

# MANAGEMENT CONSIDERATIONS FOR CONCURRENT WINTER OHV USE ON GROOMED SNOWMOBILE TRAILS



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## MANAGEMENT CONSIDERATIONS FOR CONCURRENT WINTER OHV USE ON GROOMED SNOWMOBILE TRAILS

There are several factors trail managers should consider before making decisions to either allow or disallow concurrent OHV use on groomed snowmobile trails – irrespective to whether it’s wheeled or tracked UTVs and/or ATVs. The following topics have consistently been found to be of importance through a series of field assessments conducted between 2006 and 2021 which are available at <https://www.snowmobileinfo.org/snowmobile-access-education-tools.aspx> . While the significance of each factor may vary locally, it is recommended that the following issues be appropriately vetted in any local decisionmaking process:

- 1. Funding:** It is essential that funding from OHV riders accompany any decision to allow concurrent UTV or ATV use on groomed snowmobile trails. Winter trail grooming is expensive, so all users need to share those costs. Any increase in use will likely also necessitate more trail grooming. While assessments have shown that normal UTV or ATV operation does not typically result in trail impressions more impactful than those caused by snowmobiles, traffic by all vehicle types simply wears snow out. Consequently, over-snow trails must be frequently groomed in order to be “restored” to a condition where they remain safe and pleasurable to ride.

Since snowmobile trails are funded solely by registration fees, user fees, and/or gas taxes paid by snowmobilers, UTV and ATV riders must also contribute toward on-going trail development and maintenance costs if they wish shared access to existing snowmobile trails. It must also be recognized that many/most snowmobile trails were developed by volunteers and many are still operated by volunteer organizations. Consequently, this necessitates sensitivity to snowmobilers’ “ownership” in “their” trails. All trail users must simply help support the cost of winter trail operations by paying their fair share.

Funding assistance from OHV riders is critically important to the success of concurrent trail sharing and can be achieved several different ways:

- A. Direct Payment:** by requiring all winter users to purchase a ‘snowmobile’ trail permit/trail pass to operate during winter on groomed snowmobile trails.
- B. Indirectly:** by using funds from a jurisdiction’s OHV/ORV account (funds received from the sale of OHV/ORV permits, registrations and/or gas tax) to help support a degree of snowmobile trail grooming, maintenance and operating costs where concurrent OHV use is allowed on groomed snowmobile trails during winter. (See Wisconsin example in Appendix 2 on page 40)
- C. Grants:** by utilizing federally funded grant programs like the Recreational Trails Program (RTP) or state-funded recreation grants that help manage multiple use on trails.

The key in all situations is to build a coalition with OHV riders who desire winter access and are supportive of helping fund their concurrent use.

- 2. Shoulder Season Regulation and Management:** It is necessary that the over-snow trail have a firmly compacted snow base if concurrent wheeled UTV or ATV use is to be successful. Therefore, it is important that regulation of the “shoulder season” (the beginning and end of the snowmobile trail grooming season when snow depth is thinner and temperatures may occasionally or regularly be above freezing) be considered based upon local factors and conditions and that OHV use on the trail corridor be managed accordingly.

First and foremost, the trail’s base *must* properly harden before it will withstand wheeled traffic from OHVs. This requires adequate “setup” time for groomed snow to re-freeze and properly harden. UTVs and ATVs typically have a higher pounds per square inch (PSI) of pressure in contact with the trail than the PSI exerted upon the trail by a snowmobile. This is because the weight of an UTV or ATV and its rider is spread over just the small surface area where its tires are in contact with the snow surface – versus a snowmobile, where the weight of the snowmobile and its rider is spread over a much larger surface area since its track and skis are all in contact with the snow surface. Consequently, the trail’s groomed snow surface must be

harder/firmer for wheeled OHV use compared to what is required for snowmobile-only use. So, proper trail setup/hardening at the beginning of the season is crucial to preventing on-going issues with rutted trails as winter progresses.

Second, many areas go from snow season to ‘mud season’ immediately after the snowmobile season. If the snow trail route is rocky or has been hardened with gravel or a similar surface, this may not be an issue. But if the route is subject to being soft and muddy, this may be an important consideration. In such cases, continued OHV use can potentially damage the underlying trail tread and surrounding resources. Consequently, consideration should be given to a ‘drying out period’ before OHV use is allowed to continue (if the route is open to summer OHV use). Past assessments and trail manager surveys found a variety of approaches employed by jurisdictions around the Snowbelt. Examples include:

- Some counties in Wisconsin stipulate that concurrent wheeled OHV use may not start on the snow trail until a week to ten days *after* the first day the snowmobile trail is groomed – which allows time for the trail to build base in terms of snow depth and, most importantly, an opportunity for the trail base to setup and harden properly.
- The Minnesota State DNR Trail where 2021 UTV testing occurred operates with a rule which allows shared ATV/UTV trail use on the groomed trail when the air temperature is ‘30 degrees Fahrenheit (F) and below.’ Other trail areas regulate use by an air temperature within a range between ‘28 F and 32 F.’
- Several areas stipulate that OHV use must end on the snow trail when ‘snowmobile season’ ends or that the trail closes to all use on a specific date such as March 31 or April 1.
- Trail routes may or may not open again to OHV use after the ‘mud season’ – dependent upon what summer uses are allowed on that specific trail corridor.
- The Burnett County, Wisconsin trail where 2021 UTV testing occurred operates with the following policy (See sign example below): Winter concurrent snowmobile / OHV use is allowed from ‘December 1 through March 31.’ Trails are then subsequently closed to both snowmobile and OHV use from ‘April 1 until the Friday of Memorial Day weekend’ – depending upon conditions ‘as determined by the county.’



3. **Off-Season Management:** Many OHV riders are familiar with snowmobile trails because they are also either current or former snowmobile owners. Consequently, OHV riders sometimes mistakenly believe OHVs can be operated on snowmobile trail routes, winter or otherwise, simply because in their mind they are ‘public trails.’ This familiarity requires aggressive education efforts to help safeguard against improper use of trail routes during non-winter seasons if OHV use is prohibited. If education efforts do not sufficiently prevent unauthorized use, more aggressive on-the-ground signing, law enforcement, and/or gate/barrier installations may be required.

If OHV use is allowed, there should be a distinct ‘snowmobile season’ during which snowmobile trails are groomed and OHVs are allowed, as discussed above in #2. Outside this ‘season,’ snowmobile trails themselves cease to exist and consequently trail routes either transition to other prescribed trail uses or they cease to exist until the next snow season. Consequently, concurrent OHV use requires that trail managers provide extra effort to:

- A. Educate all users as to when snowmobile trail routes are open or closed to various uses;
- B. Work with landowners and land managers to heighten awareness and sensitivity to other prescribed uses along trail routes, including during non-winter seasons; and
- C. Work with landowners and land managers to help prevent unauthorized OHV use on snowmobile trail routes during the non-winter seasons.

4. **Risk Management:** Proper risk management is a critical part of managing any recreational activity. If concurrent OHV use is added to a groomed snowmobile trail system, it may constitute a ‘change in use’ which could trigger the need for a new risk assessment by the trail’s manager or insurer. Risk management factors, including liability insurance requirements, may be different depending upon whether the trail is managed by a government entity or by a snowmobile club/association.

Government Agency Managed Trail: If a government entity manages the trail, special liability insurance may not be required for operation of the snowmobile trail. However, proper risk management that includes following ‘best management practices’ for the trail along with regular ‘risk assessments’ performed by qualified risk management professionals is often required. Trail managers must ensure all new activities or trail management policy changes are closely coordinated with their agency’s risk management office.

Club or Association Managed Trail: If a club or association provides day-to-day trail management, they typically are required to purchase special liability insurance covering their trail activities. Trail managers must check with their insurance company *prior to any decision to add OHV use (or any other new managed uses) to their snowmobile trail system* to ensure their liability insurance policy includes coverage for concurrent OHV trail use. It is essential that this issue be carefully researched and a formal ‘risk assessment’ may be required by the insurer.

5. **Landowner Permission:** *It is imperative that all landowners (private including corporate, as well as public land managers) be involved in any decision to add concurrent OHV use to any snowmobile trail!*

Private and Corporate Property: Permission for private and corporate lands access is always particularly sensitive since each landowner is but one link in a chain of many owners required to connect destinations. It takes a lot of effort to make things work and requires extreme sensitivity to landowners’ varied perspectives and their other land uses during both winter and non-winter months.

A landowner’s use of their property during non-winter months is often a principal reason for their owning that property, particularly if it’s in an agricultural area. Since snowmobile trail routes across private and corporate lands are generally for ‘winter-only’ snowmobile use, trail managers must often also help ensure steps are taken to prevent use conflicts outside the snowmobiling season – or they risk losing the trail route altogether for snowmobiling. Unfortunately, OHV trespass onto private and corporate lands during non-winter months is a leading cause of why landowners cancel snowmobile trail access agreements. Trail managers must recognize that allowing concurrent OHV use on snowmobile trails could potentially further exacerbate what is already a tenuous situation with landowners in some areas. So, if OHV use is added, trail



managers typically must double-down on efforts to prevent off-season OHV trespass onto private and corporate lands.

While permission from private landowners remains the single largest barrier to establishing concurrent OHV use on many groomed snowmobile trails, it's interesting to note that in some areas landowners who have historically opposed OHV use are beginning to change their position to being supportive of concurrent uses – because they own OHVs and want to be able to use them on the trails they're permitting across their private property. In some cases, this has actually resulted in those landowners forcing trail managers to compromise and allow joint OHV use during winter – or lose snowmobile access. While this situation is certainly not the norm, it could potentially grow as more landowners purchase OHVs. Private lands access will always remain a time consuming and constantly moving target as land ownership continually changes hands, so it's tremendously important to be continually adaptive to landowners' changing needs and attitudes in order to keep trail access open.

Public Lands: Permission from public land managers is also required since there may be potential for conflict with their public land management plans and motorized/nonmotorized recreation use zoning. Consequently, public lands access requires permissive motorized vehicle use policies, which may or may not treat snowmobiles and other OHVs the same. If a snowmobile trail route is located on what's designated as a motorized road or trail during the non-winter season, concurrent winter OHV use may likely be permitted during winter – unless the area's motorized travel plan restricts or eliminates year-round OHV use through 'season of use' dates. But more often than not, designated motorized routes can typically provide year-round multiple use trail opportunities.

However, if the winter route is designated through a summer nonmotorized use zone, you will likely have to address how that nonmotorized designation is not jeopardized or improperly encroached upon during non-winter seasons. Consequently, if winter concurrent OHV use is added on a route not open to motorized use in the non-winter season, trail managers must proactively work to ensure off-season trespass or conflicts do not result in the loss of continued winter access for the snowmobile trail. While this can be accomplished with on-the-ground education, signing, barriers and enforcement, it cannot be successful without on-going, concerted partnership and buy-in from both trail managers and riders.

- 6. Geography of the Trail System:** The geographic characteristics of the trail system can be an important indicator as to the suitability of concurrent use for that particular area. The series of field assessments conducted between 2006 and 2021 showed very little substantive difference between the impressions left on the trail by UTVs, ATVs and snowmobiles when the trail was straight and relatively flat. Therefore, trail corridors such as abandoned railroad grades are generally good candidates for concurrent use trails since they are typically straight, relatively wide, and normally have a grade that does not exceed 3%. Other non-railroad grade trails with relatively flat and straight corridors are also potentially strong candidates for concurrent use consideration.

The 2006 Assessment showed that as curves, and particularly hills, are added to a trail's topography, tire impressions from ATVs started to get a bit deeper than those left by snowmobiles on the same groomed trail. While curves do not rule out a trail's candidacy for concurrent use, their presence should be a signal to trail managers that more grooming will likely be necessary. However, this is true on snowmobile-only trails as well – the presence of lots of curves necessitates more grooming than if the trail is straight.

The 2006 Assessment showed that hills, and particularly steep grades, can definitely be a limiting factor for the viability of concurrent use by ATVs – particularly if the trail is not firmly compacted or if there is new, uncompacted snow on top of the compacted trail base. Field testing showed that ATVs clearly struggled on a compacted trail with a 19% grade, as well as on a grade of only 8% that was covered by fresh snowdrifts. While the sites used for the 2021 wheeled UTV assessment did not offer steep grades for similar testing, it is quite likely that wheeled UTVs would experience similar difficulties on steep grades, as well as if there is new uncompacted snow on top of the compacted trail base.

Consequently, close consideration should be given to the suitability of encouraging winter operation by wheeled ATVs and UTVs on trail grades which begin to exceed 15% to 20% on compacted trails. And if the area has frequent heavy snowfalls or drifting, the maximum desirable grade may be as low as 8% to 10%.

**7. Trail Width, Compaction and Grooming: A well compacted trail base is key to trail durability and the most essential ingredient for successful concurrent use.**

The area must have a good trail grooming program that provides frequent grooming commensurate with both the overall volume of traffic on the trail and the amount and frequency of new snowfall in the area. Heavy vehicle traffic and/or frequent big snowfalls will require a more frequent and more aggressive grooming schedule. Without good, consistent trail compaction, concurrent use will likely not be successful.

**Full-Width Compaction:** The trail must be consistently compacted to its intended full width from the very beginning of the season onward. If the trail is intended to be twelve-foot wide, for example – but is only groomed eight to ten feet wide initially and then widened to a full twelve-foot width later on as the season progresses – there will always be a soft zone, potentially at least one to three-feet wide, along the outside edges of the trail. These soft spots will be susceptible to a greater degree of tire rutting or trenching from ATVs and UTVs, as well as have an increased potential for OHV drivers to lose control or become stuck.

There were numerous incidents during 2006 field testing where just one tire of an ATV hitting an uncompacted area at the outside edge of the trail caused the ATV to get stuck or even flip over. So, full-width compaction is significantly important to preventing “soft spots” from forming along the outside edge of over-snow trails.

**Minimum Trail Widths:** The following are *minimum* widths needed for two-way vehicle traffic; wider groomed trail widths are recommended for a higher level of trail durability and safety:

**Snowmobile:** Most snowmobiles typically do not exceed a width of 4-feet; consequently, the *minimum* groomed trail width needed for two-way snowmobile traffic is 8-foot wide.

**Wheeled ATV:** Most wheeled ATVs typically do not exceed a width of 50-inches; consequently, the *minimum* groomed trail width needed for two-way wheeled ATV traffic is about 8½ feet wide.

**Wheeled UTV:** A wheeled UTV typically does not exceed a width of 5½ feet; consequently, the *minimum* groomed trail width needed for two-way wheeled UTV traffic is 11-foot wide.

**Tracked ATV:** A tracked ATV typically does not exceed a width of 4½ feet; consequently, the *minimum* groomed trail width needed for two-way tracked ATV traffic is 9-foot wide.

**Tracked UTV:** A tracked UTV typically does not exceed a width of 6-feet; consequently, the *minimum* groomed trail width needed for two-way tracked UTV traffic is 12-foot wide.

**Grooming Frequency:** Frequent trail grooming is required at a level commensurate with a trail’s overall traffic volume, as well as the frequency and amounts of new snowfall received. Trails with heavy traffic and/or regular big snowfalls will require more frequent and aggressive grooming repetitions as use increases compared to trails where traffic is lower or snowfall less frequent.

Field testing has shown there is a noticeable difference in trail hardness between once-a-week average grooming repetitions versus twice-a-week average grooming repetitions – even in extreme cold conditions. Clearly, once per week trail grooming has been proven to be inadequate in almost all settings and circumstances in today’s busy winter recreation world, even with only snowmobile traffic. Consequently, a minimum of at least two to three grooming repetitions per week should be considered the minimum best practice for all but extremely low use motorized over-snow trails. If all trail segments currently receive multiple weekly grooming repetitions, adding OHV use may or may not necessitate increased grooming frequencies. However, as OHV as well as snowmobile use increases, managers should pay close attention to ensure trail grooming levels sustain any increase in total vehicle use levels.

Type of Grooming Equipment: The type of grooming equipment used in an area may play a role in the viability of concurrent use. Field testing dating back to 2006 showed that trails groomed with multi-blade drags were generally well compacted and generally held up well to traffic from both OHVs and snowmobiles. Conversely, the one area tested (2006 – Wyoming 2) which had been groomed infrequently with a single blade drag had poor compaction and did not hold up well to ATV traffic. While this may be an isolated case, it is nonetheless an indicator that should be considered. Additionally, the trail base in the area (2006 – Idaho 1) that had been groomed with a tiller the morning of testing was also generally less dense than the trails groomed with multi-blade drags. While this trail base held up okay during field testing, it was noticeably softer, and would have hopefully been firmer with more setup time.

Uncompacted Snow: The depth of uncompacted snow, from freshly fallen snow or new snow deposited by wind drifting, on top of the compacted trail was found to be a potentially limiting issue for wheeled ATV operation during 2006 testing. While there wasn't any new snowfall on the trail during 2021 wheeled UTV testing, it would have also likely affected UTV operation to some degree. Anecdotal information shared by test riders during 2021 Wisconsin UTV testing related how UTV riders who left on freshly groomed trails in the morning sometimes struggle with heavy snowfall that accumulates during the day during their return trip back home later in the afternoon or evening. So, it must be recognized that winter trails can never be 'well compacted' 100% of the time due an extreme range of potential changing snow and weather conditions on any given winter day. Consequently, OHV riders will have to patiently accept varying, sometimes less than ideal, trail conditions between grooming rotations.

While snowmobiles generally 'float' on top or toward the top of uncompacted snow, ATVs do not. The 2006 field testing showed that ATV tires generally compressed new snow to a depth of 0.4 to 1.2 inches, an indication that they have virtually no flotation. Additionally, since an ATV's clearance is typically only about 7 to 10 inches, the vehicles struggled to negotiate deep snowfall. Despite not being able to test UTVs in uncompacted on-trail snow conditions during the 2021 assessment, it is likely that UTVs would also experience similar operational challenges similar to those seen with ATVs during 2006 testing. Regardless, it is very necessary that concurrent use trails be regularly groomed soon after new snowfalls to restore a compacted surface on the trail – since it's compaction that makes concurrent winter use possible.

- 8. Potential Use Patterns:** Use patterns and the potential mixture and volume of uses on the trail are important factors to consider. The 2006 trail manager survey showed existing wheeled ATV use on concurrent use trail systems was considered to be "very light," varying from 1-2% up to 5-10% with isolated cases in low snow areas of up to 30-35% of total winter use. Likewise, the 2014 tracked OHV assessment's survey showed existing tracked OHV operation on concurrent use trail systems in the U.S. ranged from "minimal to nil" – with most managers estimating winter OHV use to be in a range between "5 to 10 percent" of total trail use where concurrent use is allowed. Additionally, many trail managers in both surveys commented that most winter OHV use was "local" – meaning riders typically ventured only a few miles from parking areas and/or communities in contrast with snowmobilers who routinely ventured long distances during a day of riding.

A likely reason for 'typically only local' ATV riding patterns versus snowmobilers typically traveling longer distances is that riding an ATV during winter conditions can be very cold when compared to riding a snowmobile, as was experienced during field testing. While a snowmobile has hand warmers, a windshield, and cowling that directs some heat back toward the driver, a stock ATV typically offers nothing in regard to protection for the operator from winter elements. While hand warmers and a windshield can be added to an ATV, the issue of no protection and heat from a cowling remains. Additionally, 'safe touring speeds' on an ATV operating on a groomed snowmobile trail surface were judged during field testing to typically be at least 10 to 20 miles per hour slower than snowmobiles on the same trail.

In comparison to an ATV, operating an UTV in winter conditions is much more appealing and can even be ultra-comfortable given a windshield, doors, or even fully enclosed cabs complete with a heater on UTVs.

And with multi-seat capacity versus only single person seating on most modern snowmobiles, UTVs are becoming an attractive, less expensive alternative to snowmobiling for families.

The volume of winter UTV use appears likely to continue growing, particularly in low to marginal snow areas and during low snowfall years, and appears to be driving some snowmobilers to switch to an UTV in addition to, or instead of, their historic use of a snowmobile for recreation. However, their familiarity with snowmobile trail systems can be a double-edged sword: good in respect to these recreationists being accustomed to paying fees and volunteering to support their trails, but not so good if they don't understand snowmobile trails may not be open to OHV use, winter or summer. This growing cross-over segment of OHV riders is important to the future of continued trail access, so they must not be discounted nor summarily dismissed as unimportant or a nuisance since their numbers will, in all likelihood, only continue to grow.

- 9. Potential for Partnerships:** The potential importance and benefits of local partnerships must be considered when weighing the pros and cons of concurrent OHV use. Where common ground can be found, coalitions of motorized trail users working together can be instrumental in helping protect and enhance overall motorized recreation access. Coalitions are simply stronger and more effective than individual groups working alone. While concurrent use is certainly not appropriate for every local situation, there are likely suitable opportunities in many areas which can help advance multiple use objectives. When possible, these opportunities should be given thoughtful consideration for a chance to succeed.

It's also important to cultivate state, regional and national alliances between snowmobile and OHV users. It's estimated there are over 15 million OHVs in the United States and that number continues to grow every year. Comparably, there are only about 1.2 million registered snowmobiles in the United States. Coalitions of snowmobilers working where appropriate with OHV riders have the potential to be very influential. Snowmobiling occurs over only about half of the U.S., while the 15 million OHV owners are scattered across all 50 states – so an alliance with them is crucial to helping broaden snowmobiling's support nationally.

Since success begins and is ultimately judged at the grassroots level, local partnerships must not only exist but also must function well – otherwise even the best state, regional or national alliances are fruitless. Since 'divide and conquer' continues to be a tactic used by motorized recreation opponents, the old adage 'united we stand, divided we fall' continues to be an important approach for retaining future snowmobiling access. The bottom line is there is potentially much to be gained from snowmobilers building and strengthening alliances at every level with other user groups.

- 10. Air Temperature:** The depth and frozen quality/density of a compacted snow trail's base is a more important potential impact indicator than concern about warm daily air conditions. Air temperatures ranged between a high of plus 46 degrees and a low of minus 15 degrees Fahrenheit (F) during various field tests conducted for the four Assessments completed between 2006 and 2021. Specific air temperatures recorded during individual Assessments included – 2006 Wheeled ATV Assessment: +11 F to +32 F; 2014 Tracked OHV Assessment: +41 F to +46 F; 2015 Supplemental Tracked OHV Assessment: +9 F to +39 F; and 2021 Wheeled UTV Assessment: +1 F to -15 F.

Appendix 1 of the 2021 Wheeled UTV Assessment provides a 'Summary of All On-Trail Depth Impressions' observed during these four assessments. It clearly shows no substantial difference between depth impressions created when air temperatures were above freezing (+32 F) compared to when air temperatures were sub-zero; i.e., depth impressions from comparable vehicles were not egregious or more prominent when air temperatures were +39 to +46 F compared to when they were +11 to -15 F.

Rather, the most important consideration factor goes back to the quality of grooming and constructing a firm, densely compacted trail base from the ground up early in the winter season. This premise is backed up by decades of working with snow trail grooming coupled with observations during this series of field assessments. If the ground is frozen solid, it helps act like a refrigerant to keep the primary base solid



despite sunshine and intermittent warmer air temperatures. Consequently, the greatest potential influence to deterioration of a solid snow base includes inadequately frozen ground in the trail vicinity, rain events, and/or prolonged periods of extremely warm melting periods which produce water running down and/or across the frozen snow trail.

Thus, one of the best management actions to help enhance soil freeze-up is to ensure trail grooming starts early (when there is 6 to no more than 12 inches of snow cover). Early grooming helps prevent allowing excessive snow cover to insulate the underlying ground and consequently delay or prevent prompt freeze-up of the underlying ground. By compressing early snowfall, you actually help drive frost down into the ground which ultimately leads to a firmer, more durable trail base.