



Outdoors

by Kevin Moore

"There is the oft heard argument that "Everyone isn't able to perform such a strenuous exercise as walking or paddling." The claim is that these people have just as much right to enjoy our wilderness as the tough and rugged do ... I do not agree that if a person is physically out of shape he has as much right to enjoy the wilderness, any more than he has a right to enjoy any other sport for which he lacks the skill or conditioning." G.A. CUNNINGHAM

Ideally the snowmobile

should be completely banned except for cases where it is necessary for difficult jobs that would be much harder without it. Of course, the snowmobile will not be banned from personal use but hopefully it can be restricted to certain places.

Economically, it is too profitable an item to be banned. In the United States there were only 155,000 units costing \$75 million dollars in 1960-1962 but this grew till 1970 when there were 1,800,000 units costing \$1 billion dollars. (A. Stupay, **GROWTH OF POWERED RECREATIONAL VEHICLES IN THE 1970's, PROCEEDINGS OF THE 1971 SNOWMOBILE AND OFF THE ROAD VEHICLE RESEARCH SYMPOSIUM** [Abbrev. P.S.R.S.] MICHIGAN STATE UNIVERSITY)

In Canada there were over 500,000 snowmobiles sold in 1969-1970 (P. Neumann & H. Merriam **ECOLOGICAL EFFECTS OF SNOWMOBILES CAN. FIELD. NAT. VOL. 86, # 3, pp. 207-212, 1972**) Of these there were over 160,661 in the province of Ontario alone in 1971. (J. Vilia, **ONTARIO'S 1970 SNOWMOBILE STUDY P.S.R.S.**) In Vilia's study it was shown that 78.5% of the snowmobiles were bought for simple pleasure use or just bombing around. A further 15.2% were bought for pleasure-related activities such as hunting or fishing. The final 6.3% was used for non-recreational transportation or for rentals. The last use may relate back to pleasure activities.

Also, this study showed that only 3.9% wanted to use their toys in organized areas set aside for them, while 7.7% wanted them on ice (thin?), 0.9% on roads, and the vast majority, 87.5% in unorganized wooded, flat, or hilly areas.

Aesthetically snowmobiles should not be allowed into the interior but that consideration will be left to last since it is of course, personal opinion. For right now we'll consider some hard facts concerning the effects of these playthings on the environment.

People claim snowmobile are by far the least damaging of all the cross-country motorized vehicles and true enough, a single snow fall will erase all obvious effects that were caused by the vehicle. But the effects have already happened or will not occur

until spring. It should be remembered that although mini-bikes, and ATV's are much more obvious in their destructiveness, the snowmobile is equally destructive.

Snowmobiles have an internal combustion engine and so are as prone to gas and oil leaks as any other vehicle but since the purpose of the snowmobile is to get you into the middle of the wilderness then the effects are multiplied over the spills occurring on asphalt. As the snowmobiles are in the middle of the interior then its regular supply of carbon monoxide and hydrocarbons etc. are hitting their target right on.

Damage to vegetation is obvious in some cases while hidden or delayed in others. Bark stripped from small trees, saplings broken in half, terminal buds removed from the tops of seedlings and young trees. Neumann and Merriam (op.cit.) showed that in many areas, the passage of a single snowmobile caused over 78% damage to red maple **Acer rubrum** with 27% fatality. The same affect was observed in coniferous areas such as a plantation in which over 70% of the pines were damaged. In areas of repeated use, no vegetation remained above the snow surface.

Neumann and Merriam (op.cit.) also showed that snow compaction after the passage of one snow mobile often resulted in seven times the compaction for this snow and loose snow. A pressure of 200 grams per centimeters square was needed before penetration could be made into the compacted snow and then only to the depth of 1.8 cm. as compared to the penetration of 14.0 cm in loose snow. This compaction allowed a quicker thermal conduction. One of their measurements was that if the air temperature was negative 8°C then at a depth of 60 cm. in compacted snow the temperature was negative 5°C while in loose snow it was only negative 2°C. But if the temperature was above freezing such as 3.5°C then at 60 cm. in compacted snow the temperature was 1.0°C while in loose snow it was negative

These changes in temperature have a variety of effects on the organisms inhabiting subnivean environments. W. Wanek [**SNOWMOBLING IMPACT ON VEGETATION, TEMPERATURE, AND SOIL MICROBES, P.S.R.S.**; showed that microbial respiration in soil under snow cover is directly correlated to the temperatures of the soil surface. Lower temperatures could result in the loss of decomposition through out the winter. Also many spring ephemerals (plants having a short life-cycle) need a constant temperature to produce growth and if these temperatures are lowered then no growth occurs.

J. Whittaker and D. Wentworth [**IMPACT OF SNOWMOBLING ON VEGETATION P.S.R.S.**] show that there is a high

probability that snowmobiles may cause diminished yields per acre from forage grass fields.

In relation to fauna, the following quote from J. Jarvinean and W. Schmid **SNOWMOBILE USE AND WINTER MORTALITY OF SMALL MAMMALS, P.S.R.S.** summarizes their work, "Our trapping results, clearly showed a marked increase of winter mortality in small mammals beneath snowmobile-compacted snowfields...Mortality of subnivean mammals was due to a combination of factors that increased winter stress to the point where survival was impossible." They elaborated in explaining that these factors were destruction of air spaces, lowering of snow depth, increasing density, thermal conductivity, thermal diffusivity, and the sheer strength of the snow. Their studies were mainly on the meadow vole **Microtus pennsylvanicus** and the short-tailed shrew **Blarina brevicauda** although the white-footed mouse **Peromyscus leucopus**, and the masked shrew **Sorex cinereus** were also included but in smaller numbers. Neumann and Merriam (op.cit.) noted that a drop of 3°C causes a 20 gram short-tailed shrew to increase its metabolism by as much as 25 calories per day under winter stress conditions, this may be drastic.

And of course the noise from snowmobiles, if continuous, may drive animals from an area as well as unknown effects on smaller mammal's behavior especially when reproductive behavior is carried on and most mammals have litters in March or early spring. Again Neumann and Merriam (op.cit.) showed that snowshoe hares **Lepus americanus** "avoided" snowmobile trails while the red fox **Vulpes vulpes** followed it. Deer **Odocoileus virginianus** and moose **Alces alces** are also known to follow snowmobile trails. Of course this leaves them more open for poaching.

Realizing that most people who own snowmobiles are less worried about the environment than they are in getting their jollies then included are some reports on how your toy can stop you from your fun.

Bess showed that in his paper **THE EFFECT ON SNOWMOBILE ENGINE NOISE ON THE HEARING MECHANISM (P.S.R.S.** and in his other paper with R. Poyner **SNOWMOBILE ENGINE NOISE AND HEARING, ARCHIVES OF OTOLARYNGOL 95 (2) 164-168 1972**) that there was definite hearing damages caused by the noise of snowmobile engines. Since the snowmobile is built to be light, it has little muffler system and since the engine is air-cooled then there is little cowl over the engine. For these reasons, the machines are loud. In their studies they found that the 26 hp. engine reached an intensity of 136 DBA at full throttle and that "the average noise levels produced by the 22 hp. snowmobile should not be tolerated for more than eight minutes. Addition-

ally, the exposure time for sound levels produced by the larger snowmobiles should not exceed two minutes." They also point out that this hearing problem is as dangerous for those who are not riders but simply beside the machine.

Chism et al (J.AMER MED. ASS. 209 (11), 1672-1674, 1969) showed that compression fractures of the vertebrate are a result from the inability of the spine to absorb the shock of moving over uneven terrain. Verne et al (J. Biomech 4(6) 569-577 1971) showed that snowmobiles spinal injuries are caused mainly by the improper design of present snowmobile seats. Although most accidents are caused by simply negligent action, R. Withington and W. Leland (J. TRAUMA 10 (9) 760-763, 1970) pointed out that there were two problems that were especially related to snowmobiles. The first was the problem in rescue and evacuation which partly brings about the second problem which is the seriousness of standard motorcycle-type injuries complicated by exposure to severe cold and by inaccessibility.

In closing this section on unimportant information dealing with human problems, we should refer back to Vilia's Ontario Study where in 1969-1970 there were only 113,289 snowmobiles to 2,953,456 automobiles but there were only 4.9 fatal car accidents per 100 million vehicle miles, while there were 30.8 fatal accidents per 100 million vehicle miles for snowmobiles. This makes the death rate per 100 million vehicle miles for snowmobiles six times higher at 35.3 to the automobiles' 5.9.

But the main argument to snowmobiles has to be based on personal opinion. For those who wish to be alone in the wilderness without any remainder of mankind save the clothes on their backs, the presence of snowmobile tracks everywhere is completely disillusioning. Not only if one is lucky enough to not see the thorn it can still be heard especially if one is on a lake. If the machine is to pass the backpacker then the sound is long in fading as is the ringing in his ears. It gets down to the basic question of one thing disturbing the other but not vice versa. The backpacker on the hill watching with his binoculars, the snowmobiles crossing the lake a mile away with the distance din noise reaching him here, is not bothering the snowmobiler but yet he is with his noise, definitely bothering the backpacker.

J. Penny pointed out in the discussion on the **PROCEEDINGS OF THE 1971 SNOWMOBILE AND OFF THE ROAD VEHICLE RESEARCH SYMPOSIUM**, "We don't allow motorized vehicles in state parks in summer because of the incompatibility of noise. An incompatibility with the hiker on the trail and the horseback rider." So why is the winter any different?

CINEMA SHOWCASE

Final week:
"COLD SWEAT"

1, 3, 5, 7 & 9 P.M.
ADULT ENTERTAINMENT

429-3432 or 429-3433
SCOTIA SQUARE
CINEMA
BARRINGTON & DUKE ST.

"MY BUSINESS IS
MY PLEASURE"

1, 3, 5, 7 & 9 P.M.
RESTRICTED TO 18 YRS.

423-6054
PARAMOUNT
cinema 1
1577 BARRINGTON ST.

HELD OVER 6TH WEEK:
"FREEBIE & THE BEAN"

1:15, 3:15, 5:15, 7:15
& 9:15 P.M.
RESTRICTED

423-6054
PARAMOUNT
cinema 2
1577 BARRINGTON ST.

"THE NEW YORK
EROTIC FILM
FESTIVAL"

1, 3, 5, 7 & 9 P.M.
RESTRICTED TO 18 YRS. &
OVER

429-5214
cove cinema
2112 GOTTINGEN ST.

"MY BUSINESS IS
MY PLEASURE"

7:15 & 9:15 P.M.
RESTRICTED TO 18 YRS. &
OVER

penhorn mall
CINEMA 1
463-2597

HELD OVER 2ND WEEK
"GODFATHER 2"

7:30 P.M.
ALL SEATS \$3.00
ADULT

penhorn mall
CINEMA 2
463-2597

HELD OVER 6TH WEEK
"FREEBIE & THE BEAN"

7:00 & 9:00 P.M.
RESTRICTED TO 18 YRS. &
OVER

E-494
penhorn mall
CINEMA 3
463-2597