term for land managers. These new standards would result in the unnecessary loss of valuable recreational opportunities.

The Organizations are also concerned that minimum usage floors would present significant difficulties in terms of enforcement and education of users, and as the Organizations have worked hard to partner with the USFS on educational materials. Implementation of elevationally based closures will create a significant cost in implementation will be borne by both the USFS, California OHV program and Organizational members. As a result, the Organizations are very concerned that educational resources be consistent and cost effective. The Organizations are very concerned this is an entirely new standard for triggering OSV usage on public lands and as a result there will need to be extensive education of users in a wide range of forms simply to create levels of notice to users of the standard. These materials would have to be rather broadly targeted, especially during

¹⁷ See, USDA Forest Service; *Eldorado NF; OSV designation FEIS*; October 2018 at pg. 15

implementation of the travel plan resulting in significantly increased costs. These educational materials would have to include signage at kiosks and parking areas, web-based materials, trail signage and other educational brochures that clearly identify this new standard and if it is applicable in particular areas. This signage would have to highlight this new standard, making most educational materials available entirely unusable as these materials have been explicitly created to maximize educational messaging with a minimal usage of space. Simply adding new messages to these materials would be difficult or impossible and possibly take years to develop after a thorough Forest Service document review process. The Organizations are sure that there will be recreational areas that are only partially open to OSV usage based entirely on this altitude requirement making any site-specific signage difficult if not impossible and exceptionally expensive.

The Organizations submit that elevational type triggers for winter travel management must be avoided as elevational requirements are difficult to enforce and dates are simply unrelated to actual conditions on the ground in terms of snowfall.

Remedy Objection #2: Develop OSV planning that is not based on elevational triggers for usage of the existing road and trail network.

Objection Issue 3a. Pacific Crest Trail Corridors violate the National Trails System Act.

Objection issue three addresses the corridors being implemented around the Pacific Crest Trail. The Organizations are objecting to the designation of any non-motorized exclusionary corridors around the PCT, even though Eldorado NF planners have provided crossing points of good size, as a corridor around the Pacific Crest Trail on the Eldorado NF is a direct violation of the National Trails System Act. The Organizations vigorously support the Lassen ROD recognition that visitation is very low and that the PCTA recommends against use of the trail in the winter time¹⁸, rendering the idea of a corridor valueless to non-motorized usage on the ground. While Eldorado planners have not identified these areas as corridors, the corridor concept is clearly applied as there are no open areas within 500ft of the PCT, and this determination clearly conflicts with federal Law, existing planning at the forest and regional level.

The Organizations vigorously object that throughout the ROD and FEIS the assertion is made that NTSA routes are closed to motorized usage based on the 1968 version of the National Trails System Act, without

¹⁸ See, USDA Forest Service, Lassen NF, Draft ROD March 2018 at pg. 7.

recognition that subsequent amendments to the NTSA directly conflict these standards and clearly apply multiple use requirements to the PCT and adjacent areas of the trail. Throughout the Proposal naked assertions are made that the PCT is closed to OSV under federal law as exemplified below:

“OSV use along the PCT is prohibited by the National System Trails System Act, P.L 90-543, Section 7(c).”¹⁹

- OSV use along the Pacific Crest Trail (PCT) is prohibited;²⁰

Th Organizations do not object to the fact that PL 90-543 did provide restrictions on usage of any NTSA route, but would point to the fact that PL 90-543 was basically repealed and replaced in 1983 by PL 98-11, which provided far greater detail regarding the multiple use nature of the NTSA designated routes and areas adjacent to these routes. Designation of corridors, conflicts with these amendments and planning for the management of the PCT at many levels. The Organizations are vigorously opposed to the possible loss of any open riding designations to create a corridor around a trail that is closed to motorized usage in an area that is otherwise an open riding area. While this section of the objection most directly addresses the Pacific Crest Trail, the Organizations believe these issues and principals are equally applicable to other trails identified in the Forest and Region.

The Organizations are aware that such a non-motorized corridor appears to comply with the mandates of the PCT Plan that was adopted in 1982. However, the PCT Plan is problematic as a planning tool as the 1982 PCT Plan heavily relied on the 1968 version of the NTSA for the standards in the PCT Plan. The 1982 PCT plan failed to recognize the impacts of the passage of the Federal Lands Policy and Management Act (FLPMA) of 1976, which clearly stated multiple usage of public lands was the standards to be managed too. While the passage of FLPMA in 1976 was significant, FLPMA never addressed the corridor concept in the NTSA until the NTSA was amended in 1983 to reconcile the NTSA corridor concept with FLPMA multiple use requirements. With this amendment Congress clearly and directly stated multiple use concepts were to govern lands adjacent to any NTSA designated trail. Why the PCT Plan was not amended to address these amendments is unclear.

As previously noted, implementation of the 1982 PCT Plan on many issues is problematic at best, as in 1983 Congress passed a significant amendment to the NTSA to address management of adjacent areas around the PCT and to return multiple use principals of FLPMA to NTSA management. The 1983 amendments to the NTSA

¹⁹ See, USDA Forest Service; *Eldorado NF, OSV Draft ROD* at pg. 3.

²⁰ See, *Eldorado NF, OSV Final Environmental Impact Statement* October 2018 at pg. 3.

removed the idea of managing adjacent lands to benefit the Congressionally designated trail and replaced this standard with the principal that the trail must be managed in conformity with multiple use designations created under FLPMA requirements and in such a manner to minimize conflicts and maximize values. Much of the comments and guidance around the NTSA amendments directly cite the PCT Plan as a partial reason for Congressional action, in addition to reconciling the conflict between the NTSA and FLPMA. The PCT Plan conflict with these statutory amendments was never resolved for reasons that remain unclear to the Organizations and as a result managers are now faced with a direct conflict between relevant management plans and federal law. Federal law simply must prevail on these issues and the relationship between the 1968 NTSA enactment, passage of FLPMA in 1976, adoption of the PCT plan in 1982 and the 1983 Congressional action reconciling the NTSA and FLPMA cannot be overlooked.

The Organizations must briefly address the management history of the Pacific Crest Trail, as the Organizations submit these principals are highly relevant to all non-motorized routes in multiple use areas. Management of the Pacific Crest Trail is generally governed by the 1983 NTSA amendments which specifically addresses multiple usage of areas adjacent to trails and how these multiple use mandates will relate to management of the Trail. The NTSA subsequent to the 1983 amendments provides in 16 USC §1246(A) as follows:

"in selecting the rights-of-way full consideration shall be given to minimizing the adverse effects upon the adjacent landowner or user and his operation. Development and management of each segment of the National Trails System shall be designed to harmonize with and complement any established multiple use plans for that specific area in order to insure continued maximum benefits from the land."²¹

These provisions Congress inserted with the 1983 amendments to the NTSA are exceptionally clear and prohibit the concept of a corridor around the PCT and remain in place as controlling federal law to this day. In several locations in the NTSA, proper recognition of multiple usage of any National Trail is specifically and clearly identified and motorized usages of the trail corridor were clearly identified as acceptable. The 1983 amendments to the NTSA in 16 USC 1246 (j) provide as follows:

"j)TYPES OF TRAIL USE ALLOWED. Potential trail uses allowed on designated components of the national trails system may include, but are not limited to, the following: bicycling, cross-country skiing, day hiking, equestrian activities, jogging or similar fitness activities, trail

²¹ See, 16 USC 1246 (a).

biking, overnight and long-distance backpacking, snowmobiling, and surface water and underwater activities. Vehicles which may be permitted on certain trails may include, but need not be limited to, motorcycles, bicycles, four-wheel drive or all-terrain off-road vehicles. In addition, trail access for handicapped individuals may be provided. The provisions of this subsection shall not supersede any other provisions of this chapter or other Federal laws, or any State or local laws."²²

It is significant to note that the 16 USC 1246(j) remains in this form and controlling federal law on usage of NTSA routes to this day. Congressional actions have consistently identified the desire to provide a multiple use experience on any route that is designated under the National Trails System Act. The management of NTSA corridors and routes has a long and sometime ambiguous management history when only legislation is reviewed but significant clarity in Congressional intent for management of routes and corridors is provided with the review of Congressional reports provided around passage of the NTSA. Multiple uses of corridors and trails was originally addressed in House Report 1631 ("HRep 1631") issued in conjunction with the passage of the NTSA in 1968. HRep 1631 provides detailed guidance regarding the intent of the Legislation, and options that Congress declined to implement in the Legislation when it was passed. HRep 1631 provides a clear statement of the intent of Congress regarding multiple usages with passage of NTSA, which is as follows:

"The aim of recreation trails is to satisfy a variety of recreation interests primarily at locations readily accessible to the population centers of the Nation."²³

The Organizations note that satisfaction of a variety of recreation interests on public lands simply is not achieved with the implementation of any width corridor around a usage or trail and relying on crossing points. Rather than providing satisfaction for all uses, implementation of mandatory corridors will result in unprecedented conflict between users and directly conflicts with the intent of Congress at the time the NTSA was passed. This intent has repeatedly been clarified with amendments to the NTSA since.

HRep 1631 clearly and unequivocally states Congress declined to apply mandatory management corridors of any width in the 1968 version of Legislation. HRep 1631 states:

²² See, 16 USC 1246 (j).

²³ See, HRep 1631 at pg. 3873.

“Finally, where a narrow corridor can provide the necessary continuity without seriously jeopardizing the overall character of the trail, the Secretary should give the economics of the situation due consideration, along with the aesthetic values, in order to reduce the acquisition costs involved.”²⁴

Congress also clearly identified that exclusionary corridors would significantly impair the ability of the agencies to implement the goals and objectives of the NTSA as follows:

“By prohibiting the Secretary from denying them the right to use motorized vehicles across lands which they agree to allow to be used for trail purposes, it is hoped that many privately owned, primitive roadways can be converted to trail use for the benefit of the general public.”²⁵

HRep 1631 clearly addresses the intent of Congress, and the extensive nature of internal Congressional discussions regarding implementation of the NTSA provisions for the benefit of all recreational activities as follows:

“however, they both attempted to deal with the problems arising from other needs along the trails. Rather than limiting such use of the scenic trails to "reasonable crossings", as provided by the Senate language, the conference committee adopted the House amendment which authorizes the appropriate Secretaries to promulgate reasonable regulations to govern the use of motorized vehicles on or across the national scenic trails under specified conditions.”²⁶

Implementation of corridors is deeply concerning given the fact that if Congress has specifically looked at a management tool and specifically declined its application. This type of direct material conflict is not mitigated with the passage of time especially when the clearly stated intent of Congress was to satisfy a variety of recreational interests with the passage of the NTSA. The Organizations vigorously assert that only those interests protected by the corridor would be satisfied with a corridor, and this must be avoided.

²⁴ See, HRep 1631 at pg. 3861.

²⁵ See, HRep 1631 at pg. 3859.

²⁶ See, HRep 1631 at pg. 3873.

Subsequent to the passage of the NTSA in 1968, Congress further refined and clarified the management practices for public lands with the passage of Federal Land and Policy Management Act (“FLPMA”) of 1976. While FLPMA did not specifically address the relationship of its provisions with the NTSA, FLPMA altered the entire landscape of federal lands management and the implementation of multiple use mandates for the agencies. Subsequent to the adoption of FLPMA, the NTSA was amended in 1983 to clarify that FLPMA and multiple use principals controlled the management of not only the footprint of NTSA routes but also the corridors around those routes with the passage of Public Law 98-11. The relationship between the passage of PL 98-11 in 1983 further clarifying Congressional desires that the NTSA was to benefit a wide range of interests and the adoption of the 1982 Pacific Crest Trail plan by the USFS cannot be overlooked. The 1982 PCT plan moved forward with the concept of corridors and crossing points, which Congress had specifically stated were not acceptable concepts for management of NTSA previously and were overruled by Congressional action less than one year later. The response of Congress was the 1983 NTSA amendments which are the single largest and most relevant legislative actions to the concept of management corridors around NTSA routes.

The Organizations are aware that the wide-ranging history of the PCT and NTSA puts land managers in the horribly awkward position of implementing forest level management that on its face directly conflicts with a regional management plan. The Organizations believe some level of comfort in these decisions can be achieved by reviewing what other NTSA trail plans have done subsequent to the adoption of the 1983 NTSA amendment. It is significant to note that Continental Divide Trail plan has adopted a blanket recognition of relevant travel management of areas around the CDT in its management plan. The 2009 CDT Plan provisions are as follows:

"Motor vehicle use by the general public is prohibited on the CDNST, unless that use is consistent with the applicable land management plan and..... (5) Is designated in accordance with 36 CFR Part 212, Subpart B, on National Forest System lands or is allowed on public lands and:

- (a) The vehicle class and width were allowed on that segment of the CDNST prior to November 10, 1978, and the use will not substantially interfere with the nature and purposes of the CDNST or
- (b) That segment of the CDNST was constructed as a road prior to November 10, 1978; or

(6) In the case of over-snow vehicles, is allowed in accordance with 36 CFR Part 212, Subpart C, on National Forest System lands or is allowed on public lands and the use will not substantially interfere with the nature and purposes of the CDNST."²⁷

The Organizations believe that adopting this type of a standard in the Eldorado winter travel management plan represents a viable solution to management of this issue, even if it does not entirely resolve this conflict. The Organizations must clearly and vigorously state that any proposed exclusionary corridor around the PCT on the Eldorado, in name or function, would be a direct violation of the NTSA provisions mandating management of the trail area be in harmony with adjacent multiple uses of federal lands.

3b. Conflict between Pacific Crest Trail plan and NTSA amendments.

As noted in previous sections of this document, Congress has had the opportunity to utilize the concept of a corridor for NTSA routes and specifically chose not to adopt such a concept. Rather than adopting the crossing point concept, Congress amended the NTSA less than one year after the PCT Plan was adopted, and clearly moved away from the corridor concept with higher levels of clarity. The Organizations do not believe any credible argument can be made that implementing the limited number of OSV crossing points will not interfere with maximizing multiple use management of public lands adjacent to the PCT. It is the Organizations position that a large number of crossing points would be highly valuable to the administration of public lands adjacent to the PCT and does not significantly interfere with those utilizing the Pacific Crest Trail in multiple use management areas. The Organizations further submit that attempting to significantly restriction the number of crossing points already on the trail will be functionally impossible on the ground, as the assumption must be made that by designation of crossing points will result in a long slender closure area around the PCT for OSV travel. The Organizations submit that such a closure would be difficult to sign and enforce on the ground, and almost no public support for that management, and is exactly the management situation that was sought to be avoided in the federal laws governing national trails. The crossing point concept reduces these challenges when it is implemented without corridors.

The PCT plan does address the concept of a crossing point, and the Organizations submit these principals are highly relevant to all non-motorized routes in multiple use areas. The Organizations are aware of the basis for principal of a crossing point for snowmobiles on the PCT originates in the Pacific Crest Trail Management Plan

²⁷ See, USFS, *Continental Divide National Scenic Trail Comprehensive Plan 2009* at pg. 19.

("PCT Plan"). The PCT Plan specifically addresses the recommended manner for identification and management of points where multiple usage crosses the PCT as follows:

"Winter sports brochures should indicate designated snowmobile crossings on the Pacific Crest Trail where it is signed and marked for winter use."²⁸

The PCT Plan does recommend crossing points for snowmobiles, which is significant in two regards as it: 1. Directly contravenes the concept of a non-motorized corridor completely surrounding the PCT; and 2. This concept provides an option for the Forest in resolving the conflict between the PCT plan and NTSA amendments subsequent to the PCT Plan adoption by identifying crossing points without designation of exclusionary corridors to facilitate multiple use planning in place.

The second option presented is based on the fact that the concept of a motorized crossing point is not defined in the PCT. As the concept of a crossing point remains to be defined, managers could define a crossing point on a large scale in open winter riding areas, rather than a crossing point of feet a crossing point could be miles in width. Managers immediately drawn to a narrowly defined concept of a crossing point but this concept is not required by the PCT Plan. A crossing points several miles in length and corresponding with open riding area boundaries around the PCT, would not contradict the PCT and would also avoid conflict with the NTSA amendments. The Organizations are aware this Alternative is unusual but are submitting this idea in the hope of identifying a cost effective and legal resolution of the issues now being provided to managers to resolve.

The Organizations submit that amendment of the PCT plan as part of the OSV plan would resolve this issue and education of users regarding this change could be easily done with trail signage at PCT trailheads. While such education might be time consuming and costly these burdens are significantly less than signing and educating the public regarding a possible corridor around the entire trail. The Organizations are aware that even with this type of amendment, education of users remains a critical component of management. Trailhead posting would function in a manner that users would be familiar with as many municipalities rely on this management structure for implementation of local speed limits, which are only posted at municipal boundaries. The Organizations submit that such a management plan would be far easier to implement as there are a limited number of users of the PCT in the winter and such a posting could be at identified points where the PCT enters and exits open riding areas. The Organizations submit that this standard makes far more

²⁸ See, USDA Forest Service; *Comprehensive Management Plan for the Pacific Crest National Scenic Trail*; January 1982 at pg 21.

sense in the long run that trying to close a narrow corridor around the PCT to OSV travel and then manage crossing points. Simply posting these corridor type closures would entail thousands of signs and a significant amount of resources for ongoing enforcement efforts and would be VERY difficult to educate users regarding.

3c. Cost benefit analysis must be a component of management of the PCT due to the exceptionally low levels of visitation to the entire trail.

The Organizations are aware of the management challenges and issues that are presented with the closure of a particular trail corridor to OSV usage in a landscape area that is otherwise subject to an open riding area designation for OSV usage. Simply signing and educating the public about such a restriction would be exceptionally difficult and costly and could not be justified on a cost/benefit basis due to the low levels of visitation to many of these areas by non-motorized users.

The Organizations concerns regarding the cost/benefit of the two alternatives for management of the PCT in open motorized areas are not abstract but are based on a consistent concern of both the Executive Branch and Supreme Court and are further compounded by the fact that the Pacific Crest Trail Association recommends that the public not use the PCT in the winter due to safety concerns. The review of the costs of a project and associated benefits of that project has been a consistent point of emphasis for President Obama, with EO 13563 of 2011 and President Trump under EO 13771 of 2017. Additionally, the US Supreme Court has clearly identified the cost/benefit analysis as a major component of the administrative management process. The Supreme Court clearly states this as follows:

“in an age of limited resources available to deal with grave environmental problems, where too much wasteful expenditure devoted to one problem may well mean considerably fewer resources available to deal effectively with other (perhaps more serious) problems.”²⁹

When the application of cost/benefit analysis principals are applied to the implementation of a corridor around the Pacific Crest, the analysis of the idea becomes problematic due to the low levels of visitation of the PCT at the landscape levels. The Pacific Crest Trail Association provides a detailed annual review of the visitation of the PCT and this visitation encompasses only about 100 visitors to the entire PCT³⁰ and recommend that the public not use the trail in the winter. The Organizations are aware that certain portions

²⁹ See, *Entergy Corp v. Riverkeepers Inc. et al*; 556 US 208; 475 F.3d 83 (2009); Opinion of Justice Breyer at pg 4.

³⁰ See, <https://www.pcta.org/discover-the-trail/thru-hiking-long-distance-hiking/2600-miler-list/>

of the PCT are visited at high levels, but this visitation should not be allowed to influence multiple usage on other areas of the PCT where visitation is low. Any site-specific challenges due to higher levels of visitation are addressed in existing planning with the concept of a crossing point. These low levels of visitation make cost benefit balancing difficult in lower visitation areas and time of year.

Education of users regarding any corridor around the PCT will be a major and probably ongoing expense of the corridor, especially in the winter. Simple signage at trail heads may work for summer usage but Winter travel restrictions will require site specific signage and then ongoing maintenance to insure visible. Often landmarks that provide quality navigation guides, such as streams, are rendered useless in the winter. Rather than seeing a clearly defined boundary of the creek, users will simply see a larger play area as the boundary is obscured by snow, forcing managers to supplement the boundary with boundary specific signage. Signage of this nature has been found to difficult to maintain when used in Wilderness areas, as with every storm the signs often quickly get buried with snowfall. Additionally, the cost benefit of any winter corridor is further brought into question by the fact that the PCT is recommended to not be used in the winter time due to significant safety concerns in many areas. Again, this weighs against any corridor designations in OSV planning, as the exceptionally low levels of travel in the summer become functionally non-existent in the winter time.

Remedy Objection Issue 3: Manage PCT and adjacent lands in conformity with RMP and existing multiple use requirements.

4. Conclusion.

The Organizations support the fact that most current management standards, such as mileages of groomed routes and existing area boundaries, are generally carried forward. The Organizations believe that the revised version of the preferred Alternative reflects the extensive analysis of OSV travel that has been undertaken previously and that current management is effective. While the Organizations support a large portion of the revised alternative, the Organizations are VIGOROUSLY opposed to the designation of any corridor around the Pacific Crest Trail as such a corridor would be a direct violation of the National Trails System Act, and result in management decisions that would be exceptionally difficult to educate the public regarding, even more costly to sign and maintain and would clearly create significant user conflict for the benefit of a very small portion of the winter recreational community.

This objection is submitted seeking a return to the deciding officer to correct the draft ROD and final EIS to:

- 1: Develop standards that are consistent with adjacent forests and recognize that snow compaction is a natural process that increases resource protection;
2. Develop analysis of OSV issues that don't apply arbitrary triggers for OSV management such as elevational floors; and
3. Develop PCT management standards for the PCT and adjacent lands in conformity with RMP and existing multiple use requirements found in federal law.

If you have questions please feel free to contact either Fred Wiley, ORBA's Executive Director/CNSA Past President at 1701 Westwind Drive #108, Bakersfield, CA. Mr. Wiley phone is 661-323-1464 and his email is fwiley@orba.biz. You may also contact Scott Jones, Esq. at 508 Ashford Drive, Longmont, CO 80504. His phone is (518)281-5810 and his email is scott.jones46@yahoo.com.

Respectfully Submitted,



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Enclosures