

Guidelines for Trail Signing and Placement for Off-highway Vehicles



INOHVAA

Providing quality and sustainable Off-Highway Vehicle trails and riding opportunities.

International Off-highway Vehicle Administrators

Association This document, developed by the International Off-highway Vehicle Administrators Association, provides guidelines for the effective placement of signs on recreational OHV trails. INOHVAA recommends that this document be considered general guidelines for the development of a trail signing program.

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1.0 Introduction

Off-highway vehicle (OHV) operators often travel great distances to trail systems with family and friends. On unfamiliar trails, a rider's enjoyment and safety are greatly enhanced by uniform trail markings, detailed information signage, and careful identification of potential hazards. A poorly signed trail system can result in being lost, hungry and low on fuel somewhere or even a trespass situation that could close a trail forever. The signing suggestions provided in this guide from the International Off-highway Vehicle Administrators Association (INOHVAA) should not be construed as minimizing the rider's responsibility to operate their vehicle in a reasonable, responsible, and prudent manner on the trails. The trail administrator, land owner, rider, local club, and organized OHV enthusiasts in general all benefit from good basic signing practices.



This publication consists of materials previously developed by the International Association of Snowmobile Administrators (IASA) Guidelines for Snowmobile Trail Signing and Placement as well as materials developed by a number of other state and federal agencies as well as trail organizations. Where snow falls, trails may be used in the summer for OHV and in the winter for snowmobiling, and in some cases are shared for the winter too. Trails may cross each other and split off for different types of vehicle uses. In the snow belt, where OHVs and snowmobiles may share trails seasonally, it makes good sense to coordinate signage - keeping in mind the uses on the trail at all times of the year.

OHV trail signs:

- a) regulate the flow of traffic along the trails,
- b) inform riders of trail characteristics, and
- c) provide information necessary to the enjoyment of the trail riding experience.

Uniform OHV trail signing will:

- a) enhance the safety and security of persons, vehicles, and property,
- b) improve travel within and between districts, and
- c) professionalize and promote recreational OHV operation.

Many jurisdictions have developed and implemented excellent comprehensive signing programs. In other areas, local traffic conditions or limited resources make elaborate signing systems inappropriate or impossible. The principles and guidelines offered here are intended to complement safe riding practices for a safe and enjoyable trail riding experience.

It should be noted that laws and regulations are different across jurisdictions. These differences may result in signing program guidelines which vary from this document. This guideline is intended to create uniform signing for OHV trails internationally, however, liability laws and program mandates need to be reviewed fully by each jurisdiction and an appropriate signing program determined from that review.

2.0 Purpose of this Document

This document provides guidelines for the effective placement of signs on recreational OHV trails. It should be seen as a process to improve OHV trail development in a safe and cost effective manner as opposed to a rigid policy statement. It is anticipated that these guidelines will continue to evolve through time.

The International Off-highway Vehicle Administrators Association (INOHVAA) recognizes that the suggested guidelines contained in this document may not be the best recommendation, or indeed even practical in certain specific situations. INOHVAA recommends that this document be considered general guidelines for the development of your trail signing program.

3.0 Trail Signing Guidelines

INOHVAA has developed this manual to provide the minimum guidelines for regulatory signs, caution signs, and trail guidance markers or blazers. These guidelines should be applied to all officially designated OHV trails and trail systems. Each state and province should develop guidelines for their own information and guide signs. Their placement should follow the guidelines described in Section 4.

HINTS AND TIPS

Every where a sign - Overuse of signs should be avoided. Only authorized trail signs should be allowed to avoid clutter and confusion. Signage posted by business should be carefully controlled by the trail operator.

4.0 Trail Sign Placement

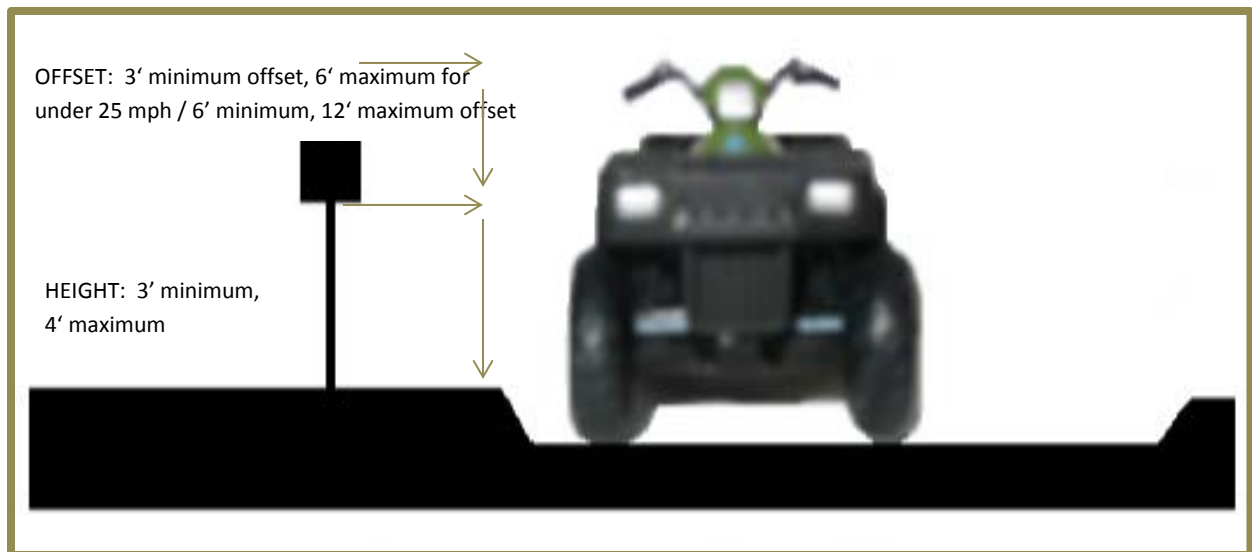
This section provides basic information on how to orientate and installed OHV trail signs.

Placement is critical to a sign's effectiveness, signs must be:

- near the point, object or situation to which it applies
- placed so as to give the rider time to make the proper response to the sign's message
- located so that they will command attention
- placed in a uniform and consistent manner so the rider can properly respond to the sign message based on having encountered similar situations

Certain questions should be asked to clarify the proper placement of a sign:

- Is this the best location for the sign?
- How good are the sight lines? Users travelling at higher speeds need increased sight lines.
- Will vegetation and snow cover obstruct the sign? Avoid situations where the growth of vegetation will obscure the signs and become a continual maintenance problem, or removing these obstructions should become part of the regular maintenance for the area.
- How will erecting this sign affect the existing traffic patterns? Where a potential hazard exists for the user, signs may be erected as a warning. Once an area has been signed with a warning or hazard sign, it is advised that it must continuously be signed that way (unless the hazard or danger no longer exists).



HINTS AND TIPS

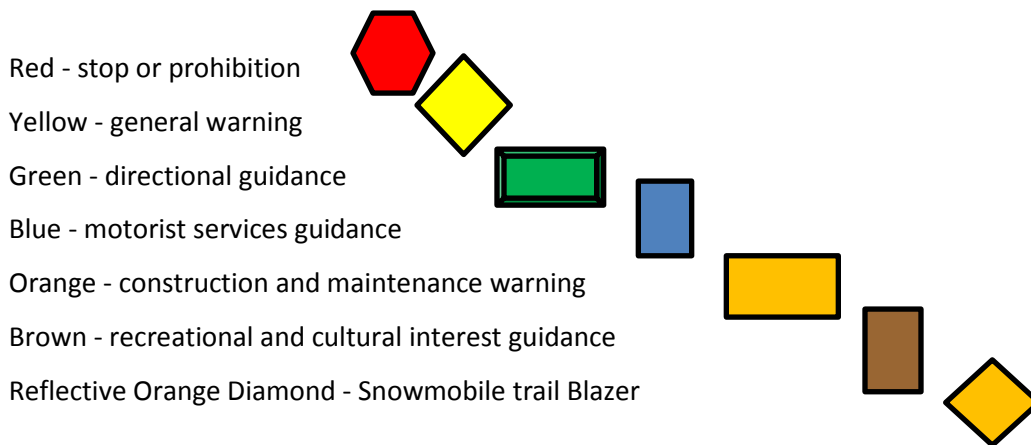
Time to react - Avoid placing signs in dips, beyond crests of hills, or at other places where they would not be seen in time to allow a safe reaction.

Strength matters - Use durable materials for permanent installations, i.e. flexible plastic, fiberglass, steel, or wooden post.

4.1 Traffic and Directional Signs on "Conventional Roads"

Some trails are on "Conventional Roads" as described as any paved or improved road that is open to public traffic at all times in the United States Manual on Uniform Traffic Control Devices (MUTCD). Road authorities use "positive guidance" in considering the need and placement of road signs. It means that hazard warning must be provided wherever a driver cannot see the hazard in time to react safely. Obviously, time to react is different at 15mph or at 55mph. If you have a relatively straight trail that the majority of the public is likely to travel at a higher speed, then you will have to warn of an unexpected sharp turn or a stop sign, even though such may not be a problem at slow speeds on a winding trail.

Though non-reflective traffic control signs are available, only reflective signs should be used on trails that have night time use. Traffic sign colors and shapes have been standardized for a number of years in the MUTCD



HINTS AND TIPS

Important on top- If more than one sign is used at the same location, they should be placed vertically with the most important sign on top.

Going my way - Remember that the trail will be used in both directions. Separate and often different signing is required for each direction of travel. Signing should be done by persons who are familiar with the trail and who know where they are and where they are going. When putting up signs, imagine that you have never been in this area or on this trail before. Try to picture what signs would be necessary to get you safely to your destination.

New eyes - Have your signage reviewed by someone less familiar with the area to identify locations that need improvement.

4.2 Night time Riding and Placement of Reflective Signs

Retroreflectivity - a property of a surface that allows a large portion of the light coming from a point source to be returned directly back to a point near its origin. For night-time riding - the most critical part of sign mounting is understanding how reflective signs work. Think of reflective signs as mirrors. To maximize the nighttime view the sign must be placed at eye level, perpendicular to the direction of travel of 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. This important concept is illustrated by Figures 1 and 2. Signs should be oriented perpendicular to trail within a 5' x 5' area which starts 3' from the trails edge and 2' above the trail. Signs mounted outside the window will not perform as well.

Figure 1 - Sign orientation, side view

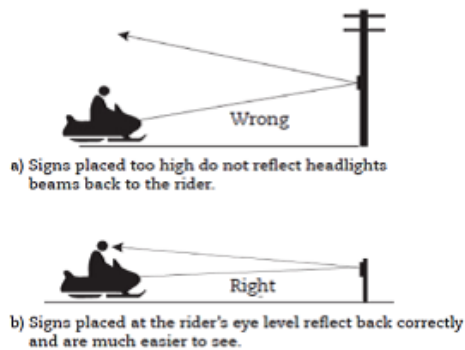


Figure 2 - Sign orientation, plan view

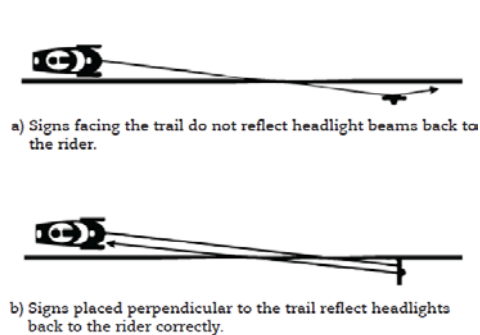


Table 1. Suggested Minimum Posting Distances for Reflectorized Signs on Shared OHV/Snowmobile Trails. (Distance in feet)

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



HINTS AND TIPS

Can I see it - Maintaining sign visibility requires periodic inspection and ensuring a clear view to the sign. Areas of heavy snowfall accumulations poses additional challenges in terms of sign mounting techniques, materials and adjustment of sign poles or stakes throughout the winter to keep signs from being obliterated by snowfall.

4.3 Mounting Methods

The methods used to mount trail signs vary greatly depending on the intended permanence of the installation. The following points provide guidance in selecting an appropriate mounting method to suit your circumstances.

Right Side Sign Placement

With few exceptions, signs will be placed on the right side of the trail as the rider faces the sign. This is a widely accepted norm, fits normal driving patterns, and will be most readily accepted by the rider.

The sightline from the driver to the sign must be clear for the entire distance through which the sign is intended to be viewed. This requires routine monitoring.

HINTS AND TIPS

Save a tree - Mounting signs on living trees is not recommended. If it is the only alternative, use aluminum nails. Ensure that all nails are removed when the signs are removed.

Screw it - On posts, use bolts or screws instead of nails to reduce vandalism and theft. A cordless drill with spare battery packs is an ideal tool to drive screws providing the sign holes are predrilled.

Right place with permission - Use an existing mounting object, such as a fence post, only if it is within the recommended sign location window and the permission of the landowner has been obtained.

Carry spares - Extra regulatory and caution signs should be carried on maintenance or grooming equipment and by trail patrollers to replace those that have been vandalized.

4.4 Regulatory and Warning Signs

REGULATORY SIGNAGE

A regulatory sign gives notice to trail users of traffic laws or regulations. Common examples are “Stop” or “Yield” which should be located a minimum of 6 feet back from an intersection.



CAUTIONARY SIGNAGE

A cautionary or warning sign gives notice to trail users of a situation or hazard that might not be readily apparent of known hazards on or directly adjacent to a trail that are unexpected or unusual.



Placement must provide adequate time for viewer response. Two situations are typically encountered:

1. A caution sign is posted so that an all-terrain vehicle can come to a complete stop before the trail condition. The most common example of this situation would be a “Stop Ahead,” trail sign prior to a STOP sign.
2. A caution sign is posted so that a rider might have to reduce speed, but not necessarily come to a complete stop. Examples of this situation might be changes in trail direction. A key factor is the judgment of the signing crew on what the speed of the majority of reasonable riders in that situation would be and what reduction in speed, if any, would be necessary for the riders to comfortably and safely negotiate the trail condition.

ATV/UTV and Motorcycle Trail Advance Warning Sign Placement Distances in feet developed through rigorous testing by the Michigan Technological Keweenaw Research Center.

Speed in mph	ATV Trail Warning Sign Placement Distance From Object, Distances In Feet											
	Gravel			Sandy Loam			Loose Sand			Packed Snow		
	0-8%	8-15%	15-25%	0-8%	8-15%	15-25%	0-8%	8-15%	15-25%	0-8%	8-15%	15-25%
15	-	-	-	-	-	-	-	-	-	-	-	-
20	-	-	-	-	-	-	-	-	-	-	-	-
25	-	-	-	-	-	-	-	-	-	-	-	55.0
30	-	-	55.0	-	-	-	-	-	-	35.0	65.0	135.0
35	55.0	75.0	115.0	-	40.0	55.0	-	30.0	45.0	85.0	130.0	225.0
40	100.0	130.0	185.0	70.0	85.0	105.0	60.0	70.0	90.0	145.0	200.0	325.0
45	155.0	190.0	260.0	110.0	130.0	160.0	100.0	115.0	140.0	210.0	275.0	440.0

“On average, day or night, riders could read and understand every sign at 200 feet or greater. To be on the safe side it is recommended to use a sight distance of 175 feet based on the data collected in the ATV sign recognition study. It’s interesting to note that 175 feet is the standard sign recognition distance from signs with 5 inch standard D type lettered signs from the “Manual on Uniform Traffic Control Devices (MUTCD) based on studies done for the National Highway Traffic Safety Administration (NHTSA) and the American Association of State Highway Traffic Officials (AASHTO) [3]. The 175-foot sign recognition distance is cited in several places if one looks on the internet.”

What table of stopping distance to use?

5.0 Core Trail Sign List

The key to establishing a uniform signing system is the development of a list of core signs based on the IASA Guidelines for Snowmobile Trail Signing. The regulatory and caution signs listed in this section are suggested by the INOHVAA. Each individual state or province is encouraged to add to this list any additional signs that they feel are appropriate when developing their own trail sign list.

Core Trail Signs

Stop Instructs riders to bring to a complete stop before proceeding with caution. The sign is 12" x 12" octagon with red background with white lettering.



Snowmobile Trail Blazers

Informs riders that they are on a designated snowmobile trail. Sign is a 5" x 7", 4" x 6", 6" x 6" or other sized uneven diamond, orange in color with reflective border, or fully reflectorized.

OHV Trail Blazers - need to add

Universal recreational symbols are used on directional guidance signage or trail blazers. INOHVAA recognizes OHV trail managers have in place several different combinations of colors, shapes and sizes in place at this time for guidance signage. The most common symbol and sign color combination are white and green.



Stop Ahead Informs riders they are approaching a stop sign and will need to stop ahead.



Slow or Caution Warns riders that there may be a potentially hazardous condition or feature ahead on the trail. Riders are to temporarily slow their machine when seeing this sign so they can watch for the full range of potential hazardous operating conditions that might be present.



Hazard Marker Identifies a fixed object at the side of the trail. Used any time the fixed object narrows the normal width of the trail such as bridge railings. The stripes slope down towards the trail. Sign is typically a 6" x 18" vertical rectangle with right side and left side signs, or an 11" x 11" square (minimum).



Directional Arrow This arrow sign informs riders that the trail ahead makes a distinct change in direction; slow down to ensure you're prepared to safely negotiate the turn. Sign is 12" x 12" diamond with yellow background and black arrow.

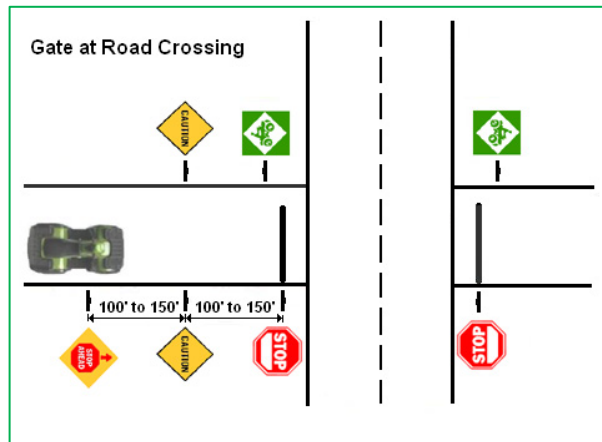
6.0 Examples Of Sign Use

The following six illustrations are intended to give signing crews an example of a few of the basic situations they will encounter on most trails. Only a few of the signs contained in section 5.0 are shown in these illustrated examples.

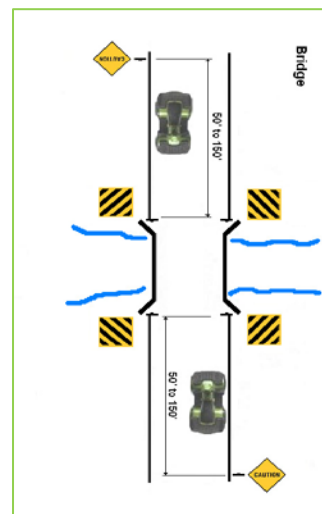
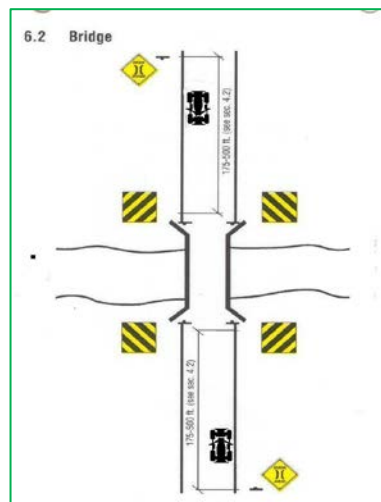
These illustrations serve as simplistic guidelines for use on OHV trails. It is understood that unusual situations may be encountered relating to trail conditions, topography, man-made objects, or other circumstances that will require some modifications to typical sign placement. The most suitable placement of each sign must be determined at the site where all variables are visible. It would be prudent to document the case where sign placement is outside the range indicated in this manual and prepare written justification for your files.

...UPDATE DISTANCES ON DRAWINGS BELOW ONCE CONSENSUS IS REACHED...

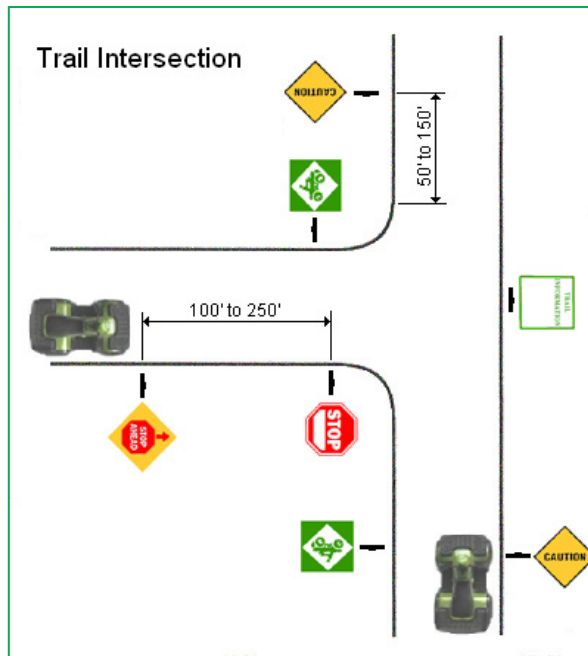
6.1 Road Crossing



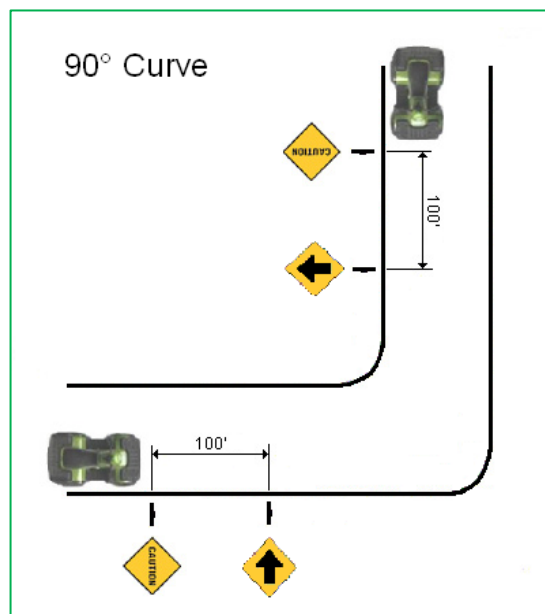
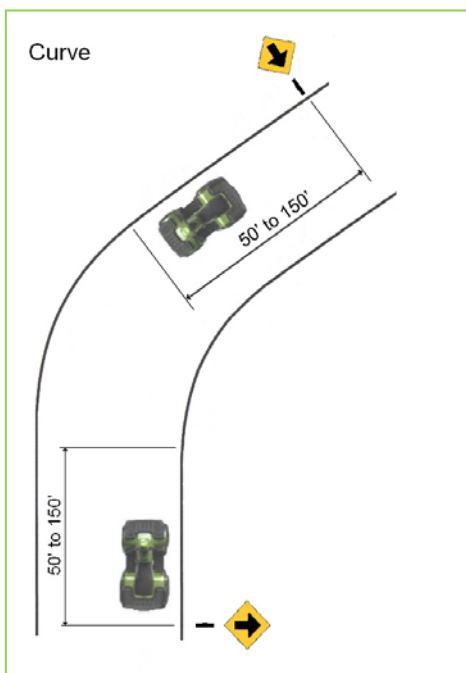
6.2 Bridge



6.3 Trail Intersection



6.4 Change in Direction



6.5 OHV Parks

An OHV Parks, as defined in these guidelines, is a developed and managed recreational and educational facility that provides for a variety of riding and driving experiences for OHVs. An OHV Park may consist of only a few acres to a multi-thousand acre site. The park's signage system should:

- provide useful information
- command attention in the surroundings the sign is placed in
- convey a clear, positive, friendly and simple message
- entice the public to read them
- be bold and to the point

The park's sign placement should follow the guidelines described in Section 4.

7.0 Acknowledgements

This document consists of materials previously developed by the International Association of Snowmobile Administrators (IASA) and its Trails Committee, as well as materials developed by a number of other trail operating organizations. We thank all of these individuals and groups for their contributions.

8.0 Resources

FHWA – Manual on Uniform Traffic Control Devices

<http://mutcd.fhwa.dot.gov/>

Forest Service - Sign and Poster Guidelines:

http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprd3810021.pdf

Forest Service - Sign Installation Guide:

<http://www.fs.fed.us/eng/pubs/pdfpubs/pdf10712812/pdf10712812dpi300.pdf>

9.0 More Information about INOHVAA

We are a professional, non-political advocacy association. Our membership represents organizations of motorized, wheeled recreational vehicles, and is comprised on administrators and managers of state OHV programs and agencies.

Our goals are to increase communications across states and agencies regarding OHV recreation to work together regarding OHV issues and new technology, to provide sustainable and quality OHV trail systems and areas; and to keep OHV enthusiasts safe.

We will work together towards our goals as well as with Federal OHV program managers and other valued OHV-related partners.

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