



**WHITE LAKE** Property Owners Association  
Preservation Project



## ENVIRONMENT BULLETIN

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### Water on Ice

One of the joys of winter is taking long walks, snowshoeing or cross-country skiing on the lake. For others, it's snowmobiling or ice fishing which is the main draw.

This winter, these activities have been hampered by the wide-spread occurrence of water on the surface of the ice just beneath the snow. What results is a walk in the slush or a snowmobiling ride that feels more like a bumpy boat ride than anything else.



Although this situation occurs almost every year, it is particularly severe this winter. Why?

The reason why water seeps onto the surface of the ice is because of a water pressure increase below the ice. This can be caused by several factors. Ice is flexible, like a sheet of paper and when it snows, the ice tends to sag a bit under the added weight of the snow.



Secondly, water can enter the lake from streams and seepage from land. We noticed that much of the water on the surface of the ice on White Lake is brownish in colour. This is a telltale sign of water coming through soils before entering the lake.

Ice cracks when it expands or contracts allowing water to reach the surface. Holes created by ice fisherman serve the same purpose. But why does the water not freeze instantly once it finds its way onto the ice?

First of all, the temperature of the ice itself is close to zero degrees, especially at the ice-water interface. And, even at very cold temperatures, snow is an excellent insulator. Together these two factors keep water in the liquid state resulting in slush. On a cold day, removal of the snow cover would result in ice surface water turning to ice very quickly.

Although one may associate a slushy ice surface with warm weather, this situation can happen anytime during the winter, even in very cold weather. Snow is really the main culprit because of its weight and insulating properties.

As long as there is sufficient ice thickness, it is not dangerous to walk on a slushy lake, just darned inconvenient!



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