

## **By the Numbers: Climate Change and the Future of Snowmobiling**

In Ontario and Quebec, snowmobiling seasons, in non-mountainous regions, have been projected to be reduced from 11% to 68%, on average in the period of 2010-2039, and a "reliable snowmobiling season would be essentially eliminated" for the period 2040 - 2069, due to climate change. These projections come from a recent study published by Geoff McBoyle, Daniel Scott, and Brenda Jones of the University of Waterloo's Department of Geography. The projections vary, depending on whether a low or high greenhouse gas emissions scenario is used.

The study was published in the journal *Managing Leisure* (October 2007), and used data from 13 sites across Canada, and included the Prairies, Ontario, Quebec, and the East Coast. A 30-year baseline period (1961 - 1990) was used to establish average operating seasons measured in days, that ranged from 18 days in Sydney, Nova Scotia to 100 days in Kenora, Ontario. A snow depth of 15 cm was used in the study as an acceptable minimum for snowmobiling trails. Unlike Alpine skiing, snowmobiling depends on natural snow and is "highly sensitive to climate".

The authors used two climate change models from 19 available because "they represent the low and high ends of the anticipated climate change in the study area". Of particular interest is the 2020s period (2010 - 2039) because, as the authors state, it is within the "lifetime of existing recreational infrastructure and long-term business planning". As reported by the International Snowmobile Manufacturers Association, the industry represents "US\$6 billion in goods and services annually". So, with any degradation of snowmobiling seasons will come an associated drop in economic impact. Will other motorized sports, such as ATVs, increase in demand to fill the void? Data from the US indicate that this might be the case because ATV sales increased by 60% between 2000 and 2003 while snowmobile sales decreased by 16%.

To illustrate the projected impacts, Ontario's season, for the 2020s, could decrease by between 25% and 45% for Kenora; 24% and 52% for Sudbury; 44% and 68% for Orillia; and 23% and 58% for Ottawa. The worst case scenarios are in Saskatchewan where decreases of around 80% and 90% are projected. The Prairies have some of the shortest seasons (38 - 57 days) so the impact will be significant. The decreases for the 2050s (2040 - 2069) are all projected to be about 90% to 100%.

The authors conclude by stating that "snowmobiling is an important winter recreation and tourism activity in Canada. This study has provided insight into the direction and potential magnitude of change with respect to the length of snowmobiling seasons and the spatial extent of snowmobiling opportunities in Canada's non-mountainous region in the decades to come."

McBoyle, G., D. Scott, and B. Jones. (2007). Climate change and the future of snowmobiling in non-mountainous regions of Canada. *Managing Leisure*, 12: 237-250.