



SNOWMOBILE GUIDELINES FOR TRAIL SIGNING



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INTRODUCTION

The NH Bureau of Trails developed these Guidelines as a resource for snowmobile club members that are charged with the responsibility of signing the club's trails. Its purpose is to describe techniques for posting state supplied standardized signs to promote uniformity of trail signing throughout the State.

Snowmobile users are traveling longer distances and venturing farther than ever from their local trail systems. These riders' enjoyment and safety are enhanced when all trail systems are signed uniformly. Few experiences rival the unpleasantness of feeling lost, hungry, and being low on fuel on a poorly signed trail system; this handbook hopes to limit the occurrence of that.

These Guidelines should not be construed as reducing the basic operator responsibility of operating a snowmobile in an observant, reasonable, and prudent manner.

SOME THINGS TO TAKE INTO CONSIDERATION

- To retain as much uniformity as possible, it is recommended that trail signing be done by a small group of club members that are familiar with these Guidelines. The group should work with the club's Trail Maintenance Group to coordinate placement of signs so they do not interfere with the running of maintenance equipment and maintenance procedures.
- Because the Trail Signing Group is most likely made up of individuals very familiar with the trail system, they should imagine they have never been on the trails before and picture what signs would be necessary to get them safely to their destination.
- The club should consider bringing in someone unfamiliar with their trail system and have them review the signage and suggest improvements.
- It is recommended that Trail Maintenance Group members carry these Guidelines, extra signs, and mounting materials in trail maintenance equipment so that vandalized or missing signs can be replaced.
- Informational signs placed on the trails to promote local businesses **must** conform to the standard **Information Sign** color, size, and shape.
- Forest Service sign specifications **must be utilized** on Forest Service lands.

BOT Provided Signs

Regulatory Signs



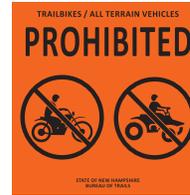
STOP
12" X 12" Octagon
Instructs riders to bring their snowmobile to a COMPLETE STOP.



NO SNOWMOBILES
12" X 12" Square
Identifies trails where snowmobiles are NOT allowed.



SNOWMOBILES PERMITTED
9" X 12" Extended Diamond
Identifies trails where snowmobiles are allowed.



ATV's and TRAILBIKES PROHIBITED
12" X 12" Square
Identifies areas where OHRV traffic is NOT allowed. (Typically installed where spurs leave a trail.)

Warning Signs



STOP AHEAD
12" X 12" Diamond
Informs riders that they are approaching a STOP sign.



SLOW
12" X 12" Diamond
Instructs riders to slow their vehicle.



OBJECT (Hazard) MARKER
8" X 8" Square
Identifies a fixed object at the side of the trail. (Used any time the fixed object narrows the normal width of trail.)



RIGHT or LEFT TURN
12" X 12" Square
Informs riders that the trail ahead makes significant changes in direction.



GATE AHEAD
12" X 12" Diamond
Informs riders to slow down as they are approaching a gate across the trail.



BRIDGE AHEAD
12" X 12" Diamond
Informs riders to slow down as they are approaching a bridge crossing.



LOGGING AHEAD
12" X 12" Diamond
Informs riders to slow down, could encounter heavy equipment & trucks.



PLANTATION
12" X 12" Diamond
Informs riders they are entering a tree plantation and should stay on the trail.

Trail Marker Signs



TRAIL BLAZE
5" X 7" Extended Diamond
Informs riders know they are on a designated snowmobile trail.



DIRECTIONAL MARKER
9" X 12" Extended Diamond
Used to show trail direction in areas where riders could venture off designated trail.

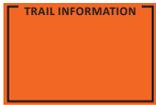


CORRIDOR TRAIL
8" X 9" Rectangle
Placed at entrances to corridor trails with the number and direction of travel printed in the white area with a paint pen.



PRIMARY TRAIL
7" X 7" Square
Used to inform riders that the trail connects to a Corridor Trail. The number will correspond to the number on the NHSA Snowmobile Trail map.

Informational Signs



TRAIL INFORMATION
8" X 12" Rectangle
Informs riders of where they are, how far to gas, who maintains the trail, how far to parking, etc.



DEAD END
6" X 12" Rectangle
Informs riders that there is no outlet on trail; trail ends.



STAY ON TRAIL OR STAY HOME
6" X 12" Rectangle
Reminds riders to only ride on the trail per landowners' requests.



LANDOWNERS
12" X 12" Square
Reminds riders whose land they are on and to respect it.



TRAIL PARKING TO RIGHT / LEFT
12" X 24" Rectangle
Placed at the entrance to approved parking areas. Informs riders to go to the right or left to reach snowmobile parking.



TRAIL HEAD
9" X 12" Extended Diamond
Reminds riders that their registration fees pay for New Hampshire's Snowmobile trail system.

TRAIL SIGN PLACEMENT

The following provides information on how signs are to be oriented and installed.

ORIENTATION

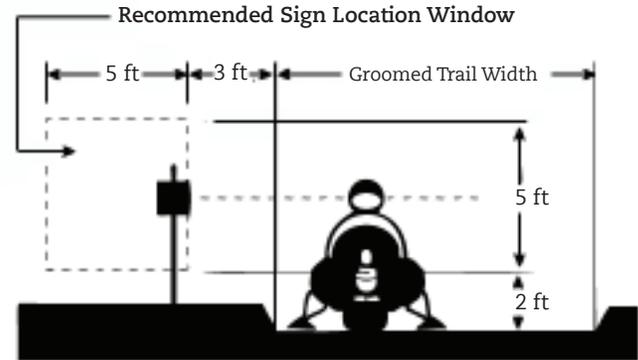
Signs should be orientated perpendicular to the trail within a 5' by 5' area that starts 3' from the trail's edge and 2' above the trail riding surface. See Figure 1.

Since the trail will be used in both directions, separate, and often different, signage may be needed for each direction of travel.

The most critical part of sign mounting is understanding how reflective signs work. One good analogy is to think of reflective signs as mirrors. To maximize the nighttime view of the sign, it must be placed at eye level, perpendicular to the direction of travel on the trail.

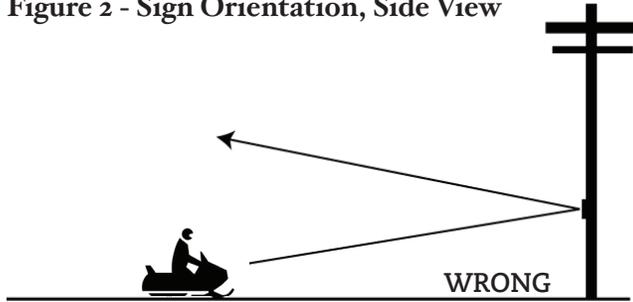
This orientation also ensures that the sign is visible over the longest possible period so that the rider has a chance to understand the message and to react accordingly. See Figures 2 and 3.

Figure 1 - Recommended Sign Location Window

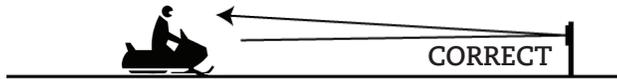


Signs placed outside this window will not perform as well.

Figure 2 - Sign Orientation, Side View



Signs placed too high do not reflect headlight beams back to the rider.

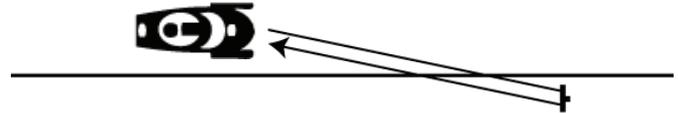


Signs placed at the rider's eye level reflect back correctly and are much easier to see.

Figure 3 - Sign Orientation, Plan View



Signs facing the trail do not reflect headlight beams back to the rider.



Signs placed perpendicular to the trail headlights reflect back to the rider correctly.

POSTING DISTANCES

What's the proper distance before a hazard to place a warning sign?

There are several factors involved in calculating the minimum posting distance, including: (a) sign legibility or recognition, (b) decision-making time, (c) the coefficient of friction between the track and the snow, (d) a comfortable braking distance, and (e) the initial speed of the snowmobile when the sign is first observed by the rider.

In these Guidelines, recommended placement of Warning Signs is determined based on the idea that the snowmobile should come to a complete stop **before** the obstruction or trail condition. In some cases a complete stop is not necessary, but we recommend the posting distance be **sufficient for a complete stop in the event it is necessary**.

The factor having the greatest effect on calculations for posting distances is the speed of the vehicle when the rider first sees the sign. The *Warning Sign Placement Table* below is based on miles per hour. The intent of the table is to give a recommended minimum distance and an acceptable range rather than a specified distance. It is the Trail Signing Group's responsibility to estimate the common appropriate speed on the portion of the trail where the signs are being installed.

WARNING SIGN PLACEMENT TABLE

Suggested Minimum Posting Distances for Snowmobile Caution Signs					
Judged Speed (mph)	Condition Requiring Stop "X" =	Deceleration Distance to Desired Speed (mph) "Y" =			
		10	20	30	40
20	*	**			
25	*	100	**		
30	175	150	100		
35	225	200	175	**	
40	300	275	250	175	
45	350	350	300	250	**
50	425	400	400	325	225
55	500	500	475	400	300

- * No suggested minimum distance recommended. At these speeds, sign location depends on physical conditions at the site.
 - ** No suggested minimum distance recommended. At these 5 mile per hour reductions in speed, location depends on the physical conditions at the site.
- Examples showing the use of Table 1 above can be found on pages 10 through 14.
- Regulatory signs shall be placed to the side of the trail in accordance with the section 4.1. Unlike caution signs, regulatory signs are located where the desired action is to take place.

MOUNTING CONSIDERATIONS

The methods used to mount signs vary greatly depending on the intended permanence of the installation. The following points provide guidance in selecting an appropriate mounting method based on the club's trail circumstance.

- Generally, signs should be placed on the right side of the trail within the sign window to conform with a rider's familiarity to highway signage. See Figure 1, page 6.
 - *The sightline from the driver to the sign must be clear the entire distance that the sign is intended to be viewed. This requires routine monitoring and pruning of vegetation by the club.*
- Signs should be placed in fall and **removed promptly** at the end of the designated riding season for the club's trail system.
 - *This reduces confusion of other trail users, vandalism, potential trespass, and helps to conserve sign life by reduced exposure to the elements, which helps to conserve the need for new signs and in turn assists in conserving Grant-In-Aid funds for trail projects and equipment.*
- It is recommended that signs be mounted on posts. In these instances, using screws/bolts instead of nails helps to reduce theft and vandalism.
 - *Use durable post materials for permanent installations, such as flexible plastic, fiberglass, wood, or steel.*
 - *Use an existing object, such as a fence post, **ONLY** if it is within the recommended sign location window, **and the permission of the object owner has been obtained.***
 - *A cordless drill with spare battery packs is a great tool for Trail Signing Crews to mount signs and for Trail Maintenance Groups to keep in maintenance equipment to replace/fix signage.*

MOUNTING CONSIDERATIONS CONTINUED

- It is **not recommended** that signs be mounted on live trees.
 - *If a tree is the only alternative, it is recommended that aluminum nails or staples be used, ensuring they are all removed from the tree when the signs are removed.*
- Overuse of signs should be avoided.
 - *Only authorized trail signs should be posted to avoid clutter and confusion.*
 - *If signage is posted for a local business, it should be carefully controlled by the Trail Signing Group.*
 - *When more than one sign is mounted to the same surface, they should be **placed vertically** with the most important sign on the top.*
 - *No more than 3 signs should be mounted in this fashion.*

Trail Sign Schematics

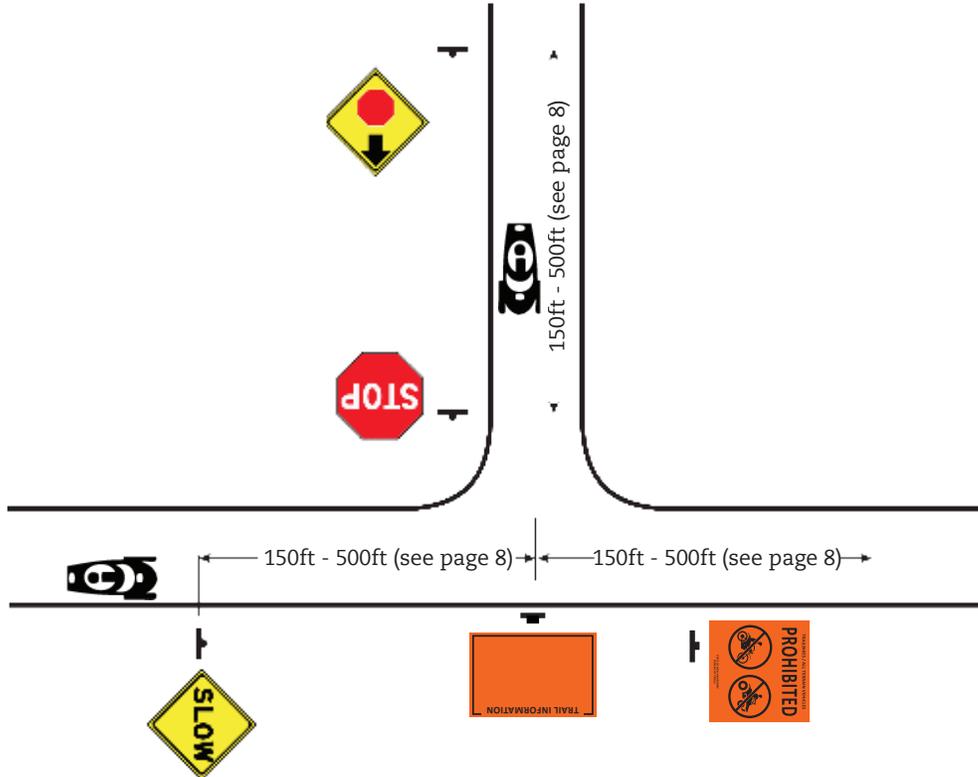
Following are simplified trail sign schematics that are intended to serve as a guide for Trail Signing Crews. They depict some of the most common basic situations that are encountered on most snowmobile trails. Not all BOT provided signs are shown in these schematics.

It is understood that unusual situations may be encountered that are related to trail conditions, topography, man-made objects, etc., that will require crews to make some modifications.

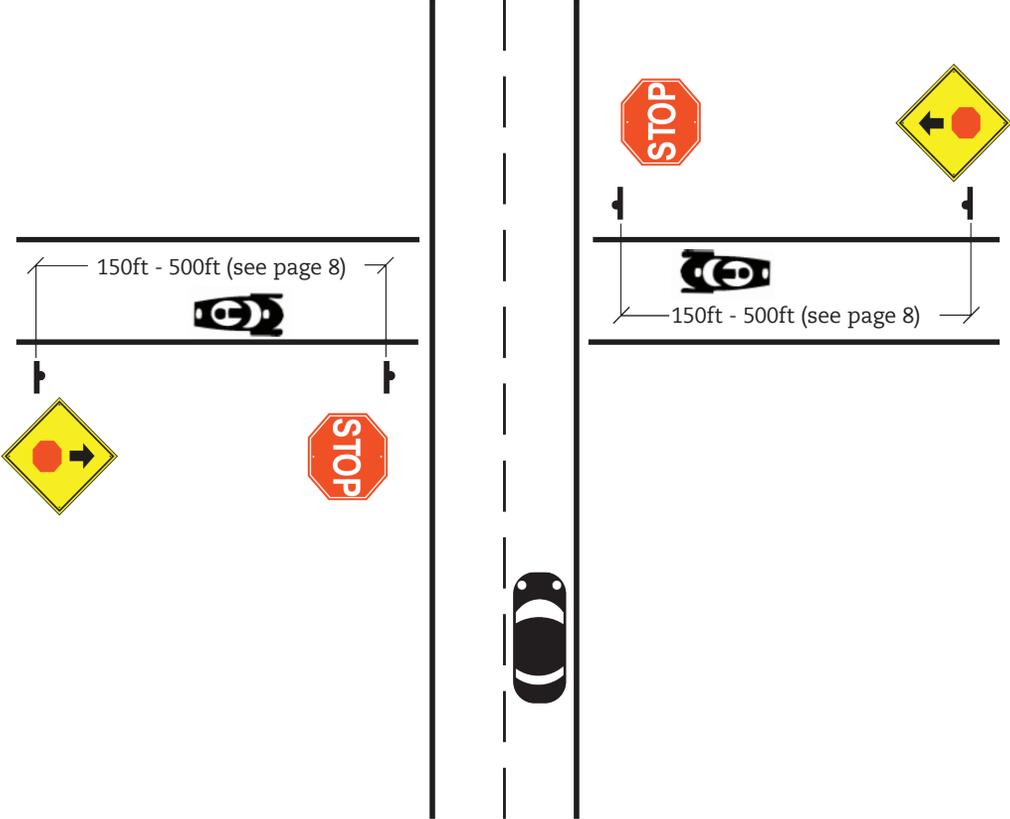
“The most suitable placement of each sign must be determined at the site, by the Trail Signing Crew, where all variables are visible.”

Rider safety and rider information are paramount and must be considered by the Trail Signing Crew.

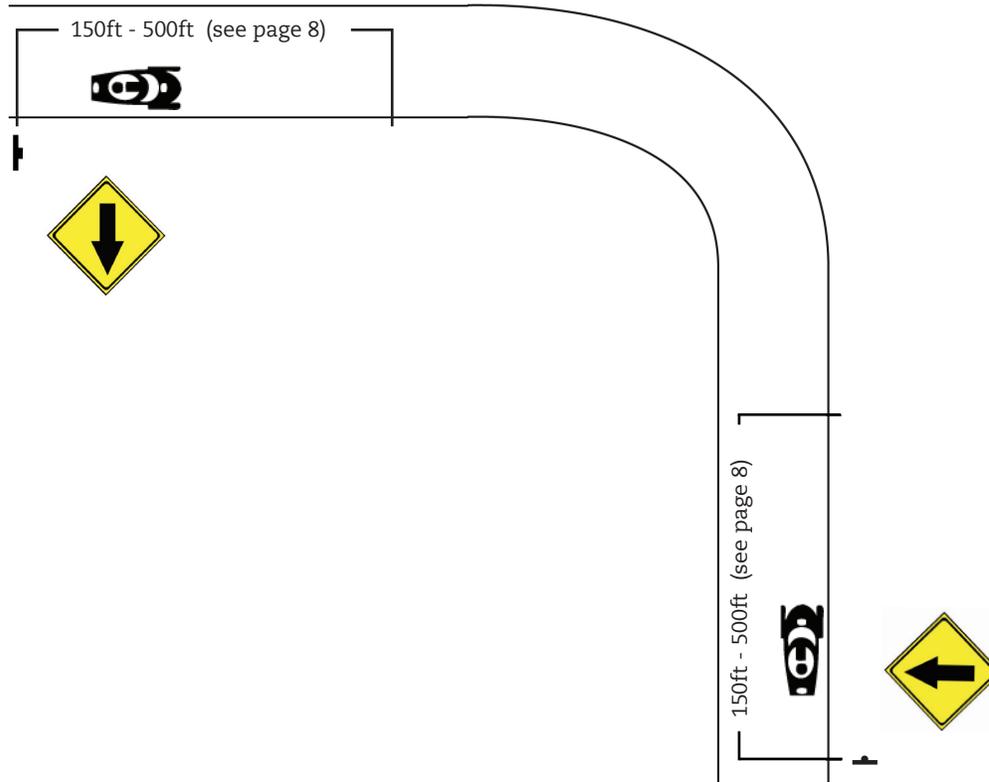
Common Trail Intersection (with Information) Schematic



Common Road Crossing Schematic

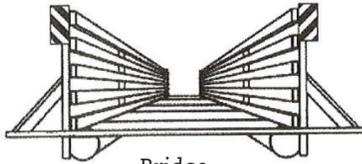


Change of Direction Schematic

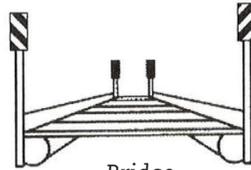


The Object Marker

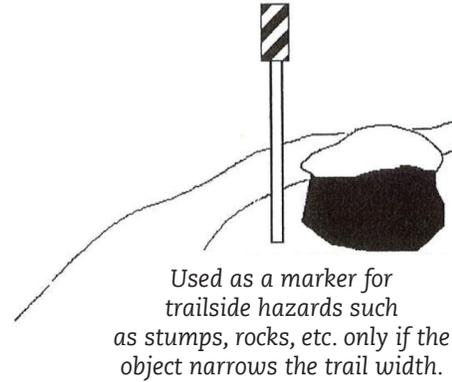
Object Markers are valuable signs that show the safe passage on a trail. They are usually placed on bridges, but may be used on permanent trailside hazards such as stumps, rocks, etc. When mounting these signs, the yellow and black stripes should always point down and away from the hazard toward the safe lane of travel.



*Bridge
placement
with rails*



*Bridge
placement
no rails*



*Used as a marker for
trailside hazards such
as stumps, rocks, etc. only if the
object narrows the trail width.*

Staking Information

Following a snowmobile trail in forested areas may be a fairly obvious and straightforward task; however, when trails cross fields and other large cleared areas they may not be visible at all. Relying on established tracks is not adequate as even well-established trails can be quickly obscured by irresponsible trail users, weather, or debris. Riders and club trail maintenance personnel need continuous reference points to navigate these types of trails confidently. A simple method of identifying this type of trail is “staking”.

Staking is when wooden stakes are driven into the ground in pairs at right angles to the trail. See Figure 1. The next pair of stakes should be easily visible at a distance immediately after passing through a pair. The frequency of stakes should be increased to indicate a turn. If the turn is sharp, the signing requirements for curves should be used instead of stakes.

A typical stake is a 2” x 2” (minimum) piece of inexpensive lumber sharpened at one end for installation. A minimum of 12” at the top of the stake should be painted with a high impact color such as fluorescent orange. To improve nighttime visibility, at least three square inches of a reflective tape should be wrapped around the stake about 4” down from the top. The stake should extend 30” above the average maximum snow depth, with the reflective tape as close as possible to riders’ eye level. Stake lengths of 5’ and 6’ are typical. See Figure 2.

Stake Illustration

Figure 1: Stake Placement



A single stake is used to augment an existing fixed object, such as a fence post. Note the use of the trail blazer on the post to provide a second reference point.



Standard two-stake configuration leaves no doubt as to the intended trail route.

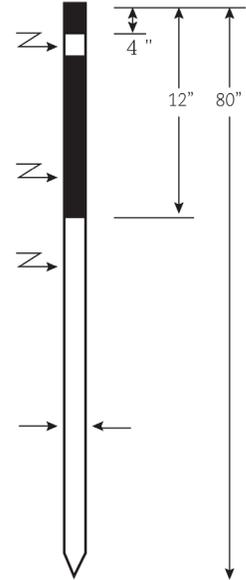
Figure 2: Stake Illustration

3 square inches of reflective material, 4" from top.

12" from top painted high impact color.

2" x 2" spruce or similar wood.

Stake to extend 30" above average maximum snow depth.





State of New Hampshire
Department of Resources and Economic Development
Division of Parks and Recreation
Bureau of Trails
www.nhtrails.org

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