

Several roads in Kosciuszko National Park (KNP), NSW, are kept open each winter with the use of snow ploughs and the de-icing salts; sodium chloride and calcium chloride. Alpine Bogs and Fens, which are endangered *Sphagnum cristatum* bog communities of high conservation significance, receive saline run-off from de-iced roads in KNP. Chloride de-icing salts raise the osmotic potential of soil water, degrade soil physical properties and both sodium and chloride ions are toxic to alpine flora. However, The impact of de-icing salts on alpine environments has not been previously studied in Australia.

To establish salt loads and residence times in Alpine Bogs bog ground water electrical conductivity (EC) was measured weekly using a network of piezometers in sixteen roadside bogs during winter and spring 2010. A treatment of 7.5kg of NaCl and 1Gbpq of tritium (³H) was diluted into 100l of water and applied to two bogs to establish if de-icing salts moved slower through the bogs than ground water. Monitoring revealed a significant flux of salt through roadside bogs. ECs were raised significantly in salted bogs with levels highest closest to the road 3520uS/cm and dropping to 100uS/cm at a distance of 120m from the road. The ³H injection suggests NaCl moves slower than ground water and salts have a shorter residence time in wetter bogs. The results indicate that Alpine Bog hydrology is significantly altered by current snow clearing practices. Peak ECs are significantly higher than the 30uS/cm of undisturbed bogs and may potentially retard bog flora vigour.