

DNR sets limit on snowmobile speeds

Citing the role of speed in fatal crashes, officials will impose a nighttime 50-mph speed limit.

By Ron Seely *WSJ 12/7/00*
Environment reporter

Facing what it calls a crisis, the state Department of Natural Resources is writing an emergency rule that will set a nighttime speed limit this winter for snowmobiles.

The Natural Resources Board on Wednesday approved setting a 50-mph speed limit for snowmobiles from one-half hour before sunset to one-half hour before sunrise.

"The emergency rule is proposed," according to a DNR report, "to specifically address the immediate snowmobile fatality crisis expected for the 2000-2001 season."

The law will go into effect Dec. 14 and be enforced for 150 days, according to agency officials. A permanent rule will be sought through the state Legislature.

Officials with the agency are

Snowmobile deaths in Wisconsin

Season

1999-2000	38
1998-1999	20
1997-1998	21
1996-1997	34
1995-1996	22
1994-1995	30

SOURCE: Wisconsin Department of Natural Resources

WSJ

concerned that the state could be headed for another deadly winter for snowmobilers.

Last winter, according to the agency, there were 38 fatal snowmobile crashes. Of those fatal crashes, 10 were caused by the snowmobiler going too fast at night. Also, 14 other deaths could have been avoided, DNR experts said, if operators had been going slow enough to avoid obstacles that were difficult to see in the darkness.

Please see **SPEEDS**, Page A11

Speeds

Continued from Page A1

Overall, officials said, 24 of the 38 deaths could have been prevented with a nighttime speed limit.

Representatives of several snowmobile clubs spoke in favor of the plan Wednesday.

But not everybody is happy with the proposal. Earlier this month, State Rep. Joe Handrick, R-Minocqua, said that creating the speed limit will not help prevent accidents.

Instead, Handrick said, the agency should invest money in more law enforcement and trail improvements.

But DNR snowmobile administrator Karl Brooks cited

crashes. He said enforcement data collected over the past 10 years clearly shows the connection between speed and fatalities.

Also, Brooks said, the National Children's Center also notes that high-speed snowmobile operation is one of the leading contributors to injuries among snowmobilers.

In Wisconsin alone, Brooks added, improper snowmobile speeds have been responsible for 1,400 injuries a year.

"The proposed rules would decrease nighttime fatalities by a substantial amount," Brooks said.

The emergency rule being written by the DNR will exempt those snowmobilers competing in a sanctioned race or derbv.

How Quickly Can You Stop Your Snowmobile?

By Vic Koosmann, Minnesota Department of Natural Resources

Have you thought about how long it takes to stop your snowmobile?

Minnesota Conservation Officers and the Minnesota State Patrol did some field tests one recent winter, and they now have some valid numbers to work with.

Their work involved determining the SKID FACTORS of snowmobiles. Initially, their reason was to gather information to aid in accident reconstruction. But, it is also good information to carry in the back of your mind when it comes to general operation and stopping distances.

TESTING STOPPING DISTANCE

Tests were done at various speed with four (4) different snowmobiles - Polaris and Arctic Cat. The surface used for the tests was a frozen lake, but it was covered with compacted snow, very similar to a groomed trail. The results of the tests were plugged into a formula that gave a skid factor of .39. This is to say that using this factor in a formula along with the speed of the snowmobile makes it possible to predict how far the machine will travel once the brakes are applied. If you are traveling at 50 mph, the snowmobile will skid to a stop in 213 feet. (see formula below) It should be noted that studded tracks do not reduce this distance by any appreciable amount. In the tests, the locked track gave the shortest stopping distances.

$$\text{Distance} = \frac{50^2}{2500} \quad 213.6 \text{ feet} =$$
$$\frac{30 \times .39}{11.7}$$

FACTORING IN REACTION TIME

This is great information, but one element has not been taken into account. . . how long does it take to react to a situation? What is the time before the brakes are applied?

Paul L. Olson of the University of Michigan,

Transportation Research Institute, wrote an article entitled The Driver Perception Response Time in which he cites research done on reaction times by various researchers. A summary of his paper suggests that there are 4 stages in the process of identifying a stimulus and they are:

> step 1 - CONSCIOUS AWARENESS THAT SOMETHING IS PRESENT

- the stimulus may be within field of view for some time before it is detected.
- there may be a significant delay between presentation of the stimulus, and its being detected because of size and its contrast with background.

> step 2 - IDENTIFICATION

- sufficient information is acquired about the stimulus to be able to reach a decision.

> step 3 - DECISION

- the operator must decide what to do about it.

> STEP 4 - RESPONSE

- brain and muscle carry out the required action.

Times for this process to happen can range from .6 seconds to 3.2 seconds or more depending on the number of choices to select from, and the alertness of the test subjects. If you add alcohol, drugs, fatigue, cold or age to these tests the time will increase well above 3 seconds. These times are based on the 85 percentile of the population used in the test study.

NIGHT TIME DRIVING

Keep in mind the distance that the headlights will illuminate an object. A car will illuminate a contrasting object at about 300 feet on high beam, 250 feet on low beam. In a car, the headlight is around 29 inches above the ground and the operator's eye level is about 48 inches above the ground. The next point to consider is that a snowmobile does not have headlights like a car. The headlight is not 29 inches above the ground, and the operator's eye level may or may not be 48 inches above the ground. Thus, the distance illuminated by the headlight is less than the 250 to 300 feet for cars.

PUTTING IT TOGETHER

With this information in mind, now look at the graphs, and consider the reaction time plus the skid distance, and what is your chance of having a snowmobile accident? Young or new snowmobilers in particular should be aware of these distances since they have not had the time and experience to get a feel for their machine. New machines tend to give the operator a false sense of security.

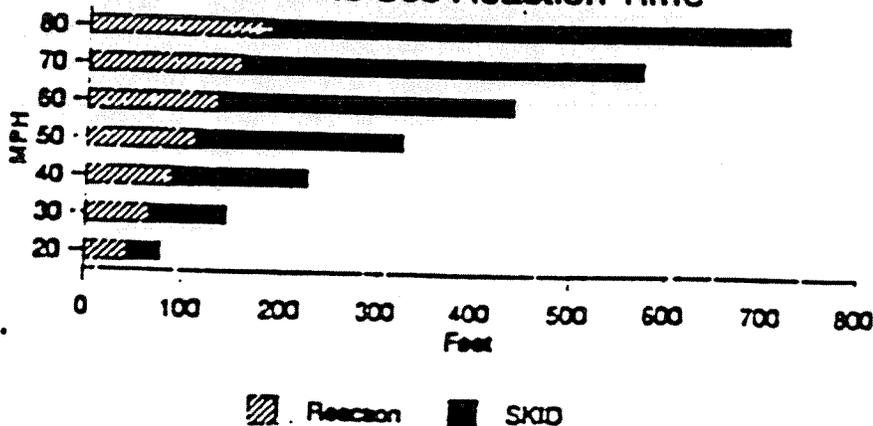
Remember, if you are traveling at 50 mph, with a normal reaction time of 3 seconds, you will have traveled 220 feet before you even apply the brakes. (That's almost 3/4 of the length of a football field!)

mph	feet/sec	how far you'll go with these REACTION TIMES		
		.75 SEC	1.5 SEC	3 SEC
20	29.33	22	44	88
30	44.0	33	66	132
40	58.67	44	88	176
50	73.33	55	110	220
60	88.0	66	132	264
70	102.67	77	154	308
80	117.33	88	176	352
90	132.0	99	198	396
100	146.67	110	220	440

Skid Distance

The distance required to slide a snowmobile to a stop. Tests done by Accident Reconstructionist with the MN State Patrol and the MN Dept. of Natural Resources Enforcement Division have determined it takes 213 feet to slide to a stop at 50 mph on a compacted snowmobile trail. Combine the reaction distance and the skid distance, the total distance traveled to come to a stop is approximately 320 feet (more than a football field). The effectiveness of a snowmobile headlight on high beam is about 200 feet. This is less than the distance required to come to a stop at 50 mph. At 40 mph the distance traveled is about 220 feet. MAYBE we should not exceed 40 mph when riding at night?

Reaction/Skid Distance for a Snowmobile
With a 1.5 Sec Reaction Time



Form 1100-1
(R 12/98)

NATURAL RESOURCES BOARD AGENDA ITEM

Item No.

SUBJECT: Adoption of Emergency Order LE-49-00(E) and authorization for hearing on permanent rule to revise Chapter NR 6, Wis. Adm. Code, pertaining to the Snowmobile Safety and Enforcement Program.

FOR: December 2000 **BOARD MEETING**

TO BE PRESENTED BY: Karl Brooks

SUMMARY:

The Department is seeking adoption of an Emergency Rule to address the immediate snowmobile fatality crisis. A Permanent Rule is being proposed to address the snowmobile fatality situation once the Emergency Rule expires. Both rules amend NR 6, by;

1. Defining unreasonable and improper speed to include snowmobile operation above 50-mph during the hours of darkness.
2. Create an exemption for snowmobiles competing in a sanctioned race or derby.
3. Change the title of NR 6 from "Snowmobile Standards Certification and Snowmobile Railroad Crossings" to "Snowmobile Operation Standards, Snowmobile Certification and Snowmobile Railroad Crossings".

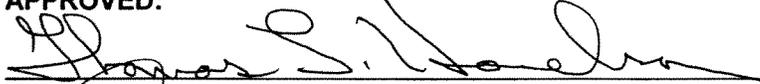
At present, there is no statewide speed limit for snowmobile operation. This results in an extremely dangerous situation during the hours of darkness when snowmobilers operating at excessive speed overdrive their headlights. The speed limit created by this rule will result in a significant increase in safety for nighttime snowmobilers.

RECOMMENDATION: That the Natural Resources Board adopt order LE-49-00(E) and LE-50-00 and authorize the Department to proceed with Permanent Rule-making.

LIST OF ATTACHED MATERIALS:

- | | | | | | |
|----|-------------------------------------|---|-----|-------------------------------------|----------|
| No | <input type="checkbox"/> | Fiscal Estimate Required | Yes | <input checked="" type="checkbox"/> | Attached |
| No | <input checked="" type="checkbox"/> | Environmental Assessment or Impact Statement Required | Yes | <input type="checkbox"/> | Attached |
| No | <input type="checkbox"/> | Background Memo | Yes | <input checked="" type="checkbox"/> | Attached |

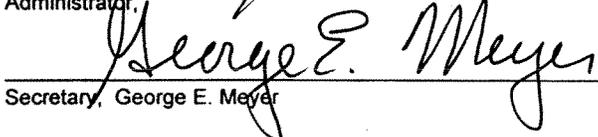
APPROVED:


Bureau Director

11-21-00
Date


Administrator

11/21/00
Date


Secretary, George E. Meyer

11/21/2000
Date

- cc: Judy Scullion - AD/5
 Thomas Harelson - LE/5
 Karl Brooks - LE/5
 Carol Turner - LS/5
 Michael Lutz - LS/5

CORRESPONDENCE/MEMORANDUM

DATE: November 20, 2000

TO: Natural Resources Board

FROM: George E. Meyer *George*

SUBJECT: Adoption of Emergency Rule and Permanent Rule, LE-49-00 (E) and LE-50-00 respectively, revising NR 6 Wis. Administrative Code, pertaining to the Snowmobile Safety and Enforcement Programs.

Why the Rule is Being Proposed

The Emergency Rule is proposed to specifically address the immediate snowmobile fatality crisis expected for the 2000-2001 season. A Permanent Rule is also proposed to address the snowmobile fatality situation once the Emergency Rule expires.

Conservation wardens investigated 38 fatal snowmobile crashes during the 1999-2000 snowmobile season. Of the 38 fatalities, 10 deaths could be directly attributed to excessive speed operation during the hours of darkness. Additionally, 14 other deaths may have been avoided if the operators had observed the prudent speeds allowing them to avoid night hazards. We feel that 24 of the 38 fatalities could have been effected with a reduction of speed during the hours of darkness.

Enforcement efforts documented over the past 10 years show excessive speed during the hours of darkness is one of the primary contributing factors leading to fatal crashes. The National Children's Center also notes high-speed snowmobile operation as a leading contributing factor to injuries among snowmobile operators. Annually, national statistics indicate Wisconsin has over 1,400 injuries alone from improper snowmobile speeds. The proposed rules would decrease nighttime fatalities by a substantial amount.

A Minnesota DNR law enforcement study shows that operating over 50-mph during the hours of darkness is unsafe. One fact stemming from the study details how the snowmobile operator over drives the snowmobile's headlight(s) beyond certain speeds at night.

Summary of the Proposed Rule

1. Define unreasonable or improper speeds, which includes operating a snowmobile over 50-mph during the hours of darkness.
2. Create an exemption for snowmobiles competing in a sanctioned race or derby. Derbies and races are allowed by 350.04 and are allowed speed exemptions under 350.03(2)(b).
3. Change the title of NR6 from Snowmobile Standards Certification and Snowmobile Railroad Crossings, to Snowmobile Standards Certification, Snowmobile Railroad Crossings and Snowmobile Operation Standards.

The statute the rules rely upon to create a definition of unreasonable or improper snowmobile operation is:

350.10 Miscellaneous provisions for snowmobile operation. (1) No person shall operate a snowmobile in the following manner:

(a) At a rate of speed that is unreasonable or improper under the circumstances.

The Emergency Rule and Permanent Rule, LE-49-00(E) and LE-50-00 respectively, would create a definition of unreasonable and improper speed.

For purposes of Wis. 350.10(1)(a), Stats., Unreasonable and improper includes speeds greater than 50-mph during the hours of darkness.

"Hours of Darkness" is currently defined in statute 340.01(23).

340.01(23) "Hours of Darkness" means the period of time from one-half hour after sunset to one-half hour before sunrise and all other times when there is not sufficient natural light to render clearly visible any person or vehicle upon a highway at a distance of 500 feet.

How the Proposed Rule Affects Existing Policy

There is no policy defining conditions which speed is deemed unreasonable or improper.

Previous Board Action

None

Who is Affected by the Rule

All snowmobilers who operate snowmobiles during the hours of darkness except snowmobiles competing in sanctioned races or derbies. The rule regulates the individual operation of snowmobiles and does not directly regulate small businesses.

Environmental Analysis

This is a type III action and does not require an environmental analysis.

ORDER OF THE STATE OF WISCONSIN DNR
NATURAL RESOURCES BOARD CREATING RULES

The Wisconsin Natural Resources Board proposes an emergency rule to create NR 6.04 which defines unreasonable and improper speed to include operating a snowmobile at speeds greater than 50-mph during the hours of darkness.

LE-49-00 (E)

Analysis Prepared by the Department of Natural Resources

Statutory Authority: s. 227.11(2)(a) and 227.24

Statutes Interpreted: s 350.04, 350.10(1)(a)

Currently s. 35.10(1)(a) prohibits snowmobile operation at "unreasonable and improper speed," a phrase which is not further defined in the statute. This rule will define "unreasonable and improper" to include speeds in excess of 50-mph during the hours of darkness. The speed of 50-mph was selected, as it is the speed at which snowmobilers begin to be unable to stop within the distance illuminated by their headlights.

Chapter NR 6 Title is amended to read:

SNOWMOBILE OPERATION STANDARDS, SNOWMOBILE STANDARDS
CERTIFICATION, AND SNOWMOBILE RAILROAD CROSSINGS.

Chapter NR6.01 is amended to read:

NR 6.01 Purpose. The purpose of this subchapter is to define unreasonable or improper snowmobile speeds, establish procedures for certification of snowmobile equipment standards pursuant to s. 350.09, Stats., and establish requirements for snowmobile races and derbies.

Section 1. NR 6.04 is created to read:

NR 6.04 Unreasonable or improper snowmobile speed. (1) For purposes of s. 350.10(1)(a), Stats., unreasonable or improper snowmobile speeds include operating a snowmobile over 50-mph during the hours of darkness.

(2) Snowmobiles competing in a sanctioned race or derby are exempt, and are not deemed to be operating at unreasonable or improper speeds when exceeding 50-mph during the hours of darkness.

During the 1999-2000 snowmobile season conservation wardens investigated 38 fatal snowmobile accidents. Of these accidents, 10 deaths could be directly attributed to operation at excessive speed during the hours of darkness. Fourteen other deaths could have been avoided if the operators had observed more prudent speeds, allowing them to avoid nighttime hazards. Potentially 24 of the 38 fatalities could have been avoided if the snowmobiler had been operating at slower speeds during the hours of darkness. Unless an immediate change is made in the snowmobile laws similar number of avoidable fatalities will occur during the 2000-2001 snowmobile season. Even greater numbers could occur if the early snows seen in November of 2000 remain, thereby extending the snowmobile season beyond that experienced in 1999-2000.

The foregoing emergency rules were approved and adopted by the State of Wisconsin Natural Resources Board on _____ . The rules shall take effect on _____ .

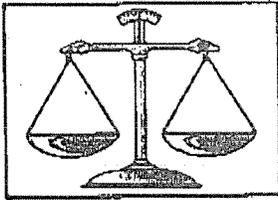
Dated at _____, Wisconsin _____.

STATE OF WISCONSIN DNR
DEPARTMENT OF NATURAL RESOURCES

By _____
George E. Meyer, Secretary

(SEAL)

6



TELEFAX TRANSMITTAL FORM
DEPARTMENT OF NATURAL RESOURCES
Bureau of Legal Services
101 South Webster Street
P. O. Box 7921
Madison, WI 53707

TO: David Austin

FAX #: 7-5171

SENDER: Michael Lutz

SENDER'S PHONE #: 7-7450

(Please call me if there are problems receiving this transmittal.)

NO. OF PAGES: (Including this page) 3

DATE: 12/13/00

OUR TELEFAX NUMBER: (608) 266-6983

MESSAGE

I don't have a signed copy but this is the final version

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**ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
AMENDING AND CREATING RULES**

The Wisconsin Natural Resources Board proposes an order to amend ch. NR 6 (title) and 6.01 and to create NR 6.04 to define unreasonable and improper speed to include operating a snowmobile at speeds greater than 50 MPH during the hours of darkness.

LE-49-00(E)

Analysis Prepared by the Department of Natural Resources

Statutory authority: ss. 23.11(1), 27.01(2)(k), 227.11(2)(a) and 227.24, Stats.

Statutes interpreted: ss. 350.03(2)(b), 350.04 and 350.10(1)(a), Stats.

Currently s. 350.10(1)(a), Stats., prohibits snowmobile operation at "unreasonable and improper speed," a phrase which is not further defined in the statute. This rule will define "unreasonable and improper" to include speeds in excess of 50-mph during the hours of darkness. The speed of 50-mph was selected, as it is the speed at which snowmobilers begin to be unable to stop within the distance illuminated by their headlights.

SECTION 1. Chapter NR 6 (title) is amended to read:

**SNOWMOBILE OPERATION STANDARDS, SNOWMOBILE STANDARDS
CERTIFICATION, AND SNOWMOBILE RAILROAD CROSSINGS.**

SECTION 2. NR 6.01 is amended to read:

NR 6.01 Purpose. The purpose of this subchapter is to define unreasonable or improper snowmobile speeds, establish procedures for certification of snowmobile equipment standards pursuant to s. 350.09, Stats., and establishes requirements for snowmobile races and derbies.

SECTION 3. NR 6.04 is created to read:

NR 6.04 Unreasonable or improper snowmobile speed. (1) Unreasonable or improper snowmobile speeds include operating a snowmobile over 50-miles per hour during the hours of darkness.

(2) Snowmobiles competing in a sanctioned race or derby are exempt, and are not deemed to be operating at unreasonable or improper speeds when exceeding 50-miles per hour during the hours of darkness.

Statement of Emergency

During the 1999-2000 snowmobile season conservation wardens investigated 38 fatal snowmobile accidents. Of these accidents, 10 deaths could be directly attributed to operation at excessive speed during the hours of darkness. Fourteen other deaths could have been avoided if the operators had observed more prudent speeds, allowing them to avoid nighttime hazards. Potentially 24 of the 38 fatalities could have been avoided if the snowmobiler had been operating at slower speeds during the hours of darkness. Unless an immediate change is made in the snowmobile laws similar number of avoidable fatalities will occur during the 2000-2001 snowmobile season. Even greater numbers could occur if the early snows seen in November of 2000 remain, thereby extending the snowmobile season beyond that experienced in 1999-2000.

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on

The rules shall take effect on the date of publication in the official state newspaper.

Dated at Madison, Wisconsin _____

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By _____
George E. Meyer, Secretary

(SEAL)