



January 25, 2021

Manti LaSal National Forest
Att: Supervisor's Office
599 West Price River Drive
Price UT 84501

RE: Forest Plan Revision

Dear Supervisor Nehl:

The above Organizations are submitting these comments to the Manti La Sal in response to the recent pre-NEPA public review process that has been made available ("the Proposal"). The Organizations are seeking to provide general information on a wide range of issues we have encountered in planning efforts on other Forests throughout the Country and address some of our more specific concerns around the limited information provided to date on the Manti LaSal including:

1. The desire for a simple forest plan;
2. The need for a reasonably complete version of the RMP and supporting documents for public review before the NEPA process is started;
3. Need for better public engagement in the planning effort moving forward;
4. Major concerns around roadless area designations; and
4. Extensive scientific information around the behavior of snow under a variety of conditions.

Prior to providing initial thoughts and concepts on the development of the RMP, we believe a brief summary of each Organization is needed. The Trail Preservation Alliance ("TPA") is a 100 percent volunteer organization whose intention is to be a viable partner, working with the United States Forest Service (USFS) and the Bureau of Land Management (BLM) to preserve the sport of trail riding. The TPA acts as an advocate of the sport and takes the necessary action to ensure

that the USFS and BLM allocate to trail riding a fair and equitable percentage of access to public lands. The Colorado Off-Highway Vehicle Coalition ("COHVCO") is a grassroots advocacy organization the 150,000 registered OHV users in Colorado seeking to represent, assist, educate, and empower all OHV recreationists in the protection and promotion of off-highway motorized recreation throughout Colorado. COHVCO is an environmental organization that advocates and promotes the responsible use and conservation of our public lands and natural resources to preserve their aesthetic and recreational qualities for future generations. Colorado Snowmobile Association ("CSA") was founded in 1970 to unite winter motorized recreationists across the state to enjoy their passion. CSA advocates for the 30,000 registered snowmobiles in the State of Colorado. CSA has become the voice of organized snowmobiling seeking to advance, promote and preserve the sport of snowmobiling by working with Federal and state land management agencies and local, state and federal legislators. For purposes of this document CSA, COHVCO and TPA are identified as "the Organizations".

The snow-based information has been developed as a result of our involvement in the development of numerous Resource Management Plans ("RMP") throughout the western United States and our more than decade of involvement in the litigation and subsequent settlement efforts around the California OSV grooming program across 5 forests in Region 5. Our desire is to provide high quality information for decision making early in the process in the hope of avoiding many of the pitfalls we have encountered in the California winter travel planning efforts. This information is also provided as the Manti LaSal NF has provided exceptional winter recreational opportunities for the public for decades without a large amount of controversy. These opportunities have drawn users from Colorado, Utah, Wyoming and numerous other states and Canadian provinces.

The Organizations are submitting these comments to supplement the input of local clubs and to assist the planners in developing a high-quality science-based management plan that continues to provide recreational opportunities in a high-quality manner. The Organizations submit that

these opportunities will only become more valuable with the passage of time given the growing population of communities in and around the Manti-LaSal NF.

1. Simplicity of the forest management plan will build public support and result in a plan that remains relevant and guides subsequent planning efforts.

The Organizations are supportive of the USFS national efforts seeking a significant reduction in the overall size of RMP and reduction in the number of management categories in RMPs generally. This is an important step towards building public support and understanding for both the Plan, its management direction and scope of management efforts in the future. The large number of planning categories is a barrier to public understanding of any planning efforts as most of the public do not have the time and resources to undertake even a basic review of the categories and how they are related to various aspects of any site-specific plan or concern they may have. If the public is able to understand a plan, they can support it. If an RMP is too large or complex, the public will oppose the plan, regardless of how effective the Plan may be or how the Plan supports or addresses any concern of that member of the public.

When any site specific has been undertaken under the current RMP, too often the public has simply been overwhelmed by the number of categories that are applied in the current RMP. This should be avoided in the future. Often simple projects being undertaken in site specific planning, involve a large number of management categories in the planning area and each of these planning categories must be addressed in any site-specific efforts to ensure that the project conforms to each of these management standards. This is simply time consuming and expensive. A significant reduction in the number of management categories will streamline future site-specific planning efforts and allow managers to address issues with what has consistently become a growingly smaller amount of resources.

1b. Overly specific plans result in significant additional costs over the life of the RMP and often result in standards that are a barrier to the forest addressing challenges on the ground.

The Organizations have also experienced the unintended consequences of an aging and overly specific forest plan when undertaking site specific planning towards the end of the RMPs lifespan. Any subsequent site-specific planning ends up being very long and complex in order to address the numerous standards in the plan. This challenge is further compounded by the fact that often the basis and understanding for a particular standard are lost with the passage of time.

As a result, those undertaking site specific planning with an aging RMP are forced to develop overly specific analysis in their document as they are unable to understand the basis or concerns that a standard was to address. As a result, planners often end up analyzing every possible alternative or theory for a standard rather than being able to address relevant standards and avoid addressing standards that are unrelated to a particular project or issue.

In addition to merely requiring more paperwork, any overly specific standards on issues that really are not suitable for inclusion in landscape level planning have placed a significant strain on the budgets of land managers, which have significantly constricted since the 1990's. The Organizations do not anticipate a significant change in this long-term funding trend for planning efforts and as a result future manager will be forced to undertake similar levels of management with lower levels of funding that ever before. While the GAOA has provided exceptional new funding resources for the USFS, especially after this money has been structured to run concurrently with existing capital money and FLAP programs, much of this funding is not available for planning efforts. While this is unfortunate, there is simply no basis to believe this will alter over the life of the next RMP. A streamlined and efficient planning document would ease this burden and allow limited resources to be directed to on the ground issues.

1c. Recent Dept. of Interior national guidance on significant reductions in the size of EIS is highly timely relative to Manti LaSal NF efforts.

The Bureau of Land Management has been vigorously addressing the unnecessary scope and burden of planning documents on the limited resources of land managers, and this new guidance from the BLM is highly relevant to USFS efforts on the Manti LaSal NF. Under new BLM guidance the Manti LaSal effort has resulted documents that are unacceptably long. On August 31, 2017, Secretarial Order 3355¹ was issued by the DOI mandating that all EIS are limited to 150 pages and that a variance from this standard would only be granted in exceptional circumstances. While the Manti-LaSal NF planners are not bound by this DOI Order, the factual importance and basic relevance simply cannot be overstated, and clearly the current Proposal would have to be reduced even further from its current streamlined form to become compliant with this guidance.

¹ A copy of Secretarial Order 3355 has been included with these comments for your reference as Exhibit "1".

2a. Three challenges should be identified in the Proposal and then any standards in the Proposal reviewed to insure they are not impeding management of these issues.

An important component of landscape level planning is the fact that the RMP should provide general guidance on goals for the forest and challenges in achieving these goals in order to streamline subsequent site-specific planning on the forest in the most efficient manner possible. The Organizations submit that DOI Secretarial Order 3355 provides a good basis to review the current Proposal in order to obtain further clarity and streamlining in RMP provisions, as the document clearly identifies that the DOI seeks to have any EIS limited to 150 pages in length.

The Organizations would note that some forests revising their Resource Management Plans have taken the step of identifying three major challenges for the forest moving forward, which is exemplified by the Rio Grande Efforts in Colorado. The Organizations believe identifying three major goals for the forest moving forward is an important step, and that these general goals must be clearly identified in the RMP. The Organizations are concerned that if the goals and objectives of the forest plan are not clearly identified, these concerns will be lost over time which could lead to planning that may seek to address other goals in the future. As these are landscape level goals for the Forest, the Organizations do not see this landscape level guidance as a barrier to future planning but rather as providing an important tool for the guidance of these plans. The Organizations would encourage planners to insert these goals into the RMP with some specificity in order to provide some context and understanding of these goals for future managers on any forest.

The Organizations would encourage planners to take an additional step and identify three major challenges the forest sees in obtaining these goals and then reviewing any specific standards or guidance in the RMP to ensure that the particular standard is working towards minimizing the challenges. The Organizations submit that identifying a limited number of landscape level challenges facing the Forest will serve as an important guide for the development of the RMP and any subsequent localized projects. Identifying these challenges will provide clear and easily reviewable guidance for subsequent projects on the Forest and avoid creation of site-specific

projects that would contradict the forest level guidance on issues. This will also ensure that all actions being undertaken in site specific planning are working towards these forest level objectives and avoids the artificial elevation of issues in local planning. By ensuring these challenges are addressed in all planning efforts subsequently, the limited resources that are available to land managers will be directed in the most effective manner in addressing these challenges and actually achieving the goals of the plan.

The Organizations believe that the following challenges reflect the major challenges the forest is facing, and are already reflecting in the supporting documents that have been provided to the public:

1. Poor forest health/large number of dead trees on the Manti LaSal NF overall;
2. Declining federal budgets will continue to decline and result in the need for stronger partners; and
3. Increasing recreational demands being placed on forest resources due to a rapidly increasing State populations.

3a. Site specific concerns and input should be guiding the development of the RMP

The Organizations are aware there has been a longer than normal public engagement process around the development of this proposal often due to reasons beyond the Manti LaSal control. Many of our local partners have provided input on a wide range of site specific and minimal improvements they would like to see considered in the RMP management process. One partner specifically outlined important trail connections they would like to see on the Manti as follows:

“RwR didn't notify its members of this open house until the day of the event, just as we did on the day of the USFS's Moab open house in July of 2017, when over twenty-five motorcyclists attended in support of RwR's proposal for a motorized singletrack to connect Moab with the OHV trails on state land around Upper Two mile Canyon (which we refer to as the Brumley-Two mile Motorcycle Loop). We hope this turnout constructively conveys the local demand for motorized singletrack in the Moab District.

To that end, we hope that the Forest Plan will call for more than updating the MVUM annually. We request that it recognize the complete lack of motorized singletrack in the Moab District, and nearly so regarding ATV trail as well. We seek

trail that is (a) primitive, (b) challenging, (c) flowing, (d) located in a forested setting of at least 8,000' in elevation, and (e) connective with existing trails to provide consistent loops that avoid improved roads.

The Forest Plan could explicitly set out to consider developing a Brumley-Two-mile Motorcycle Loop with assistance from RWR, segments of which would benefit mountain biking (such as around Geyser Pass) and ATV riding (such as around Brumley Canyon). See our 2017-07-20 comments for the map of proposed routes, rationale of their location, and highlights of 18 benefits. Alternatively, the Forest Plan could set out to initiate a Moab Motorized Trail Plan in the same way that USFS developed a Moab Non-Motorized Trail Plan in 2011.”

The Organizations vigorously support these requests and believe this is important input that warrants discussion in the development of the Proposal. These comments also highlight many of the shortfalls that have been encountered in the pre-NEPA public draft for the Plan.

3b. Public engagement process to date on the partial draft RMP must start with a reasonably complete version of the assessments and draft for the public.

The Organizations have participated in numerous forest plan revisions throughout the country since the issuance of the 2012 Forest Service planning rule and believe the assessment process is generally working when these reports are provided. We have also welcomed some of the unique interpretations and applications of the new flexibility for forests that is provided under the planning Rule, such as the release of a reasonably complete full draft of the revised forest plan and assessment by the GMUG NF in 2019. This pre-NEPA public review was a welcome interpretation of the new planning rule as it opened discussion on specific issues with the public before the formal constraints of the NEPA process were triggered.

While we have vigorously supported these new and unique interpretations of the 2012 Planning Rule, one of the cornerstones of these interpretations that has consistently been that the public engagement starts with a reasonably complete version of the assessments and draft RMP. Recreational usage is specifically identified as an issue to be addressed in the assessments created in the planning process under §219.6(8&9). For reasons that remain unclear, the

recreational assessment for the Manti/LaSal has not been provided at this time, despite the Plan Revision clearly identifying that recreational management was one of the goals and objectives of the process as follows:

“Recreation management

- There is a need for plan direction to guide the management of new and emerging technologies that may affect recreation opportunities and build enough flexibility in the Forest Plan that new technologies can be addressed.
- There is a need to account for increased recreation across the forest in both motorized and nonmotorized forms of recreation.
- There is a need to be responsive to changing trends in services, activities, and types of facilities desired by the public but to balance those with fiscal reality and impacts on natural resources.

Access and transportation infrastructure

- There is a need for new approaches for managing roads and trails, given the reality of limited maintenance funds, combined with the public’s desire for access to the forest.”²

The Organizations are unable to reconcile these two positions. While we appreciate the Recreational Workshop that was provided on October 22, 2020 provided via an electronic meeting platform, it is not a replacement for the detailed assessment of the Forest and analysis that has been done to date and why management changes are being undertaken.

Without this document, we are unsure how to meaningfully comment on recreational issues, such as increased visitation and need to expand recreational opportunities on the Manti/LaSal that is clearly identified in the draft RMP. While we are more than familiar with the fact that specific projects are not moved forward in the RMP process, we are also intimately familiar with the fact that an RMP designation can serve a major barrier to specific proposals. An example of this would be a specific motorized trail or development of the area would certainly be prohibited if the area was designated as a recommended wilderness area in an RMP.

3c. Assessments are critically important when there are significant conflicts with assertions in workshop with existing information on Forest usage.

² See, USDA Forest Service; *Recreation Management Workshop*; Initially provided on Oct 22, 2020 at minute 25:40

In the normal planning process under the new planning rule, the development of written assessment on a variety of issues are necessary, early in the development of the draft forest plan revision. From our perspective, the assessments provide important information generally and also provide significant insights into the reasons decisions or standards are being proposed. This type of basic information is important for the public to develop meaningful public comment. The need for the assessments around recreation is immediately apparent in the Manti-LaSal effort when the recreation workshop presentation is addressed. This is exemplified by the following discussion in the recreation workshop, where USFS staff makes a blanket assertion that there was a need to balance motorized and non-motorized usages on the forest, when compared to the development of the 1986 plan.

The basis for these types of assertions must be addressed in the assessment process, especially since the basic validity of such a position is in direct conflict with information on usages of the Manti-LaSal NF. While we are aware the National Visitor Use Monitoring program is somewhat less than perfect due to the small sampling undertaken, this is also best available information on the usage of the Forest. Any concern around the small sampling in the NVUM data is further mitigated by the overwhelming nature of the conclusions that are provided in the conclusions. The NVUM data shows the overwhelming nature of the motorized usages on the forest, which is outlined in the NVUM report as follows:

Special Facility Use

Table 14. Percent of National Forest Visits* Indicating Use of Special Facilities or Areas

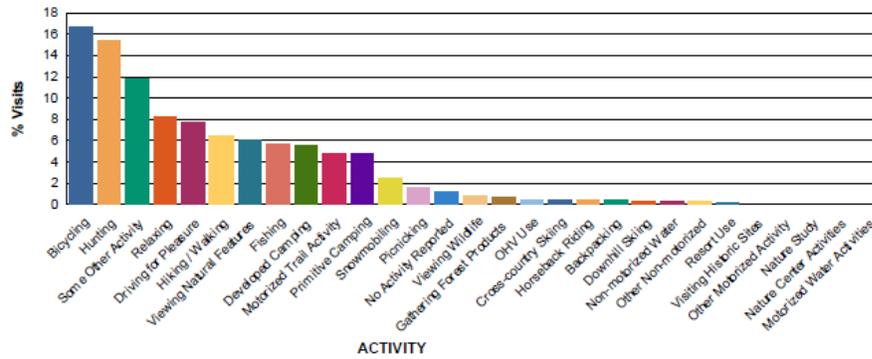
Special Facility or Area	% of National Forest Visits†
Developed Swimming Site	1.6
Scenic Byway	40.8
Visitor Center or Museum	2.3
Designated ORV Area	26.8
Forest Roads	27.3
Interpretive Displays	4.0
Information Sites	4.4
Developed Fishing Site	7.3
Motorized Single Track Trails	12.7
Motorized Dual Track Trails	25.9
None of these Facilities	31.0

The most recent National Visitor Use Monitoring report provides a further break down into usages as follows:

Table 13. Activity Participation

Activity	% Participation*	% Main Activity‡	Avg Hours Doing Main Activity
Viewing Natural Features	47.3	6.0	2.6
Relaxing	46.2	8.2	17.4
Hiking / Walking	43.5	6.4	3.5
Driving for Pleasure	39.4	7.7	4.1
Viewing Wildlife	30.2	0.8	5.3
Motorized Trail Activity	20.3	4.8	6.2
Bicycling	18.1	16.6	3.0
OHV Use	18.0	0.4	4.8
Primitive Camping	17.9	4.8	39.0
Developed Camping	17.5	5.5	45.2
Hunting	16.6	15.3	17.3
Some Other Activity	13.9	11.8	19.3
Fishing	13.6	5.5	7.1
Picnicking	7.5	1.5	14.0
Snowmobiling	2.7	2.5	4.9
Gathering Forest Products	2.5	0.6	3.0
Nature Study	2.3	0.0	0.0
Horseback Riding	1.4	0.3	5.0
Backpacking	1.4	0.3	4.0
Other Non-motorized	1.4	0.2	3.0
Visiting Historic Sites	1.2	0.0	0.0
Resort Use	1.0	0.1	51.0
Nature Center Activities	0.6	0.0	0.0
Non-motorized Water	0.5	0.2	5.0
Downhill Skiing	0.4	0.2	2.0
Cross-country Skiing	0.4	0.3	4.0
Other Motorized Activity	0.3	0.0	0.0
No Activity Reported	0.1	1.3	
Motorized Water Activities	0.1	0.0	0.0

% Main Activity



The Organizations would be remiss in not pointing out that the NVUM data developed by the USFS in no way supports an assertion that there need to be better balance of interests between

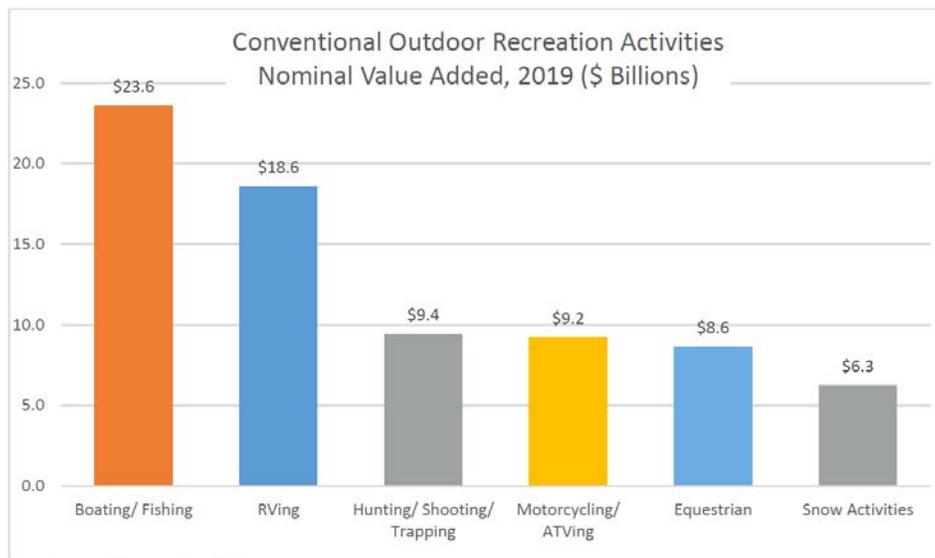
³ See, USDA Forest Service; 2016 NVUM master report for Manti-LaSal NF; last updated October 28, 2020 at pg. 21. Full report available here: [2016 A04010 Master Report.pdf \(usda.gov\)](https://www.usda.gov/forestservice/nvum/2016-A04010-Master-Report.pdf)

⁴ See, USDA Forest Service; 2016 NVUM master report for Manti-LaSal NF; last updated October 28, 2020 at pg. 20.

motorized and non-motorized usage as the NVUM data clearly identifies the overwhelmingly motorized recreational usages on the Forest as the top five usages on the forests are directly related to motorized access. As a result, we must object to the allocation of resources that is proposed under the ROS process, as this is in no way supported by best available data that is available.

3d. The economic impact of recreational activities must be accounted for in the Proposal.

Dept of Commerce recently concluded that all recreational activity accounted for more than \$6.3 billion in economic impact and more than 83,000 jobs in the State of Utah.⁵ While the Department of commerce has not driven these results to the state level yet to identify values added by comparative uses, the Department has provided an allocation of revenues at the national level, which overwhelmingly identified motorized usages as the top 5 economic drivers in the recreational community. The Department represents this as follows:



U.S. Bureau of Economic Analysis

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While the Organizations are aware that national numbers can sometimes be problematic in applying to site specific or regional efforts, the Organizations also are aware these numbers are so overwhelmingly motorized in nature that they are highly relevant to allocations of lands in the Proposal.

⁵ See, US Department of Commerce; Bureau of Economic Analysis; *State level reports; Table 1 2020* -full report available [Outdoor Recreation | U.S. Bureau of Economic Analysis \(BEA\)](#)

⁶ See, US Department of Commerce; Bureau of Economic Analysis; *Full release and tables; 2020* at pg. 4. Full versions of this report available here. [Outdoor Recreation | U.S. Bureau of Economic Analysis \(BEA\)](#)

3e. The Recreational Opportunity Spectrum is an inventory tool not a management decision.

As the Organizations have noted throughout these comments, there are many factors that must be weighted in the development of a multiple use forest plan. The need for a somewhat detailed discussion of how decisions are being made is again exhibited in response to comments made in the workshop around the use of the Recreational Opportunity spectrum to balance the usages on the Forest. Managers asserted that uses must be balanced to reflect two usages on the forest in a very generalized manner to comply with a desired ROS allocation.

Forest Service regulations on the use of the Recreational Opportunity spectrum in the management process clearly identifies the ROS as an inventory tool to be used to inform the decision-making process. These regulations provide as follows:

“1. The Recreation Opportunity Spectrum (ROS) must be used to:

a. Map and convey the existing condition of recreation settings, opportunities, and predicted experiences and other associated benefits across the plan area. (Reference, FSH 1909.12, sec. 23.23a, ex. 01; sec. 23.23a 1d and 2a). The characteristics of each ROS setting (class) are displayed in exhibit 01.

(1) Use the latest National ROS inventory protocols to map existing ROS classes for summer, and where relevant, winter settings:
http://fsweb.datamgt.fs.fed.us/current_data_dictionary/index.shtml.

(2) Review decisions from Subpart B (for example, Motor Vehicle Use Maps) and Subpart C (for example, Over-Snow Vehicle Use Maps) of the Travel Management Rule to inform existing summer and winter ROS settings. (FSH 1909.12, sec. 23.23l, 2 and 23.23l, 3a & c)

b. Map and convey desired recreation settings and opportunities. Desired ROS classes must be:

(1) Derived using an interdisciplinary process;

(2) Informed by Subpart A of the Travel Management Rule. (FSH 1909.12, sec. 23.23l, 2 and 23.23l 3a & c);

(3) Compatible with the desired conditions of other multiple uses and resource values;

(4) Reflective of seasonal changes by describing and mapping desired winter ROS classes where relevant (for example, for those units subject to 36 CFR 212.81);

(5) Refined where unique or valued biophysical, social, managerial, and/or cultural attributes warrant special protection or enhancement. This is accomplished through the development of desired ROS sub-classes (FSH 1909.12, sec. 23.23a. 1d.(1)).

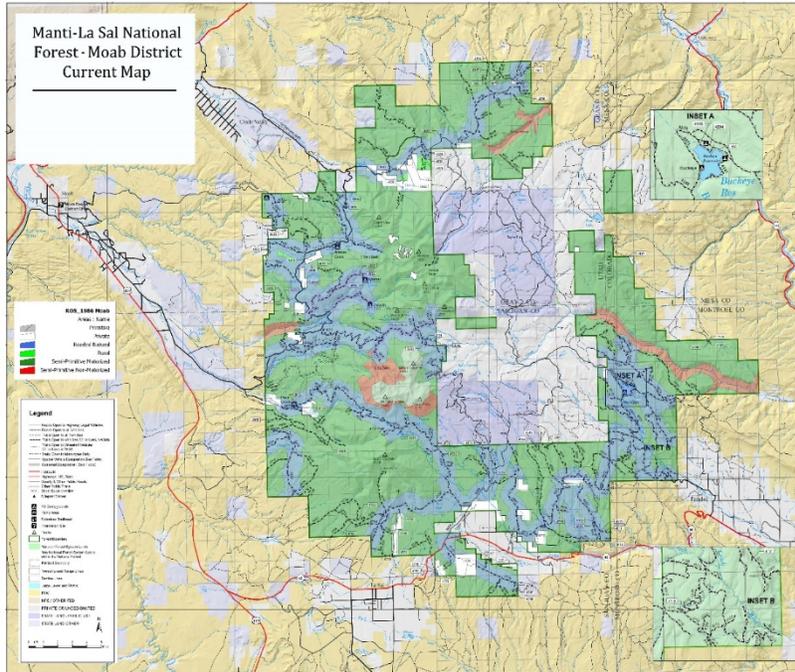
(a) Each desired ROS sub-class must tier to one of the 6 primary ROS classes.

(b) Review and approval of proposed sub-classes should be coordinated with the Regional Director of Recreation to facilitate regional consistency and enable their use beyond the boundaries of one forest or grassland; and

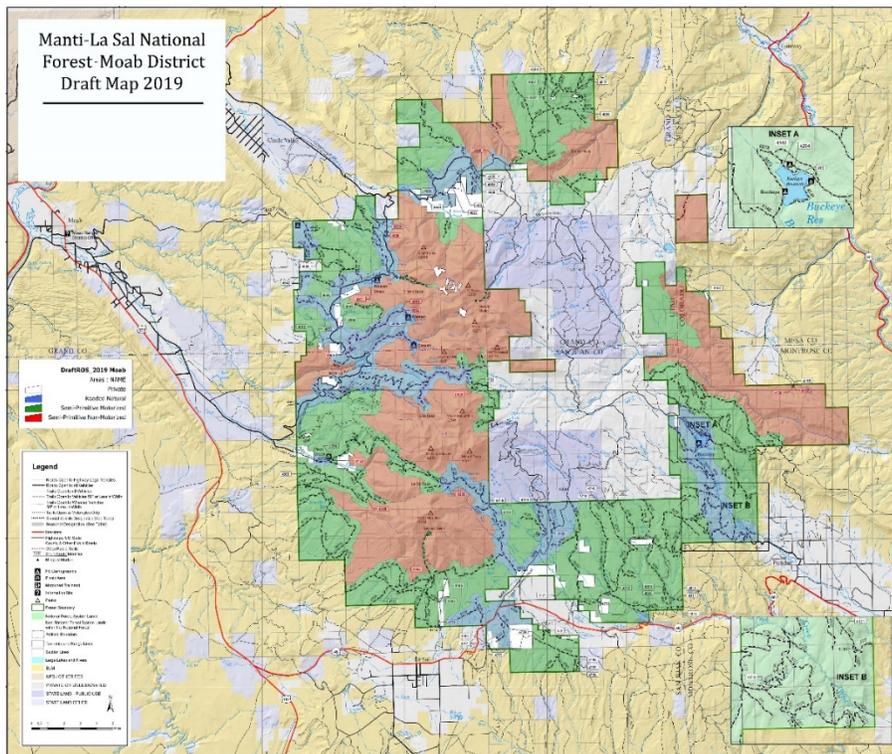
(6) Used to assess and guide project consistency (such as, specific motorized route and area designations made in travel management planning). Reference: FSH 1909.12, sec. 23.23a, 2.d and sec. 23.23l.”⁷

As these Regulations clearly state, the ROS is designed to inform decisions, not a tool that decisions implement. While the desire to balance the ROS is a management goal, there was no discussion on how this was identified as a management goal in the plan. The changes to the ROS being proposed are significant in nature and clearly the basis of these changes warrants extensive discussions. Under the existing RMP, the Moab Ranger District ROS is as follows:

⁷ SEE USFS MANUAL 2300 - RECREATION, WILDERNESS, AND RELATED RESOURCE MANAGEMENT CHAPTER 10 - SUSTAINABLE RECREATION PLANNING (UPDATED APRIL 20, 2020) UPDATE @§2311.1



Under the Proposal the ROS, is proposed to provide a much larger non-motorized opportunity areas as follows:



Not only were their brief and improper discussions of the ROS as a tool, the Proposal also makes management decisions on impacts from the proposed changes as the Proposal and workshop were clear in stating “only 6 miles of roads” would be lost under the ROS changes. Given the scale of changes to the ROS, we must question this assertion, but would also like a discussion on what these routes connect too and other possible recreational issues that could result from the decision. This has not been provided.

Meaningful pre-public involvement would be discussing how the decision there was a need to balance usages on the current allocation was made. The naked assertion of this decision in this manner uses the ROS in a matter exactly opposite to the required usage but also fails to provide any information on how the proposed usage was achieved. The Organizations would welcome a detailed pre-NEPA public review and comment on how the ROS changes were determined to be necessary and how this could impact the Proposal area moving forward.

3f. Winter planning decisions for motorized usage are different and must be addressed.

The Forest provides extensive winter motorized opportunities that are heavily used by the visitors, and identified as a primary usage of the forest by the NVUM process, which gives the Organizations cause for concern and exemplifies why the pre-NEPA public review must be undertaken on a reasonably complete version of the plan. Winter recreation also provides a clear example of why the Recreational Opportunity Spectrum is not a one size fits all management tool and the need for a detailed discussion of why decisions are being made as part of any pre-NEPA public review.

The necessity to address winter motorized travel is clearly created by the fact summer and winter motorized travel are separately addressed under the current USFS travel management regulations, as summer motorized travel is governed by 36 CFR 212.51 (a) while winter travel management is governed by 36 CFR 212.51(c). In certain locations the Proposal that recognize these are separate processes as follows:

“Designate motorized winter recreation opportunities across the Forest and develop a corresponding over-snow vehicle use map within the life of the plan.”⁸

In a more troubling angle to the Proposal, there are a large portion of the document where winter motorized access is not addressed separately. While there are certain locations in the Proposal, where this difference is recognized, **absolutely no detailed information** is provided on what the implications of the different processes are to winter motorized travel. We are even unable to understand in any way what winter motorized travel looks like after the Proposal is implemented but travel management decisions remain in a pre-revision status.

Are areas where the management standards change managed under new standards, old standards, is there an expectation that travel will be done at some point in the future? We are unable to comment in any meaningful way on the winter travel impacts of the Proposal, other than any attempt to manage the Manti-LaSal under a single ROS version for summer and winter travel is completely unacceptable to us and would be vigorously opposed by the Organizations. As noted at the beginning of these comments, much of our input on winter travel has resulted from our direct involvement in the multiple forests in California currently updating their winter travel plans. We can say it would be a horrible oversight to overlook this issue in the planning process.

4. The history of the forest weighs towards an overly transparent process that has not been provided.

The Manti-LaSal Forest and more generally the areas throughout southern Utah have been the basis for ongoing vigorous discussions and efforts to restrict or prioritize usages in the area for decades. The planning efforts have been impacted by national level changes to the USFS planning rule and this occurred after public comments had been received on the 2007 plan that was eventually withdrawn.

⁸ See, Proposal at pg. 58.

Most recent generalized public efforts have included the Bears Ears Monument designation by President Obama; the subsequent revision of the Bears Ears monument by President Trump; ongoing litigation challenging BLM efforts such as the San Rafael Swell; and public lands legislation being developed by various Congressman and other elected officials. The Organizations have participated in a huge amount of these discussions ranging from formal comments to driving around the area for extended periods of time in buses with other users to look at site specific issues.

While these efforts may have been targeting a wide range of lands, the important takeaway from this topic is people are abnormally interested in public lands and also have well developed data sets on various issues and there is a huge body of data available to the USFS in these planning efforts around usages of these areas. For reasons that remain unclear, the draft forest plan is less developed in terms of public input

5a. How was more than 85,000 acres of Roadless Area designated on the Manti/LaSal between the 2001 Roadless Rule and the draft RMP.

The Organizations have participated in a huge number of regional and national planning efforts with the USFS on a wide range of issues, ranging to well before the inventory and issuance of the 2001 Roadless Rule. As a result of this involvement on the 2001 Roadless Rule inventory process, we were surprised to see that the draft rule on the Manti/LaSal added more than 85,000 acres of Roadless Areas on the forest. According to the inventory of the 2001 Roadless Rule, the Manti/LaSal was finally determined to have 601,159 acres of Roadless Areas.⁹ By comparison, the Draft RMP identifies the current Roadless Area inventory encompassing 686,780 acres, or a 85,621 acre or a 14% increase in Roadless Areas on the Manti/LaSal.¹⁰

While almost every Roadless Area had a significant change in designated acreage between the 2001 final Roadless Rule and the Draft RMP, changes were not consistent in size or application.

⁹ See, USDA Forest Service; *Final Roadless Rule 2001*; January 12, 2001; Appendix – Roadless areas by Forest; pgs. 24& 25; Available here: [Roadless - Final Rule Documents \(usda.gov\)](https://www.usda.gov/land-management/roadless/roadless-rule-documents)

¹⁰ See, USDA Forest Service; *Draft Manti-La Sal National Forest Plan Revision*; September 2020 at pgs. 99&100.

The changes that have transpired between the 2001 Roadless Rule and Draft 2020 Revision are significant when certain Roadless Areas are reviewed such as the Dark/Woodenshoe Canyon Roadless area which changed from 14,551 acres in 2001 to 59,392 acres in the draft RMP or grew to more than 4 times its original size. While the Organizations are more than familiar with de minimis changes to boundary areas as a result of mapping technology improvements or ministerial errors, these levels of changes are not the result of issues such as this.

The Organizations are not immediately opposed to Roadless Areas designations, as we support the more dispersed recreational opportunities that are protected under the multiple use management requirements of the Roadless Rule. We welcome the fact trails can be built and maintained in these areas, even though roads in these areas can only be maintained.

5b. Wilderness Inventory must address the numerous federal, state and local efforts that have targeted these areas.

The Organizations must express vigorous concerns with the overwhelming amount of recommended Wilderness that is moving forward in the Proposal. The Organizations welcome the detailed information around wilderness inventory processes on the Manti LaSal but must express concern about the overall process, especially when the numerous other competing efforts around federal public lands are taken into account. While the Organizations and our members participated in dozens of trips, meetings, bus tours and other efforts over this time period, we honestly can't confirm who was the "official" convenor of these meetings and efforts. USFS staff was often actively involved in meetings while other meetings were convened by municipalities and other elected officials. There were simply too many meetings on these issues and we are unsure where input in these meetings went.

Often in these meetings, basic information about efforts reasonably well developed and generally publicly supported efforts in the area was provided, such as the development of the Rimrocker trail, connecting Grand Junction CO to Moab Utah. While huge amounts of efforts and

discussions went into development of many efforts, such as Congressman Bishop's Public Lands Initiative.¹¹ These efforts are not addressed in the inventory. We believe these competing proposals often provide starkly different visions for the management of many of the areas moving forward but none of these visions are addressed in the Proposal for reasons that remain unclear. While none of this information is provided, such information would be critically important to the inventory process.

In addition to the legislative efforts regarding the Manti-LaSal planning area, the State of Utah has an exceptionally well-developed State Resource Management Plan along with a plan for every county in the state.¹² The State level resource plan clearly lays out the basic visions and goals for any Wilderness Inventory in the state as follows:

“(j) the state’s support for any recommendations made under the statutory requirement to examine the wilderness option during the revision of land and resource management plans by the U.S. Forest Service will be withheld until it is clearly demonstrated that:

- i (i) the duly adopted transportation plans of the state and county or counties within the planning area are fully and completely incorporated into the baseline inventory of information from which plan provisions are derived;
- i (ii) valid state or local roads and rights-of-way are recognized and not impaired in any way by the recommendations;
- i (iii) the development of mineral resources by underground mining is not affected by the recommendations;
- i (iv) the need for additional administrative or public roads necessary for the full use of the various multiple-uses, including recreation, mineral exploration and development, forest health activities, and grazing operations is not unduly affected by the recommendations;

¹¹ See Congressman Rob Bishop; *Utah Public Lands Initiative Act*; HR 5780, 114th Congress (2015-2016).

¹² Each of these documents is available for download here: [Utah Public Lands Resource Management Planning](#)

i (v) analysis and full disclosure is made concerning the balance of multiple-use management in the proposed areas, and that the analysis compares the full benefit of multiple-use management to the recreational, forest health, and economic needs of the state and the counties to the benefits of the requirements of wilderness management; and

i (vi) the conclusions of all studies related to the requirement to examine the wilderness option are submitted to the state for review and action by the Legislature and governor, and the results, in support of or in opposition to, are included in any planning documents or other proposals that are forwarded to the United States Congress;”¹³

Not only does the Utah State resource management plan lay out an express process for reviewing any possible Wilderness areas in an RMP, the State plan also provides general guidance for the inventory and management of these areas moving forward. These policies and guidelines are specifically outlined in the state report as follows:

® The State of Utah supports the continued management of Wilderness Areas as wilderness, in accordance with the Wilderness Act and when management provides for public enjoyment and active management under the Act.

® The State of Utah recognizes BLM Wilderness Study Areas recommended by the BLM during or before June, 1992, in accordance with FLPMA.

® The State of Utah opposes the recommendation of new Wilderness Study Areas subsequent to June, 1992.

® The State of Utah will actively participate in all public land management planning activities.

® The State of Utah opposes any legislation introduced in Congress to designate additional Wilderness Areas except for legislation introduced by a member of Utah’s congressional delegation.

¹³ See, State of Utah Resource Management Plan; January 2, 2018 at pg. 116 – full report available here [Utah Public Lands Resource Management Planning](#)

® The State of Utah opposes any legislation introduced in Congress to designate additional Wilderness Areas unless such legislation is supported by the respective county commission or county council in the county impacted by the proposed legislation.

® The State of Utah will actively participate with federal partners in making wilderness management plans.

® The State of Utah opposes the management of non-wilderness federal lands as de facto wilderness, including “wildlands,” “lands with wilderness characteristics,” “wilderness inventory areas,” and other such administrative designations.

® The State of Utah opposes the review of additional U.S. Forest Service lands for wilderness, except for the reviews expressly provided for in the Utah Wilderness Act of 1984, §201(b).1

(a) secure for the people of Utah, present and future generations, as well as for visitors to Utah, the benefits of an enduring resource of wilderness on designated state-owned lands;”¹⁴

While the Organizations are aware that the final authority of management of federal lands lies with federal officials, the Organizations are also aware that these efforts by the State of Utah to participate in Wilderness Inventories in highly developed and highly detailed public input for the planning process. This is in stark contrast to the limited engagement of many other western states on federal lands issues and warrants some level of discussion in the Wilderness inventory process. The Organizations were ***astonished*** to find that none of this information or input was even raised in the inventory documents released to date by the Manti-LaSal.

6. Flexibility moving forward should be provided for winter recreation management.

The Organizations are aware that there are numerous hybrid vehicles and uses being developed for winter recreation, such as fat tire bicycles that were simply unheard of in winter recreational

¹⁴ See, *State of Utah Resource Management Plan*; January 2, 2018 at pg.230 – full report available here [Utah Public Lands Resource Management Planning](#)

management circles even several years ago. The Organizations believe that continued development of these types of vehicles will result in the merger of even more non-traditional winter usages of the backcountry, such as fat tire E-Bikes or tracked bicycles. It has been the Organizations experience that while often these conversions are marketed as being able to easily convert from summer to winter usage, these conversions are often difficult and expensive and as a result once converted, vehicles often remain in their winter converted form. The Organizations do not see these conversions/hybrids as replacing the more traditional snowmobiles, rather the Organizations believe these units do have a place in the spectrum of winter motorized recreation. For purposes, the Organizations will divide these new users into two general categories: 1. those who are adapting their vehicles to use a track or tracks to traverse snow; and 2. those that are seeking to traverse snow by merely relying on larger wheels and tires. These two user groups pose different management challenges for OSV and recreational management.

While the Organizations welcomes new uses, winter recreational management decisions must remain science based. The Organizations have ongoing concerns with impacts to trails and other resources that arise from use of wheeled vehicles on winter trails, however the Organizations' experiences with tracked conversion summer vehicles has been significantly different and welcomes these conversion vehicles, after they have complied with State OHV registration regulations for use of motor vehicles on groomed winter trails. Our initial research indicates that these tracked conversion vehicles exert similar pressures on the snow as traditional snowmobiles, making any risks of resource damage from usage of these conversions similar to that of snowmobiles.¹⁵ These impacts have already been well documented as minimal to entirely non-existent. These tracked conversion vehicles also allow entirely new classes of public users into the winter backcountry to experience the exceptional opportunities these areas provide, either by accessing their local lake for winter ice fishing opportunities or by making the more traditional winter backcountry motorized experience available.

¹⁵ A Copy of this study has been enclosed with these comments for your reference and complete review as Exhibit 1.

These track conversion vehicles include motorcycles where the front tire has been removed in favor of a snowmobile like skis and the rear wheel is exchanged in favor of a large track. The Organizations are aware of discussions around trying to manage these conversion vehicles based on the intent of the designers of the vehicles, and this position is problematic with the Organizations. These summer-based conversions provide the winter backcountry experience at reduced cost to users as multiple vehicles are less needed or lower costs units can be converted. Under certain conditions, these conversions provide a more durable recreational experience than a traditional snowmobile on warmer days, or days when the snow has become very firm, as these conversions do not rely on loose snow contacting any portion of the vehicle for the reduction of operating temperatures. These vehicles are designed to cool without any external assistance from snow contacting the vehicle.

Photos of some of these types of motorcycle track type conversion vehicles are below:



16

The Organizations are aware that there have been similar vehicles, designed specifically for over the snow travel, to these motorcycle conversions in production for a long time under the Snow hawk brand. The following picture represents the Snow hawk vehicle:

¹⁶ Picture credit to timbersled industries and more information is available regarding these products here <http://www.timbersled.com/snowbike.htm>

**SNOW
HAWK** 



TOP GUN-800 R.O. 2007

17

It has been the Organizations' experience that while the Snowhawk may have struggled in the market place for reasons that are unclear, the conversion motorcycles have rapidly developed a strong customer base and are frequently seen in the backcountry. Permitting a Snowhawk to be managed under winter travel management guidelines, while prohibiting the motorcycle conversions as they are not designed for winter travel could easily appear arbitrary and lead to difficulties for local managers and partners.

Similar track conversion is not just limited to motorized vehicles and are now available for bicycles. The Organizations are not aware of the background or viability of bicycle-based conversions for winter use, such as that pictured below, but the Organizations are aware these vehicles are growing in popularity and will probably be seen in increasing numbers in the winter backcountry areas in the near future.

¹⁷ More information on these vehicles is available here: <http://www.motosportsthibeault.com/>



18

Given the expected life of the RMP, the usage of these human powered types of vehicles would become an issue for travel management as these types of designs would anticipate to be perfected within the lifespan of the RMP.

The Organizations are also aware that many traditional ATVs and side by side vehicles exchange tires for track assemblies that allow these vehicles to easily travel over snow. The following photos represent an ATV that has undergone this track conversion:



19

Clarity in management of these ATV conversions is further made necessary by recent industry actions regarding the sales and support of tracked conversions. Both Polaris Industries and BRP are now selling track kits for delivery on ATVs and Side by Side vehicles with full warranties and

¹⁸ More information on this conversion is available here: <http://www.ktrak.es/indexeng.htm> The Organizations are not taking a position as to the management of these vehicles, as we have never seen one or are aware of any research on pressure the vehicle applies to snow. The Organizations are providing this portion of our comments as an example of the rapidly changing nature of this class of vehicles.

¹⁹ <http://www.atvtracks.net/>

OEM parts availability for both the tracks and vehicle being provided from Polaris or BRP.²⁰ In addition, the Organizations understand that several models include provisions for the operator to choose if the vehicle is using tracks or wheels in the vehicles operation system. This provision allows accurate information on data, such as vehicle speed to be automatically compensated for the use of tracks or wheels. With these provisions, data on vehicle speed could be off by as much as 30%. The Organizations believe that these industry actions provide a credible argument that these traditional OHVs are also designed to be OSVs.

Enforcement of travel restrictions based on the source of these pieces of equipment would be problematic and could lead to management being based on if the manufacture of the track system was by the vehicle manufacturer or if the tracks came from a third party. Clearly, precluding a Kawasaki ATV with a Camoplast track kit while allowing a Polaris ATV with Polaris tracks would lead to nothing but conflict with users and arbitrary standards that had no relationship to mitigation of damages to resources. This should be avoided and a broad OSV definition would resolve this issue.

The Organizations are concerned that the overly narrow definition of an OSV could impact permitted grooming activities at some time in the future, as this type of vehicle certainly could become more suited for use in the western United States. Farm tractor conversions are now frequently used for trail grooming activities in certain parts of the country, as the track conversion kits allow for use of the grooming equipment throughout the year by adding or removing tracks depending on the season.

²⁰ <http://www.polaris.com/en-us/rzr-side-by-side/shop/accessories/tracks> or http://store.can-am.brp.com/products/683518/APACHE_TRACK_SYSTEM



While these grooming conversions are not heavily used in the western United States due to exceptionally steep terrain and deep snow conditions, it is our understanding that clubs or state agencies in other areas of the Country that are utilizing these conversions can significantly reduce overall costs incurred in grooming activities. While most questions regarding the use of a conversion farm tractor for grooming could be resolved in the permitting process, the inability of a grooming organization to use a tracked farm tractor-based groomer on federal lands could be a major barrier to a club or organizations that grooms large tracts of non-federal lands, where the farm tractor on tracks would be a cost efficient and acceptable alternative to dedicated grooming equipment. These types of conflicts or questions should be avoided.

The second major category of winter vehicle conversions, mainly those users attempting to traverse the winter back country by merely adding larger tires to their chosen means of travel is more problematic. This is an issue where motorized management has clearly been established for a long time and this should not be altered at the landscape level. At this time the most prominent of users of larger wheels and tires for winter travel is the bicycle community as the usage of motorized vehicles with the mere addition of larger wheels and tires has been declined. The Organizations have already experienced fat tire bicycle usage on winter trails, such as that pictured below:

²¹ <http://www.soucy-track.com/en-CA/products/grooming/groomers/st-600wt/photos>



While larger tires are asserted to be a valid use of winter trails from the bicycle community, the idea of merely accepting larger wheels for traversing snow has already been declined for motorized usage. While this usage is asserted to be valid by the manufacturer, the Organizations are concerned about the basis for this position. The Organizations must question the basis for such a distinction as the only research on pressures from fat tire bicycles²³ yields the following results:

Table 1: Ground Pressure Comparisons

Vehicle Type	Vehicle PSI
Snowmobile	0.50
Tracked ATV	0.55
Tracked UTV, 50" RZR	0.60
Tracked UTV, larger models	0.90
Wheeled ATV	2.0
Wheeled UTV	3.9
Fat Tire Bicycle	3.0 to 6.1

IMBA has provided the following estimates of fat tire bike pressures on snow in presentations seeking to use the fat tire bikes on groomed snowmobile trails on the White River NF in Colorado:

²² Further information on this usage is available here: <http://thedailynews.cc/2014/01/27/fat-tire-biking-is-a-growing-trend-in-winter-months/>

²³ See, American Council of Snowmobile Associations; *Fat Tire Bicycle Use on Snowmobile Trails; Background Information and Management Considerations*; July 2016 pg. 7. This research is Exhibit 2 to these comments.



The Organizations concerns are far from abstract on this issue as the Stanislaus NF in California is closing significant areas to OSV usage due to possible contact with Yellow legged Frog and Yosemite Toad from grooming until questions regarding pressures on the hibernating toad from grooming can be resolved. Higher pressure of fat tire is major concern in these areas as the higher-pressure bicycle tire would be more likely to strike and kill a toad than low pressure track assemblies on grooming equipment. This list of issues is far from comprehensive but the Organizations believe it is important to recognize these issues and questions already exist and will probably not simply fade away over the life of the RMP. These questions will simply expand with every new hybrid usage accepted into the winter backcountry.

Given this research and that all relevant travel determinations have excluded both wheeled ATV and UTV from winter trails due to the pressure that these vehicles exert on the ground, any attempt to permit fat tire bicycles due to a lack of pressure or impacts would be problematic at best. The basic lack of scientific evidence to support the position would be a major concern for the snowmobile community as this is the community that has directed hundreds of millions of dollars and people's entire lives to establishing the scientific basis of the snow buffer.

The Organizations believe that laying the ground work for management of these wheel conversion vehicles in the RMP is sound policy and good management. The Organizations have

significant experience in partnering with USFS to educate users of these conversions. Often this educational partnership has been made more difficult as confusion in classifying these conversion vehicles makes it difficult to educate winter recreational users of these conversions as to when they can and when they cannot use particular vehicles and if they are legal at all, which leads to frustration to users. The Organizations have struggled with assisting the public in identifying if a particular vehicle is allowed in a particular Ranger District at a particular time of the year.

The Organizations are aware that in some areas of the country groomed routes and other facilities such as bridges may not be of sufficient size to accommodate some of the conversion vehicles. While these situations exist, they certainly are not the norm. The Organizations believe local managers are able to easily address any site-specific issues either with weight or width restrictions for vehicles using trails in these areas. Summer motor vehicle management has proven these types of local decisions addressing width or weight restrictions highly effective. The public awareness of these types of standards will allow weight or width restrictions to translate easily to winter travel management process and decisions in areas where they might be necessary.

7a. Research regarding manmade groomed snow behavior from decades of Army Corp of Engineers.

As previously noted, the Organizations have been active participants in a wide range of winter travel planning efforts throughout the Western United States and are aware that the current RMP revision is not a winter travel plan. The Organizations are also aware that the current RMP revision will guide any subsequent OSV planning efforts on the Manti LaSal and as a result would like to ensure that best available science is available to guide landscape level planning. It has been the Organizations experience that while USFS planners have effectively managed OSV recreation for decades without resource impacts, they are also hesitant to rely on this successful management history as the basis for future planning. We hope the information below supplements this generally accepted knowledge with a high level of scientific certainty and encourages managers to avoid large scale changes to OSV management in the hope of avoiding

possible impacts to resources or a lack of scientific certainty around the commonly understood conclusions that managers have relied on for decades in OSV management.

The Organizations have also included extensive additional research around the behavior of various types of snow under a range of forces that was not available to us at earlier stages of this effort and we have consolidated this research into four general categories. These four categories are snow compacted by man; 2. Snow compacted by natural forces; 3. Uncompacted snow subjected to high pressure vehicles; and 4. Uncompacted snow subjected to low pressure vehicles. We hope this new information is helpful.

The Organizations have investigated the wide-ranging scientific analysis that has been previously conducted regarding the application of force to snow in both an uncompacted and compacted nature. While this process has been long and costly to undertake, this research has also been highly fruitful as it yielded a large body of work from the Army Corp of Engineers regarding activities they have been conducting in the Antarctic continent since the 1940's.²⁴ It is significant to note that while the research methodology and management standards have dramatically evolved over the life of this research, the basic conclusions have remained highly consistent over time, mainly that snow is a highly effective buffer of force. Unfortunately, snowmobiles were found early in research process to not meet the purpose and need of the project due to their inability to carry large amounts of cargo, inability to start in exceptionally low temperatures, and that sleds were generally unstable.²⁵ As a result, this research can provide a lot of general information of varying relevance but cannot directly answer the questions around winter travel of OSVs.

²⁴ For a complete summary of the more than 75 years of research that has been performed by the Army Corps of Engineers please see Shaprio et al; *Snow Mechanics; A Review of the State of Knowledge and applications*; US Army Corps of Engineers CRREL Report 97-3 August 1997.

²⁵ See, Blaisdell et al; *First International Conference on Winter Vehicle Mobility*; US Army Corps of Engineers; Special Report 93-17 (July 1993) at pg. 91

The value and credibility of much of the Army Corp work and information to the US Government cannot be overstated as much of the information was deemed to be "CLASSIFIED" when it was developed in the 1940s and 1950's²⁶ and the classification of this research continued into the 1980's. Clearly if there were concerns about the basic accuracy or integrity of the information such a determination would not be warranted. Much of the research and activity on the Antarctic Continent has been the subject of similar or higher levels of conflict and scrutiny as USFS OSV planning efforts have been, again speaking to the veracity of any of the conclusions reached. It is also important to note that while this research has been occurring for more than 75 years, there has been little question or controversy around the scientific method used to reach the conclusions regarding groomed snow or the conclusions regarding the ability of groomed snow to absorb force. After being declassified, much of this information has been subjected to additional rounds of publication and review.

Prior to addressing the conclusions of this research, the Organizations believe it is critically important for USFS managers to understand the strict management guidelines in place for any activity on the Antarctica Continent and to recognize that any actions in Antarctica are managed to a "zero impacts" standard for activity. This is far stricter when compared to the multiple use management requirements that are the management goals and objectives of the USFS. Pursuant to paragraph 1 of Article 3 of the 1959 Antarctic Treaty as amended²⁷ (Hereinafter referred to as "The Treaty") all actions on the Antarctic Continent are subject to the following management standard:

"The protection of the Antarctic environment and dependent and associated ecosystems and the intrinsic value of Antarctica, including its wilderness and aesthetic values and its value as an area for the conduct of scientific research, in particular research essential to understanding the global environment, shall be

²⁶ A partial copy of foundational research from 1948 and 1952 are attached as Exhibit "3". Complete copies of these works are available but have not been included with these comments as the conclusions are addressed in subsequent works identified with far greater detail.

²⁷ A complete copy of this treaty has been enclosed for your reference as Exhibit "4".

fundamental considerations in the planning and conduct of all activities in the Antarctic Treaty area.”

The remainder of Article 3 of the Treaty provides a detailed process to apply the zero-impact standard to the wide range of actions occurring on the Antarctic Continent. It is also significant to note that pursuant to Article 8 of the Treaty, all actions on the continent are fully subject to NEPA planning requirements to insure there are zero resource impacts to the Antarctic Continent. As a result, any actions that are taken on the Antarctic Continent are fully subject to NEPA requirements and are managed to a much stricter zero impacts standard than USFS efforts multiple use requirements for OSV.

In the following portions of these comments, the Organizations are not attempting to provide a complete review of the Army Corp of Engineers research, as such documentation would necessitate the use of a large capacity jump drive. Rather the Organizations are attempting to summarize the most up to date information in particular areas or subjects. Much of the Army Corp of Engineers research efforts centered around the operation of high-pressure vehicles on snow, such as large military transport planes and transport vans as the cost-effective movement of supplies and other resources needed for Antarctic research has been a significant hurdle for researchers. Army Corps research on the ability of compacted snow to provide a suitable landing surface for a wheeled C141 transport plane provided the following conclusions:

“Present studies indicate that this type of processing is needed for only the top 25 cm of a cold, dry processed base course in order to land wheeled C141 and other similar large whether or not an additive such as sawdust is really needed for the base course. Depth processing the snow with a snow miller, in combination with water or heat injection (or dynamic compaction of the top layer), may be adequate.”²⁸

Subsequent research performed by the Army Corp concluded that snow compacted with the utilization of snow grooming equipment, which is almost identical to the equipment currently

²⁸ See, Lee et al; *Improving snow roads and airstrips in Antarctica*; US Army Corps of Engineers Special Report 89-22 (July 1989) at pg. 17. A copy of this research is enclosed as Exhibit 5 to these comments.

used on the Manti LaSal and throughout the country for preparation of snowmobile trails, was the most cost-effective manner to prepare compacted snow. The subsequent research by the Army Corps provided significantly greater detail regarding the levels of force being applied to the snow as part of the landing of wheeled C-130 and C-141 aircraft on the prepared snow, which are as follows:

“For a snow road or a snow runway to be feasible, a method of snow processing is needed such that the resulting snow pavement attains a strength that can support tire pressures in the range of 690kPa. Most cargo-carrying vehicles can easily be equipped to operate with tire pressures at or below 690 kPa and the C130 Hercules tire pressures normally ranges from 550 kPa to 690 kPa. Ideally, a snow strength that could support r1380 kPa would be desirable since that would allow the operation of essentially any conventional surface vehicle or cargo plane.”²⁹

The conclusions of this Army Corp research regarding the effectiveness of 25 cm of groomed snow to absorb the forces of landing a wheeled C130 or C141 were as follows:

“This snow maintained a strength between 3000 and 7000 kPa throughout the course of our 12-week study. This strength is more than suitable for the support of heavy wheeled vehicles and aircraft that typically do not require more than 1000 kPa strength.”³⁰

There appears to have been no criticism of the Army Corps 1997 research and this unanimity of research community around these conclusions was exemplified by the fact the conclusions of this research were again the basis of further analysis and review in 2017. It is significant to note that the conclusions of the earlier works were not questioned in any manner and there was no discussion of concerns around the original conclusions after more than 10 years of landing of

²⁹ See, Lang et al; *Processing snow for high strength roads and runways*; Journal of Cold Regions Science and Technology 25 (1997) at pg. 18. A copy of this research is included as Exhibit “7” to these comments.

³⁰ *Supra* note 28 at pg. 29

high-pressure aircraft and use of high pressure wheeled vehicles on the groomed snow surface.

³¹ It was accepted that 25 cm of snow provided that level of resource protection.

It is uncontested that OSV usage averages 5 kPa of force on the snow, even under worst case scenarios. Given the clear conclusions decades of Army Corps of Engineers research concluding that 25 cm of groomed snow can support 300 to 1,400 times the amount of force applied by a snowmobile for prolonged periods of time, the Organizations are opposed to any increase in depth requirements for commencement of grooming operations of snow on the basis of resource protection.

7b. Snow compaction via natural forces occurs throughout the world and results in material density similar to asphalt.

The Organizations are also aware that developing a complete understanding of snow compaction, both from natural processes and recreational activity, has been a significant factor in allowing OSV travel on roads and trails with lower amounts of 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 satellites³², flooding in high alpine communities and the advancements in the construction of ice breaking vessels. 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 comments, 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

³¹ See, White et al; *Review of ice and snow runway pavements*; International Journal of Pavement Research and Technology 11 (2018) 311-320.

³² 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

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 “6” to the comments, collectively referred to as the “Haeberli Text” in these comments. 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:

“Once deposited on the Earth’s surface, snow and fin density increases through metamorphism, eventually approaching the density of ice. Metamorphism is a combination of both physical and thermal properties of snow.”³³

Snow scientists recognize that sintering alters snow significantly, which is summarized as follows:

“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.”³⁴

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

³³ See, Haeberli at pg. 38.

³⁴ See, Haeberli et al at pg. 101.

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, 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).”³⁵

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 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>
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³⁵ 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, Favre et al; *Optimal Preparation of Alpine Ski Runs*; Proceedings of the 2004 International Snow Science Workshop, Jackson Hole, Wyoming; University of Montana; 2004.

Compacted Snow	500-917
Asphalt ³⁶	712
Cement	1,400
Lightweight Concrete ³⁷	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 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 or 5 kPa, 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

³⁶ See, <https://theconstructor.org/building/density-construction-materials/13531/> for values of asphalt and cement

³⁷ See, <https://hypertextbook.com/facts/1999/KatrinaJones.shtml> for density of lightweight concrete

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.³⁸ 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 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.

7c. Snow sintering/natural 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

³⁸ For a representation of this technology please see https://www.prinoth.com/fileadmin/user_upload/pdf/prinoth_snowdepthmeasurement_EN_NA_01.pdf

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;”³⁹

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 Manti LaSal NF has been effective rather than providing the basis for change of this management.

Best available science must be applied to allow for OSV usage on roads and trails recognized in summer travel management as significantly smaller amounts of groomed snow are sufficient for resource protection in these areas as these areas are important recreational corridors for usage of areas with deeper snow and will bring the Manti LaSal to a consistent position with adjacent forest OSV decisions.

7d. Research addressing behavior of high-pressure vehicles in uncompacted snow from Army Corps of Engineers.

The Organizations would also like to address Army Corp research regarding the use of high-pressure vehicles on uncompacted snow. While the specific conclusions of this research are not relevant to these discussions regarding the use of low-pressure vehicles, the recognition of several basic facts are important to the discussion. Army Corp researchers concluded that comparatively high levels of force resulting from wheeled vehicle usage over small areas of

³⁹ 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.

uncompacted found that could be modeled for both hard snow and soft snow using the Capped Drucker-Page model.⁴⁰ Similar modeling could also be developed for exceptionally small amounts of force being applied to thin layers of snow.⁴¹ Army Corp and other researchers also accepted the fact that expanding the foot print of the vehicle reduced the pressure applied to the snow. While the conclusions are clearly not dispositive to the OSV travel questions due to the exceptionally large and small scales the work was performed at, the fact that snow density can be modeled consistently is significant to recognize as USFS efforts have been applying such a model on the ground for years to avoid possible impacts to resources. Such modeling is clearly possible and scientifically valid as a management tool and would support the conclusions of the 35 or more years of OSV management on the Manti LaSal , mainly that snow is a highly effective buffer between recreational activity and resources under the snow.

7f. Behavior of low-pressure vehicles in uncompacted snow.

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 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 uncompacted snowfall at a location necessary for resource protection does not appear to have been scientifically concluded at this

⁴⁰ See, Haehnel et al; *A Macroscale model for low density snow subjected to rapid loading*; Cold Regions Science and Technology 40(2004) 193-211. See also, Richmond et al; *A macroscopic view of snow deformation under a vehicle*; Army Corp of Engineers Special Report 81-17. July 1981.

⁴¹ See, Huang et al; *Mechanical properties of snow using indentation tests; size effects*; Journal of Glaciology; vol 59 No 213 (2013)

time, there is a large body of high-quality research that has been developed by those researching snow characteristics and recreational activities 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. The conclusions of this research directly conflict with any conclusion of a minimum of 12 inches of snow is required to protect resources.

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 uncompacted 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 these comments for your convenience as Exhibit “8”. 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 Manti LaSal NF 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.”⁴²

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.⁴³ While the Jamieson/Thumlert studies provide ground breaking information into low pressure snowmobiles and skiers for application of force on snow, the scale or context of the work is difficult to apply for the creation of management decisions as the works are more targeted at how these minimal forces are related to avalanche triggering rather than application of force on flat ground. The concerns around the levels of force necessary to trigger avalanches is simply much lower levels of force than the levels of force that would result in resource impacts but this research provides additional context and understanding into the movement of force through various depths of uncompacted snow and how the effectiveness of snow as a buffer improves as the snow compacts naturally.

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:

⁴² 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.

⁴³ See, <https://vimeo.com/20563669>

“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 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.”⁴⁴

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

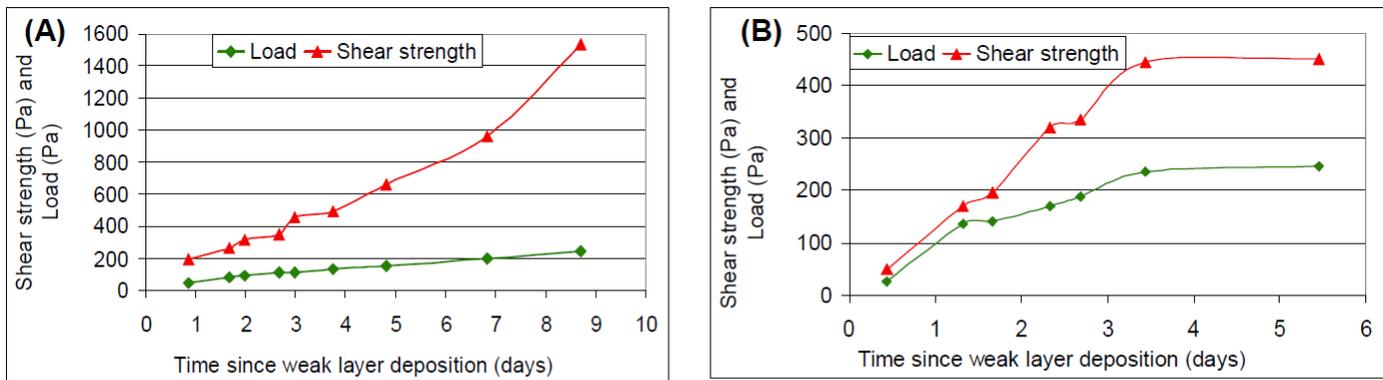


Figure 7. Time series graphs of weak layer shear strength and overlying load for two separate weak layers: (A) layer deposited on 16 January 2006 was 10 mm thick, consisting of stellar crystals (1-2 mm) and decomposing fragments (1-2 mm), and had an initial (measured) and final (estimated) density of 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.

⁴⁴ 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 comments as Exhibit “9”

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. This research was also invaluable in understanding how snow is a more effective buffer as time and natural forces are applied to the uncompacted snow. 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.

Adopt separate uncompacted snowfall depths for on and off trail usage that are supported by best available science conclusions that snow is a highly effective buffer of force and recognize that snow compacts naturally and this compaction results in greater resource protection than uncompacted snow in the planning process.

7f. Management of OSVs

The Organizations are aware that there has been a large amount of scientific data provided in these comments and would like to provide a general outline of how all this data ties back to the current planning process. While the Organizations are hesitant to specify sufficient snow levels for the protection of resources, as identified by the recent revisions to the USFS winter travel rule there are several take-aways that we would like to identify that are valuable to the planning process.

1. Snow is a hugely effective buffer between recreational activity and resources buried under the snow;

2. Snow depths required on routes identified as summer OHV routes than the depth required for off trail usage of areas. This reflects the fact that these routes are generally hardened to a level that protects resources from much higher pressure vehicles being used far more frequently. This also allows OSV usage at lower snow times of the year when users are not seeking to ride off trail but rather are simply testing equipment after a summer of storage. This also allows grooming to occur to tie parking areas that may be receiving significantly less snow to desired recreational opportunities in areas that have received significantly more snow; and
3. USFS has effectively managed OSV recreation for decades, even if the scientific basis for this management was not clearly understood or articulated at the time the decisions were made.

8a. Document reviews from anti access groups addressing wildlife concerns with motorized recreation must be critically reviewed.

Up to date science *must* be relied on in the development of the RMP and that survey documents created by user groups opposed to multiple use are not a substitute for best available science. This is an issue we are forced to address in our comments as we are aware of several documents that have been circulated under the guise of best available science that are far from a planning resource but rather appears to desire to address travel management without regard to other management challenges or the priority threats on the issue. The Organizations would be remiss if the reliance on the works of Switalski asserted to be “Best Management Practices for OSV management” was not specifically addressed. While there are numerous anti-access organization science summaries in circulation, the Winter Wildlands Alliance ("WWA") brochure appears to be the most common right now and targeting winter recreation only but is too often applied to all recreational activity.

The Organizations are intimately familiar with this document as it is readily available on the Winter Wildlands website and it has been embraced as best available science in several other

planning documents. This is simply astounding as WWA is a propaganda document created by those opposed to multiple use recreation, rather than a survey of best available science on the issue and the Organizations submit that this is exactly the type of document that must be strictly reviewed by planners. Representatives of the Organizations have attempted to discuss our concerns about the basic validity of the document with WWA representatives and have not had any success. We have included the American Council of Snowmobile Associations 2014 "Facts and Myths about Snowmobiling on Winter Trails" booklet as Exhibit 10 to these comments, in order to provide a complete background of all research on OSV travel in a timely and balanced manner. This document is a result of years of effort and a genuine interest in accurately reflecting the management issue and scientific research at the time of publication and often directly reflects the position of the USFS or USFWS on issues in order to provide a single point of reference on agency position.

A cursory review of the Switalski/WWA document quickly identifies best management practices standards that were BADLY out of date at the time the document was published in 2015. The Organizations submit that the grim picture of multiple use recreation portrayed in this document is provided in an attempt to pull the range of alternatives towards closing routes. After a review of the booklet, the Organizations believe this document to be an attempt to move their Organizations mission of "snow less traveled" than a true survey of best available science on many issues as many studies have been repeatedly superseded or completely inaccurately summarized in this work. The Organizations believe a complete review of best available science and the position conveyed in the WWA brochure on each issue is not warranted but the Organizations believe several examples of the quality of low quality information or badly outdated nature of the information provided in this document are sufficient to substantiate our inclusion of this issue in our comments. The Organizations believe that the first step in developing truly effective management of any issue is establishing the landscape level summary of the threats and challenges for the species, as many factors are heavily influenced by activities that are totally unrelated and beyond management by the USFS. Overly restrictive management

on public lands can directly undermine species management efforts being undertaken in partnership with private lands interests.

The first relevant example of outdated and misleading and questionably relevant information being provided in the WWA brochure involves OSV emissions. The EPA is an Agency that has been specifically developed to address vehicle emissions and air quality and the USFS should not be addressing these types of issues in travel planning, as the USFS expertise is not in air quality and emissions standards. If the units are in compliance with EPA standards that should be the end of the USFS interest in emissions for vehicles. The Organizations vigorously assert that landscape level standards are that all units being produced and used in Utah are well below EPA requirements for these types of vehicles. Additionally, EPA and partner analysis find that localized air quality issues are totally unrelated to OSV travel further drawing the relevance of this information into question for travel management purposes. The WWA brochure provides the following information without any basis for comparison to other activities:

This information might have been minimally informative to land managers in the decision-making process in 2002 but have to question the value of this information decades later, as the overwhelming percentage of 2002 snowmobiles simply are no longer in use. Newer snowmobiles are more cost effective to ride, more reliable and operate in full compliance with EPA air quality requirements, which have reduced the number of emissions from this class of vehicle by more than 100%. The 2012 EPA standards for OSV travel are reflected in the following air quality standards:

Any snowmobile manufactured after 2012 may only produce ½ the emissions that a 2002 unit was allowed to produce. The Organizations are aware that most new units are producing emissions far below even EPA standards for these types of vehicles. The Organizations have to question the relevance of any emissions information for vehicles that were produced more than a decade ago and are no longer used. Again, the Organizations must question if assertions regarding the relevance of 2002 emissions outputs decades after those emissions standards have

been superseded is truly relying on best available science. An additional question could be raised on this issue, mainly since pollution appears to be asserted to be the basis for travel management closures, does the fact that 2017 equipment produces more than 50% less emissions than similar 2002 equipment mean areas should now be opened? Clearly such a question has no place in travel management analysis regardless of the direction of the question.

This is not the only time that severely limited or questionably relevant information is provided in the WWA brochure. The WWA brochure also provides summaries of Water/Air Quality studies that are inaccurate at best and are sometimes simply erroneous. An example of such a summary involves the Musselman study, which the WWA brochure attempts to summarize as follows:

"During the winter, snowmobiles release toxins such as ammonium, nitrate, sulfate, benzene, and toluene which accumulate in the snowpack (Ingersol 1999), and increase acidity (Musselman and Kormacher 2007)."

Any summary of the Musselman work which attempts to support such a position is misleading and frustrating to the snowmobile community, as the snowmobile community partnered in the development of this study in an effort meaningfully address issues and develop parking facilities at the study location. The Musselman study clearly stated their conclusions as follows:

"Seasonal differences were evident in air chemistry, specifically for CO, NO₂, and NO_x, but not for NO or O₃. NO₂ and NO_x were higher in summer than winter, while CO concentrations were higher in winter than summer. Nevertheless, air pollutant concentrations were generally low both winter and summer, and were considerably lower than exceedance levels of NAAQS."

"Nevertheless, an air pollution signal was detected that could be related to snowmobile activity; but the pollutant concentrations were low and not likely to cause significant air quality impacts even at this high snowmobile activity site."

The Organizations have never asserted that motors used for OSV recreation do not produce certain levels of emissions, as that would simply be insulting to all parties involved. Rather researchers have asserted these issues are very minimal in nature when addressing any landscape level emissions that might be in an area, as these new units are EPA compliant. Even when OSV emissions are addressed locally, they are found to be insufficient to warrant any further monitoring. If air quality is an issue that should be addressed at the landscape level, the Western Slope planning area is generally well within air quality standards for the EPA and Colorado Department of Public Health. Any air quality concerns on the Western Slope are localized and related to particulate matter being released from wildfires in the vicinity. This issue again highlights the value of identifying a limited number of threats on the GMUG, such as poor forest health, as these factors can ensure that limited resources are directed to poor forest health and subsequent wildfires rather than OHV/OSV emissions.

A second example of the misleading use of science in the WWA booklet involves lynx management standards and again provide a stark example of the systemic usage of out of date information in the WWA brochure. While we are aware that lynx management is not an issue on the Manti LaSal, this issue provides a stark example of why the Organizations are raising this issue as the conflicts are stark. Lynx management is an issue the Organizations have now partnered with USFWS in addressing for more than decade and now have significant time and resources vested into in an attempt to insure best available science on since reintroduction of the lynx in Colorado. This support has taken a wide range of efforts including some direct donations of resources, significant support such as fuel oil and equipment retrieval in the backcountry.

The WWA brochure clearly asserts that "no net gain" remains the rule for OSV travel in lynx habitat, stating as follows:

"The Canada Lynx Assessment and Conservation Strategy set planning standards on Forest Service lands that include, "on federal lands in lynx habitat, allow no net increase in groomed or designated over-the-snow routes and snowmobile play

areas by Lynx Analysis Unit... and map and monitor the location and intensity of snow compacting activities that coincide with lynx habitat, to facilitate future evaluation of effects on lynx as information becomes available" (USDA FS 2000, p.82)."

This was a relevant summary of research in 2000, as research on the lynx was exceptionally limited in 2000 and "no net gain" was temporarily relied on for management of these areas. Research in 2000 on this issue was more aptly summarized as identifying the numerous gaps in research rather than a peer reviewed body of science to develop a management plan. *As these gaps in research were resolved, new management guidelines were periodically released for management of lynx habitat and as a result the 2000 LCAS has been superseded by the Southern Rockies Lynx Amendments in 2008 and the 2013 release of the updated Lynx Conservation Assessment and Strategy, which was signed and developed in partnership with the USFS.* These management documents have clearly moved away from the "no net gain" standard and towards a truly science-based management structure as previously discussed in these comments in significant detail.

The conflict between the 2000 LCAS relied on in the Winter Wildlands brochure and accurate up to date management standards clearly provided in the 2013 LCAS is immediately apparent, and not addressing this conflict would possibly allow a plan to be developed based on badly out of date information and research. Given that the WWA/Switalski document was not released until 2 years after the release of the 2013 LCAS, there was more than enough time to provide accurate information in the WWA/Switalski survey. The Organizations submit that the failure to reflect best available science on the lynx casts a shadow over the reliability of the entire document.

A third example of the misleading usage of science in the WWA document involves a comparison of the Wolverine management standards from the USFWS and the WWA brochure, which again provides evidence of the lack of scientific basis for much of the WWA brochure. The WWA brochure summarizes Wolverine management standards as follows:

"Key management schemes for protecting wolverine include limiting disturbance and retaining and restoring habitat connectivity. Managers can reduce the potential conflict with snowmobiles and wolverine by identifying areas of overlap and managing accordingly."

This management position simply cannot be reconciled with recent USFWS listing decisions regarding the Wolverine that convey a very different standard for the management of recreational activities in Wolverine habitat. USFWS management specifically states:

"there should be no changes to forest management as the result of an area being designated as habitat".

While there was concern regarding the climate change being identified as the primary threat to the Wolverine in the most recent listing decision that ended in determination that the Wolverine was not warranted for listing as threatened or endangered, no concerns were registered regarding the accuracy of these management position that was taken with regard to general forest management standards. Given the clarity of these USFWS statements, the Organizations again are concerned that best available science has not been relied on for the development of the WWA brochure. Awareness of the lack of basic accuracy in the WWA document is critical in establishing a high-quality science based RMP for the GMUG.

8b. Land managers must be aware of the severely checkered past performance of those proposing best management practices.

As noted in the previous sections of these comments, there are serious conflicts between what is recognized as best available science on numerous issues and that being provided from user groups who are proposing best management practices for users outside their interest group. The basic concern for these standards is not limited to a lack of scientific basis, but also extends to

the implementation of social values as part of the BMPs. It is unfortunate that these documents are not the first time BMP's have been proposed based on inaccurate science and the Organizations believe that understanding the exceptionally poor response and immediate user conflict that resulted when the USFS moved to adopt these BMP's will be critical in avoiding creation of an institutional user conflict in the Manti LaSal RMP.

Adam Switalski, the author of the WWA Booklet, has proposed OHV management BMP's previously which were adopted by the USFS as Appendix D of the " Comprehensive Framework for Off-Highway Vehicle Trail Management". The Organizations have enclosed relevant portions of this guide and related documents as this guide was **immediately withdrawn** by the USFS when vigorous public opposition to the BMP's was voiced. A copy of the various correspondence on this issue and cover of the Alaska trail builders guide is attached as Exhibit 12 to these comments. The Framework is not locatable on the internet currently to our knowledge. The Organizations would be remiss if the huge levels of overlap between the BMP's in the Framework and WWA Booklet were not addressed both from a scientific and social aspects. While the framework BMPs targeted all multiple use recreation, the implementation of the WWA Booklet BMPs for a smaller subset of the multiple use community is no more acceptable to the Organizations.

This overlap starts with the fact that both documents were published in the same scientific journal and given the immediate vigorous response to the original BMP's, the Organizations would question why any journal would not review any further articles with a high level of scrutiny. Additionally, many of the same standards are again proposed to be best management practices for multiple use recreation. A few examples of the significant overlap of socially based standards are as follows:

- Both publications assert motorized usage should be prohibited in a proposed Wilderness Area;
- both attempt to tie multiple use recreation to management challenges unrelated to multiple use, such as the impairment of water quality;

- require multiple use only occur in areas with a trail density of less than 1 mile per square mile;
- both provide identical offset distances for watershed related issues; and
- a blanket prohibition of multiple use in areas identified as habitat for endangered or sensitive species.

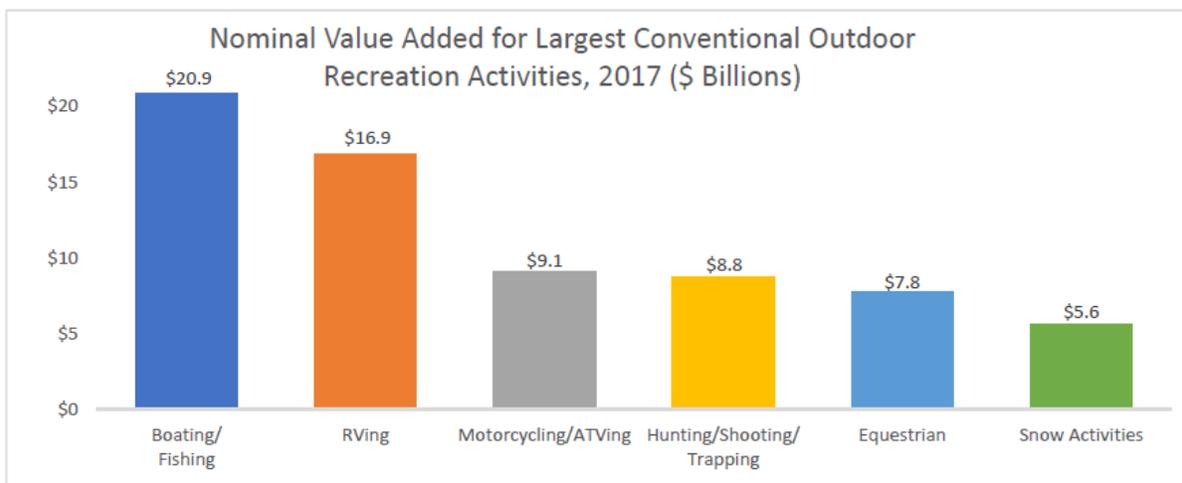
While the verbiage of the BMP's is clearly more polished in the WWA booklet, the BMP's that were the basis of the immediate user conflict have not changed. Often standards are provided with absolutely no basis for the standard, such as 1 mile per square mile standard or are standards that conflict with best available science or are standards, such as the prohibition of motorized usage in WSA areas, where historical usages are specifically recognized and protected by federal law.

The Organizations believe that avoiding the vigorous user conflict that resulted immediately from adoption of the BMP's from Mr. Switalski by the USFS nationally in the GMUG RMP revision. Implementation of socially based management standards is no more acceptable at the forest level than it was at the national level. The Organizations submit that if there is truly an issue to be resolved, the motorized community has a long and proud history of partnering with GMUG managers to resolve the issue. Inadvertent implementation of management BMP's that are not soundly based would negatively impact this partnership and should be avoided and a full awareness of the history of all proposals is a critical component of avoiding these negative impacts.

9. Economic importance of motorized recreation on the Manti LaSal NF to local communities.

The Organizations would like to highlight the economic importance of motorized access to public lands both for the economic contributions that flow from motorized usage but also from the fact that motorized access is a significant component of all recreational activity. The value of these economic contributions is becoming more and more important to the basic survival of local communities as more traditional economic contributors, such as mining and timber-based industries, continue to decline.

The Organizations are supplementing the previously provided information on the economic importance of motorized access to public lands, both as an individual economic driver and as an important component of almost every other recreational pursuit on the forest. Previously we had submitted extensive user group analysis and preliminary information from the Department of Commerce regarding the economic importance of outdoor recreation. We believe that Alternative C recognizes the importance of multiple use access to the PSI for the basic existence of many communities across the forest. The newly released analysis from the Department of Commerce clearly identifies the economic importance of motorized activity as follows: ⁴⁵



Nationally, it should be noted that motorized usages, including access vehicles such as RVs and boats, basically outspent all other forms of recreation combined. When the economic contributions of motorized access and usage are compared to the economic contribution of recreational activities of those opposed to motorized usage, the imbalance is simply not able to be summarized as motorized access is more than 10 times larger in terms of spending.

When this analysis is reduced to the state level the BEA finds that recreational activities accounts for more than \$5.5 Billion in economic activity and that motorized usage, both summer and winter contributed more than 10% of total without accounting for equipment purchases. ⁴⁶ While

⁴⁵ https://www.bea.gov/system/files/2019-09/orsa0919_1.pdf

⁴⁶ https://www.bea.gov/system/files/2019-09/orsa0919_1.pdf

the Organizations do not contest that developed skiing is a larger economic contributor to the Utah economy, the Organizations would note that downhill skiing as an economic driver is geographically limited in its ability to support local economies. This situation could not be more evident than on the Manti LaSal NF, which identifies no visitation for downhill ski related activity. If the topography to support a ski area is not available, these are facilities that cannot be simply built. Dispersed motorized opportunities can be pursued across almost any landscape.

Table 1: Forest Service Resource Outputs by Program for the Ashley National Forest during 2016 (for data sources, see page 8).

Program	Activity	Units of Measure	Output in 2016
Recreation	Wildlife and Fish - Locals	Visits	109,493
		Expenditures (Thousands of \$2016)	\$2,999
	Non-residents	Visits	82,600
		Expenditures (Thousands of \$2016)	\$10,405
	Downhill ski/snowboarding - Locals	Visits	0
		Expenditures (Thousands of \$2016)	\$0
	Non-residents	Visits	0
		Expenditures (Thousands of \$2016)	\$0
	All Other Rec Activities - Locals	Visits	166,744
		Expenditures (Thousands of \$2016)	\$2,627
	Non-residents	Visits	111,163
		Expenditures (Thousands of \$2016)	\$6,138
Grazing	Cattle, Horses, Sheep, Goats	AUMs	60,319
Timber	Sawtimber	CCF	1,497
		CCF	6,834
	Pulp, Poles, All Other	CCF	59
Value of Minerals & Energy Produced	Energy (coal, oil, gas, geothermal)	(Thousands of \$2016)	\$5,303
	Minerals	(Thousands of \$2016)	\$8
Payments to States/Counties	25% fund, Secure Rural Schools, Royalties.	(Thousands of \$2016)	
		Payments in Lieu of [property] Taxes	(Thousands of \$2016)

47

As reflected in the national analysis from the Department of Commerce, motorized access and usage of public lands remains a major economic contributor to the Manti LaSal NF planning area.

⁴⁷ See, USDA Forest Service; Jobs and Income: Economic Contributions 2016 at a glance; 2016 at pg. 3. A complete copy of this analysis is available here: <https://www.fs.fed.us/emc/economics/contributions/documents/at-a-glance/published/intermountain/AtaGlance-Ashley.pdf>

The Organizations believe an accurate economic analysis is critically important to the decision-making process. Given the fact that significant portions of the Manti LaSal NF are primarily used for recreational purposes, the comparative spending profiles of recreational usage is highly important information. It has been the Organizations experience that often-comparative data across user groups is very difficult to obtain. The USFS provided such data as part of Round 2 of the National Visitor Use Monitoring process and those conclusions are as follows:

Table 3. Visitor spending for high, average, and low spending areas by activity, \$ per party per trip (\$2007)

Activity	Non-Local Day Trips			Non-Local Overnight Trips ^a			Local Day Trips			Local Overnight Trips ^a		
	Low	Avg	High	Low	Avg	High	Low	Avg	High	Low	Avg	High
Downhill skiing	\$126	\$130	\$181	\$468	\$798	\$893	\$68	\$64	\$69	\$359	\$386	\$489
Cross-country skiing	\$87	\$97	\$135	\$315	\$537	\$951	\$26	\$27	\$31	\$242	\$259	\$329
Snowmobile	\$116	\$129	\$180	\$377	\$642	\$1,139	\$72	\$74	\$74	\$289	\$311	\$394
Hunting	\$79	\$88	\$122	\$253	\$368	\$652	\$41	\$51	\$51	\$230	\$248	\$314
Fishing	\$52	\$55	\$77	\$214	\$331	\$548	\$36	\$38	\$38	\$154	\$161	\$205
Nature-related	\$56	\$65	\$90	\$269	\$473	\$826	\$36	\$37	\$42	\$182	\$195	\$247
OHV-use	\$98	\$109	\$151	\$219	\$277	\$491	\$63	\$58	\$58	\$125	\$134	\$170
Driving	\$42	\$54	\$75	\$338	\$576	\$1,021	\$28	\$32	\$30	\$259	\$278	\$353
Developed camping	n/a	n/a	n/a	\$183	\$206	\$300	n/a	n/a	n/a	\$178	\$171	\$217
Prim. camping/bpack	n/a	n/a	n/a	\$108	\$134	\$196	n/a	n/a	n/a	\$121	\$120	\$153
Hiking/biking	\$53	\$50	\$64	\$228	\$473	\$765	\$20	\$21	\$18	\$126	\$150	\$190
Other	\$60	\$72	\$100	\$216	\$330	\$569	\$36	\$40	\$32	\$170	\$187	\$237
Total	\$58	\$65	\$90	\$214	\$366	\$648	\$34	\$34	\$29	\$165	\$177	\$224
Ratio to average	0.90		1.39	0.59		1.77	0.98		0.84	0.93		1.27

Shaded cells were filled using rules 1, 2, 3, or 4 as described in the text. Other figures are estimated directly from the NVUM sample.

^a Includes visitors on overnight trips staying on or off the forest.

48

While the above agency summary data has become somewhat old, the Organizations simply don't see any change in the comparative spending profiles of these users' groups. The Organizations are aware of detailed research addressing certain portions of this analysis above.

⁴⁸ See, USDA Forest Service; White and Stynes; *Updated Spending Profiles for National Forest Recreation Visitors by Activity*; September 2010 at pg. 6.

10. Conclusions.

The Organizations encourage the Manti LaSal NF planners to develop a reasonably short and concise RMP for the Forest. Not only does this request comply with general USFS guidance on forest plan revision, but this type of a plan simply allows the public to more fully understand what the plan does and does not provide for which will result in a plan that is simply more relevant with the passage of time. This simplicity will also avoid situations in the future where the USFS is forced to address new challenges and an outdated and overly specific forest plan is no longer a resource for dealing with this challenge but is rather another barrier to effectively addressing that issue.

Additionally, the Organizations have provided a large amount of scientific data around winter recreation and the behavior of snow in response to this recreational activity. The Organizations are aware that the Manti LaSal is not pursuing a winter travel plan at this time but we are also keenly aware that the RMP will be a significant tool in the development of a winter travel plan at some point in the future. As a result, the Organizations believe this information is important to the basic planning process as it allows planners to explain with far higher levels of detail the reasoning that winter travel management has been effective in avoiding resource impacts on the Manti LaSal NF over the more than 3 decades of time that the Manti LaSal has allowed OSV usage on the forest.

It has been the Organizations experience in other forests and planning areas that often these basic types of information about winter travel are some of the first pieces of information drawn into question in planning on the erroneous assumption that no one has ever researched snows behavior in relation to mechanical and natural forces being applied to it. Obviously, this is incorrect as the Army Corp and a wide range of other researchers have concluded with high levels of detail that snow of all types is a highly effective buffer between resources and any activity that is occurring on the surface of the snow.

Please feel free to contact Scott Jones at 518-281-5810 or via email at scott.jones46@yahoo.com or via USPS mail at 508 Ashford Drive, Longmont, CO 80504 for copies of any documentation that is relied on in this document or if you should wish to discuss any of the concerns raised further.

Respectfully Submitted,

A handwritten signature in cursive script that reads "Scott Jones".

Scott Jones, Esq.
COHVCO/TPA Authorized Representative
CSA Executive Director

A handwritten signature in cursive script that reads "Don Riggle".

D.E. Riggle
Director of Operations
Trails Preservation Alliance