

FAT TIRE BICYCLE USE ON SNOWMOBILE TRAILS: Background Information & Management Considerations



Prepared by Trails Work Consulting
For the American Council of Snowmobile Associations

July 2016



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ACKNOWLEDGEMENTS AND DISCLAIMER

This assessment was conducted by the American Council of Snowmobile Associations (ACSA) with funding provided by the Recreational Trails Program (RTP) administered by the U.S. Department of Transportation – Federal Highway Administration (FHWA). It replaces a preliminary report released in November 2015.

ACSA's leadership and members are recognized for their input and guidance for this assessment. All project management, research, writing, and photography for this report was provided by Trails Work Consulting.

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INTRODUCTION AND BACKGROUND INFORMATION

Definitions: For the purposes of this assessment, the term ‘fat tire bicycle,’ ‘fat tire bike’ or ‘fat bike’ are interchangeable and mean a human powered bicycle equipped with extra wide tires (3.7 to 5+ inches wide – which is 2 to 3 inches wider than a typical mountain bike tire) operated with less than 10 psi (pounds per square inch) of pressure in each tire.

Fat tire bicycles can be ridden in all seasons on a wide variety of surfaces besides snow. For that reason, the term ‘fat tire bike’ should not be confused with the term ‘snow bike’ since snow bikes are actually motorized vehicles, i.e., motorcycles which have been converted from a wheeled motor vehicle to a tracked motor vehicle capable of over-snow operation.

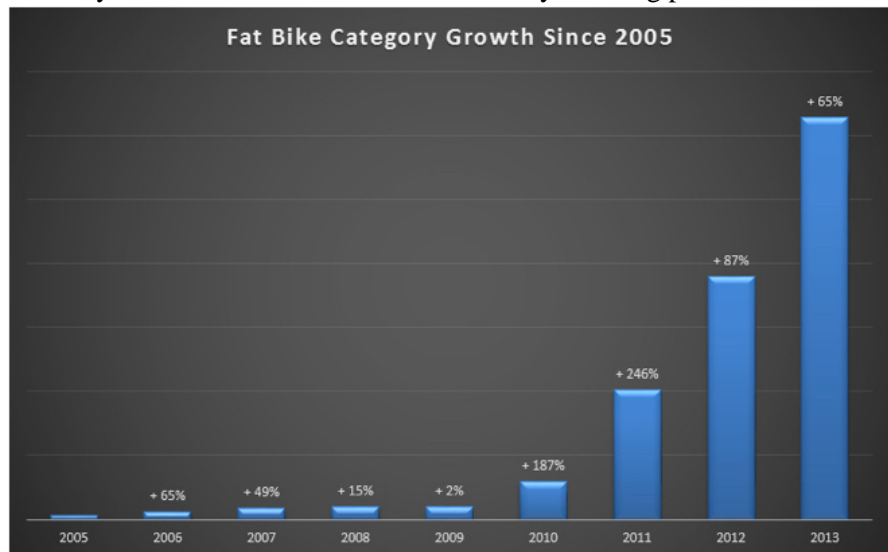
Report’s Purpose: It is not the intent of this assessment to either encourage or discourage fat tire bicycle use on groomed snowmobile trails; that decision must be made at the local level in accordance with local priorities and conditions. Consequently this report’s only purpose is to help expand the body of information about potential fat tire bicycle use characteristics and issues to help local decision makers make informed decisions related to the use and management of existing snowmobile trails. This assessment therefore merely provides background information along with general management considerations for local trail managers.

BACKGROUND PERSPECTIVES FROM THE BICYCLING COMMUNITY

Fat tire bicycles are a relatively new recreational use which is quickly growing. The following perspectives from the fat tire bicycling community are provided solely to help snowmobilers and trail managers better understand this new activity and the perspectives of fat bike advocates. Its inclusion in this report is intended to be ‘informational only’ to help snowmobilers be better equipped for trail access discussions and negotiations – whether with potential partners or challengers (i.e., know your partner, know your competitor, and be able to differentiate between them). The inclusion of these background perspectives does not in any manner imply that ACSA or its members endorse, concur with, or reject any or all of this information since it will likely have widely varying meanings or implications in different local areas.

Fat Tire Bike Advocate’s Perspectives from their ‘Global and Regional Fat Tire Bike Summits’

Fat tire bikes have been around for about 10 years with the first modern fat tire bicycle being produced in Alaska around 2005 for traversing rough terrain. This new variation of a mountain bike quickly took hold with the recreation community, with over 100 companies are currently manufacturing fat bikes or fat bike components.¹ Annual growth rates have been dramatic over the past few years, ranging between a low of 65% and a high of 246%, resulting in an estimated 80,000 units being sold by the end of 2016 compared to only 10,000 units at the end of 2013. Two bike makers, Salsa and Surly, have alone sold 50,000 fat bikes since 2005.²



¹ 4th Annual Global Fat Tire Bike Summit; Jackson, Wyoming; January 2015 <http://fatbikesummit.com/>

² Regional Fat Tire Bike Summit; Crested Butte, CO; February 2016 <http://www.pinkbike.com/news/gliders-and-riders-clash-over-ski-trail-access.html>

In 2015, fat tire bike user demographics showed that riders are generally older men with above average income³:

- 75% of fat tire bike owners were ages 40 to 60+ years old
- 50% of purchasers had an annual income of \$100,000+
- Gender ratio of fat bike owners: 80% male, 20% female
- 45% of fat bike owners have an advanced education degree

By 2016, the average annual household income of fat biker's increased to \$128,000 with 80% having a bachelor degree or higher and 70% having professional or managerial vocations.⁴ Many in this user group are likely to be involved and influential at local levels.

Fat tire bikes work best on compacted snow since more than three inches of uncompacted snow generally makes operation difficult and can prohibit their use. Consequently groomed trails are an important factor for their winter use and make groomed snowmobile trails an extremely appealing target for winter fat bike riders.

Use trends show fat tire bikes are generally being used in three different settings⁵:

1. On groomed snowmobile trails;
2. On groomed Nordic (cross-country) ski trails – on the portion of trail groomed flat for skate skiing rather than on the portion set for classic track skiing;
3. On natural terrain or in the backcountry where frozen conditions and minimal snow coverage (generally less than 3”) opens access to areas that may be impassable by bicycle during warmer months.

Of those surveyed by singletrack.com, over seventy percent report mainly riding traditional cross-country style trails, 52% would like to race fat bikes against other fat bike riders, and 64% said they would pay to ride on groomed trails.⁶

Access for fat tire bike riding has been encountering resistance from both cross-country skiers and snowmobilers concerned about potential impacts to their existing recreation uses, as well as from land managers regarding potential resource impact concerns and potential social conflicts with other trail users. According to fat tire bike advocates, the primary obstacles they've encountered as they've pursued winter trail access on existing groomed trails (snowmobile and Nordic ski) includes⁷:

1. Concerns about trail safety;
2. Concerns about disruption/disturbance of the groomed trail's quality, and
3. Concerns about their not cost-sharing grooming and other trail maintenance expenses.

➤ **KEY POINT:** All three areas of concern are valid and warrant close consideration by local trail managers.

Challenges mentioned by land managers in response to fat bike advocates' requests for trail access include⁸:

1. Concerns about bicycles being able to co-exist with motorized trail users on snowmobile trails, particularly given the large speed differential between motorized and non-motorized users;
2. Recognition that agencies (Forest Service, DNR, State Parks, etc.) often have more workload/trail maintenance needs than they can handle – so bike riders volunteering time to help maintain trails and/or helping to fund trail maintenance is absolutely necessary.

➤ **KEY POINT:** Both challenges are valid and warrant close consideration by local trail managers.

³ 2nd Annual Fat Bike Summit; Island Park, ID; January 2013 <http://fatbikesummit.com/>

⁴ Regional Fat Tire Bike Summit; Crested Butte, CO; February 2016 <http://www.pinkbike.com/news/gliders-and-riders-clash-over-ski-trail-access.html>

⁵ 4th Annual Global Fat Tire Bike Summit; Jackson, Wyoming; January 2015 <http://fatbikesummit.com/>

⁶ Regional Fat Tire Bike Summit; Crested Butte, CO; February 2016 <http://www.pinkbike.com/news/gliders-and-riders-clash-over-ski-trail-access.html>

⁷ 2nd Annual Fat Bike Summit; Island Park, ID; January 2013 <http://fatbikesummit.com/>

⁸ 4th Annual Global Fat Tire Bike Summit; Jackson, Wyoming; January 2015 <http://fatbikesummit.com/>

Land manager and fat bike advocate surveys have determined the top four features, in priority order, that fat tire bike riders want trails to offer include⁹:

1. Packed snow
2. Moderate climbs
3. Groomed snow
4. Narrow trails (single track)

Land manager ‘success stories’ presented during the 4th Annual Global Fat Tire Bike Summit held at Jackson Wyoming in January 2015¹⁰ included:

- ❖ Bridger-Teton National Forest (Jackson, WY) – indicated that adding fat bikes to shared use of local snowmobile and ski trails is really just an extension of existing shared trail use principles in that area. Local community pathways are heavily used for skiing and bicycling with funding provided by local agencies. Local snowmobile trails have been used by dog sleds and cross-country/backcountry skiers for many years. Since Wyoming snowmobile trails receive a significant portion of RTP Diversified (multiple use) funds for winter trail grooming, resolution of the funding issue experienced elsewhere has been at least partially addressed (but there is still no direct financial contribution from bike riders).
- ❖ Grand Targhee Resort (Driggs, ID) – indicated they have integrated fat bikes into their existing 15K of Nordic trails as well as added a dedicated, groomed singletrack for fat bike use this past year. Since they’re in their fourth year of integrating fat bikes, they noted that some of the challenges they’ve had included educating staff, riders, and renters about trail etiquette.
- ❖ Durango (CO) Nordic system – indicated they have integrated shared use with fat bikes into portions of the local Nordic ski system, as well as custom built additional new trails for just fat bikes. They recommended to initially go small to see what works and what doesn’t.
- ❖ Marquette (MI) trail system – indicated they have 60+ miles of fat bike accessible trails, 30 miles which are shared use and 30 miles which are dedicated to fat bikes. Fat bike club members donate time to other user groups as well as give money to help off-set costs. Some of their education to riders using snowmobile trails includes: no headphones of any type, wear bright colored clothing, have flashing lights on bike, and no bike riding on the groomed trail when temperatures are near or above freezing since the tires will leave ruts.
- ❖ Harriman State Park (eastern ID) – indicated they’re just starting to integrate fat bikes onto their existing Nordic ski trail system, so no particular pro or con experience to-date (2015).

- **KEY POINT:** fat tire bike riders are experiencing push-back about their ‘trail sharing’ on groomed Nordic (cross-country) ski trails as well as on groomed snowmobile trails. Consequently much of their focus has become trying to show progress toward joint use of both types of existing groomed trails since ‘packed/groomed’ snow is necessary for their winter use. Fat bike use is not automatically ‘acceptable’ on many existing groomed trails; therefore some type of an evaluation or negotiation process is often required with trail managers at the local level.

IMBA’s Suggested ‘Best Practices’ for Fat Tire Bicycle Riders

The International Mountain Bicycle Association (IMBA) has published ‘Fat Bike (Winter Mountain Biking) Best Practices’ which suggest best practices for fat biking on groomed Nordic trails, groomed snowmobile trails, and on uncompacted snow or natural terrain in the backcountry. They are available at <https://www.imba.com/resources/land-protection/fat-bikes>. IMBA’s suggested best practices are provided in this report solely as educational material to show where one portion of the bicycling community is at with this topic.

Inclusion in this report is not intended to imply ACSA or its members accept or reject them in whole or in part, or that they are sufficiently comprehensive. IMBA’s suggested best practices for fat bike use are one potential place for the bicycle community, the snowmobile community, and trail managers to start discussions and include:

⁹ 4th Annual Global Fat Tire Bike Summit; Jackson, Wyoming; January 2015 <http://fatbikesummit.com/>

¹⁰ 4th Annual Global Fat Tire Bike Summit; Jackson, Wyoming; January 2015 <http://fatbikesummit.com/>

- When riding on snowmobile trails, use a front white blinker and rear red blinker at all times.
- Wear reflective material on both the front and rear of your body.
- Stay to the far right of the trail and yield to snowmobiles.
- Know and obey the rules of your local land manager. Understand that some trails may be on private property and might not be open to alternative uses.
- Be prepared; winter travel in backcountry requires carrying proper gear and dressing properly. Be self-sufficient!
- Use extreme caution when riding at night. Be visible and use the brightest lights you can find.
- Fat bikers are the newest trail users; be friendly, courteous and open to suggestions from snowmobile riders.
- Help out by supporting your local snowmobile club.
- Consider donating to trail grooming and maintenance efforts.

GROUND PRESSURE COMPARISONS

PSI (pounds per square inch) is simply a measurement of the downward force/pressure exerted by an object's weight on the ground or trail surface while at rest. Ground pressure is calculated by dividing the total weight of the vehicle/equipment (equipment plus driver/rider) by the total surface area of the vehicle/equipment in direct contact with the ground or trail surface. Generally, the lower a vehicle's operational PSI is, the better its flotation in snow and the less force exerted on a trail's surface. While it's important to recognize that a vehicle or bicycle also exerts a sideways 'shearing force' on the trail's surface once its track(s) or tires begin to move, shear pressure is not included in this discussion since it has many variables and is more complicated to measure.

The substantially wider tires (3.7 to 5 inches) and low operational tire inflation pressure (5 to 10 PSI) on fat bikes results in a significantly larger 'contact patch' (the total area of the tires in contact with the trail surface) than all other bicycle types which have narrower tires inflated to a much higher tire pressure. Depending upon tire width and inflation pressure, it is estimated that a fat tire bike's contact patch is 20 square inches up to 36 square inches in size per tire.¹¹ Comparatively a road bike's tire has only two to three inches of total surface in contact with the roadway. Consequently – depending upon the combined weight of the fat bike and rider along with the varying contact patch size – the downward pressure exerted on a groomed trail's surface by a fat tire bicycle is estimated to range between 3.0 and 6.1 PSI.

In comparison the average ground pressure of a snowmobile is 0.50 PSI¹² while tracked ATVs and UTVs have been documented to range from 0.55 up to 0.90 PSI. The average ground pressure of an ATV on wheels is approximately 2.0 PSI while the average ground pressure of an UTV on wheels is approximately 3.9 PSI¹³. Consequently – even though a fat bike's ground pressure is substantively less than other bicycle types – it exerts significantly more downward pressure on a groomed trail than all other over-snow vehicle types. This will result in tires sinking into the compacted snow trail surface during warm temperatures and in soft trail conditions.

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

¹¹ <http://forums.mtbr.com/fat-bikes/how-determine-tire-pressure-fat-bike-tires-957031.html>

¹² <http://www.snowmobile.org/docs/isma-snowmobiling-fact-book.pdf>

¹³ <http://www.snowmobileinfo.org/snowmobile-access-docs/Assessment-of-Tracked-OHV-Use-on-Groomed-Snowmobile-Trails.pdf>

MANAGEMENT CONSIDERATIONS IF CONSIDERING/ALLOWING FAT TIRE BICYCLE USE ON GROOMED SNOWMOBILE TRAILS

All recreational trail use, whether motorized or nonmotorized, requires active management. Trail management should ensure adherence to private or public land use prescriptions, adequate resource protection, and that appropriate visitor experiences are provided. Trail management policies should be set at the local level to ensure they best fit local circumstances. The following suggested management considerations are not intended to prescribe whether or not to allow concurrent fat bike use on groomed snowmobile trails; rather the intent is to help local jurisdictions make informed decisions about fat tire bicycle management practices on their trails.

It is recommended that local jurisdictions consider the following factors when deciding to either allow or disallow fat tire bicycle use on groomed snowmobile trails. While the importance of each factor will vary by locale, all should be fully considered for informed and objective local decision making.

- 1. Landowner / Land Manager Permission:** Private (including corporate) landowners and public land managers must be involved in any decision to add/allow concurrent fat tire bicycle use on existing groomed snowmobile trails.

Private Lands

Permission for private lands access is especially sensitive since each landowner is often only one link in a chain of many landowners required to piece together trail destinations. The vast majority of current private land access agreements specifically stipulate that permission is only for 'snowmobile use' and do not include landowner permission for additional recreational activities such as bicycle or OHV riding. Consequently the language in written access agreements may need to be broadened if the goal becomes adding other recreational uses on the groomed snow trail.

Any added use will require agreement from all involved private landowners along the trail corridor. Coordinating, gaining, and keeping trail access from multiple private landowners often requires immense effort which must also be sustained over the long-term. There must be extreme sensitivity to landowners' varied perspectives, including their other land uses during both winter and non-winter months.

Private landowners' use of their property during non-winter months is often a principal reason why they own that land. When snowmobile trails across private lands are for 'winter-only' snowmobile use, trail managers must often take steps to help prevent trespass conflicts outside the actual snowmobiling season. Despite extra efforts by many trail managers, trespass by other recreational users onto private lands during non-winter months continues to be a leading cause of why landowners cancel snowmobile trail access.

Trail managers must recognize that allowing any other concurrent use such as bicycles on snowmobile trails could lead to bike riders believing they can also use that route during other seasons. Consequently if fat bike use is added to an existing groomed snowmobile trail, managers must ensure effective efforts are made to prevent 'carry-over' off-season recreational trespass onto those private lands. Off-season trespass prevention efforts are extremely important and can sometimes become a large challenge for landowners and trail managers alike. Consequently this issue should be carefully considered – particularly if landowner relations are already stressed due to trespass – to ensure adding other recreational uses doesn't make continued winter trail access even more challenging.

Public Lands

While public lands generally have more permissive multiple use trail management policies, this cannot be taken for granted. Consequently close attention must be paid to each agency's land management plan and its recreational use prescriptions. While designated motorized trail routes are often open and used for non-motorized recreational activities, many areas disallow bicycle use if either 'wheeled vehicle' or 'mechanized use' closures are in effect.

Significant portions of public lands are generally zoned/managed for only non-motorized recreational use – meaning that snowmobiling and other motorized use is prohibited. Consequently public land managers should be challenged/pushed to first consider using existing ‘non-motorized use only’ zones for fat tire bicycle use before allowing/forcing fat bike use onto groomed snowmobile trails. Multiple use trail sharing should start with similar uses in similarly zoned ‘non-motorized-only’ areas rather than starting the discussion with allowing/forcing new non-motorized use onto existing motorized trail routes – i.e., just because cross-country skiers ‘don’t want fat bikes on *their* trails’ should not become the reason land managers justify allowing fat bikes on groomed snowmobile trails.

- 2. Rider Safety:** Rider safety must be the paramount importance when considering the addition of very low speed fat tire bikes to trails used by significantly higher speed snowmobiles.

There is a definite, very substantive speed differential between snowmobiles and bicycles whereby fat bikes will always be traveling much slower than snowmobiles. Fat bike use is also much different than other ‘slow pedestrian travel’ modes (skiing, snowshoeing or walking) which may be common on some winter trails. In particular, fat bike riders typically focus their attention down at the trail, directly in front of their front tire, to help them safely navigate around obstacles and imperfections along a snowy travel route. This concentrated ‘downward focus’ is an important use distinction that could potentially cause bike riders to not pay close enough attention to snowmobile traffic approaching from the front or rear at much higher speeds. Bicycling can also be a social activity whereby groups of riders travel side-by-side down the trail in conversation with one another.

Distinct operational differences could potentially cause catastrophic rider safety issues in some areas, particularly on narrow, wooded, winding, or hilly trails which have limited sight distance.

- 3. Funding Assistance:** Some type of funding assistance from bicycle riders should accompany any decision to allow their use on groomed snowmobile trails.

Snowmobile trails must be groomed on a daily to no more than a weekly basis to respond to winter weather conditions, wear from trail users, and to keep them maintained in a firmly packed condition that is enjoyable to ride. Snowmobile trail grooming is quite expensive, often costing up to ten to twenty dollars per mile per single grooming repetition – so it’s fair to expect this maintenance cost to be shared by all trail users.

Adding other recreational uses such as fat tire bicycles typically requires additional signing be added to help regulate use and inform trail users. This increases overall trail development and maintenance costs.

Snowmobile trails are generally funded 100% by a ‘user pay’ model whereby snowmobile registration fees, trail user fees, and/or gas taxes paid by snowmobilers pay for all trail development, maintenance and grooming costs. Consequently all fat bike riders who use groomed snowmobile trails should also be required to contribute a fair share toward those trails’ on-going development, grooming and maintenance costs.

Consideration must also be given to the fact most snowmobile trails were generally developed by volunteers and/or are operated by volunteer organizations. This necessitates sensitivity to snowmobilers’ ‘high degree of ownership’ in trail systems they’ve developed and maintain. Consequently if the groomed trail is maintained by volunteers, fat tire bike riders should also expect to get involved with volunteer efforts.

Financial assistance from fat tire bike riders is critically important and can potentially be achieved in a variety of ways that include:

- A. Direct Payment:** requiring all winter users, including bicycle riders, to purchase either a ‘snowmobile’ trail permit/trail pass or a special ‘bike pass’ to operate during winter on groomed snow trails.

- B. **Grants:** utilizing federally funded grant programs such as Recreational Trails Program (RTP) Diversified (multiple use) project funds or state/provincially funded recreation grants to help manage multiple use on trails.
- C. **Other Fundraising:** fat tire bike groups, individuals and/or clubs undertaking special fundraising (donations, events, etc.) that is donated to grooming programs to help defray trail grooming, signing and maintenance costs.

4. **Risk Management:** Proper risk management is a critical part of managing any recreational activity. If concurrent fat tire bicycle use is added to a groomed snowmobile trail system, it could constitute a ‘change in use’ that may trigger the need for a new risk management assessment by the trail’s manager and/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 the snowmobile trail is managed by a government entity, additional special liability insurance is generally not required for operation of the trail. However proper risk management practices that include regular ‘risk assessments’ performed by qualified risk management professionals are often required. Trail managers must ensure all new activities and trail management policy changes are closely coordinated with their agency’s risk management office.

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

5. **Potential Trail Use Patterns:** Potential trail use patterns that consider possible mixtures of use (snowmobiles versus bicycles ratio, plus other uses) along with projected total traffic volumes from each user group should be carefully considered prior to formally authorizing fat tire bike use on a groomed snowmobile trail. Use management zoning policies based upon ‘time of day’ or ‘days of the week’ when mixed use is allowed or disallowed may also warrant consideration in some areas.
6. **Potential Partnerships:** The potential for local partnerships should be considered when weighing the pros and cons of concurrent fat tire bike use on groomed snowmobile trails. Where common ground can be found, coalitions working together can generally help protect and enhance overall recreation access and funding more effectively than individual groups working alone. While concurrent use is certainly not appropriate for every local situation, there may be suitable opportunities in some areas which could advance multiple use objectives. When feasible, these opportunities should be given fair consideration.

While there is potentially something to be gained from snowmobilers strengthening alliances with other user groups, success begins and is ultimately judged at the grassroots level. Local partnerships must function well on the ground to be truly beneficial and successful long-term.

7. **Off-Season Management:** Winter trail users – snowmobilers, bike riders, OHV riders, or any other recreation group legally allowed during winter – often have a mistaken perception that the over-snow winter trail route they’re on is a public trail also open to their year-round use for other recreational activities. While groomed winter snow trails may sometimes be open to other year-round uses, they often are not.

Consequently public familiarity with winter trail routes can sometimes require aggressive education efforts to help prevent improper off-season use if those snowmobile trail routes aren’t open to other uses during non-winter seasons. 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.

Authorizing concurrent fat bike use on groomed snowmobile trails may likely require snowmobile trail managers to provide extra effort that: A) educates all users regarding when groomed snowmobile trail routes are open or closed to various uses, and B) works more closely with private landowners and public land managers to prevent unauthorized use of snowmobile trail routes during the non-winter seasons.

- 8. Special Regulations for Fat Tire Bike Riders on Groomed Snowmobile Trails:** It may be beneficial for trail managers to consider establishing special rules or regulations that fat tire bicycle riders must follow when operating on groomed snowmobile trails. Potential rules may include some or all of the following:
- Fat tire bikes must be equipped with a front white blinking light and a rear red blinking light; both lights should be operated in the ‘on’ position at all times when riding on snowmobile trails.
 - All fat tire bike riders must wear brightly colored clothing with reflective material on both the front and back to increase their visibility to other trail users.
 - All bike riders must stay to the far right of the trail and yield to all snowmobiles and other trail users – rather than being allowed to ride elsewhere on the trail in search of the firmest packed snow base.
 - Side-by-side bike riding is prohibited; all bicyclists should be required to ride single file, on the right-hand, outside edge of the trail.
 - No headphones/ear buds of any sort are allowed to be used by bike riders.
 - Bike riders should not be allowed to ride on trails when the air temperature is above freezing.
 - It should be suggested that if bike riders leave a rut deeper than one inch or are having a hard time riding in a straight line – it’s likely too soft for them to safely operate without trail resource damage, so they should quit riding until such time conditions improve / trails firm up.
 - Fat bikes operated on groomed snowmobile trails should not be allowed to have a tire pressure greater than 10 psi to prevent unnecessary trail rutting.
 - Fat bikes should not be allowed to operate on snowmobile trails on powder (fresh fallen snow) days or before any fresh snowfall over three inches deep has been groomed and compacted.
 - On warm days (spring conditions or during thawing periods), fat bikes should generally not be allowed in the afternoon when the trail base typically becomes soft.
 - If the parking lot is muddy, bike riders should be instructed to clean their bike tires in a snowbank (or otherwise) to avoid tracking mud onto the groomed trail’s snow surface since mud and dirt cause the trail’s snow surface to quickly deteriorate.
 - Only genuine fat tire bikes that have tires at least 3.7 inches wide should be allowed to operate on snowmobile trails (i.e., regular mountain bikes are prohibited).
 - Bike riders must pay all required trail fees; if fees are not required they should be required to make a donation to the local grooming program.
- 9. Start Small:** When trying to get fat tire bicycle use established on existing groomed trails (snowmobile or Nordic), trail managers should likely start with a small scale pilot project or ‘test’ area to keep the project manageable until proven to be safe and successful for multiple use. Also consider the following when experimenting with pilot projects or test areas:
- Avoid snowmobiling areas which are already heavily used or congested.
 - Avoid trail areas which are extremely hilly, curvy, and/or narrow.
 - Avoid allowing ‘bike rentals’ to operate in any new pilot project or test areas.
 - Ensure there is adequate parking for any new or added uses – and that parking areas are properly designed so that user conflicts aren’t unnecessarily created during egress/ingress from parking areas where a mixture of motorized and non-motorized trail uses are allowed.
 - Have an easy exist strategy (required benchmarks that must be met, etc.) if a test area doesn’t work well or doesn’t have enough support (financially, volunteer-wise, and/or use-wise) to sustain its long-term existence.
 - Remember that the safety of all snowmobile and bicycle riders must always be the paramount consideration.