

Press Republican
April 5, 2010

Report: Investigate alternatives to road salt

By KIM SMITH DEDAM, Staff Writer

SARANAC LAKE — Even as spring arrives, a new report suggests there may be a more economic and environmentally sound way to clear winter snow from some Adirondack roads.

The Adirondack Watershed Institute researched the impact of salt on Adirondack roads in a study commissioned by Harrietstown-based AdkAction.org.

The project, spearheaded by Dr. Dan Kelting, executive director of the Watershed Institute based at Paul Smith's College, puts a cost on "ecosystem services" of water and soil quality, stability and recreation at \$2,320 per lane-mile of road at risk.

It pits that value against the estimated \$924 per lane-mile spent on road salt in the Adirondacks last year.

The scientists recommend updating road maintenance protocol.

"More funds should be invested in advanced technology and alternative de-icers" to reduce the impact of road salt, Kelting said in releasing the report.

"When you start to examine some of the findings of this study, it is clear that road salt is not always the most effective — or even the cheapest — product to use to keep roads clear at temperatures below 25 degrees."

SALT IMPACT

Kelting's research called on national statistics that show vehicle corrosion from salt costs consumers about \$11.7 billion each year in addition to some \$27 billion in salt damage to road surfaces, bridges and cement.

Some of the most striking data in the report indicates an accumulating impact of salt in Adirondack surface water.

Roads run along 10 Adirondack lakes with the highest salt concentrations.

While average Adirondack groundwater is 8.8 milligrams of salt per liter, tests measure salt levels in Upper Cascade Lake at 40.6 milligrams of chloride per liter; Lower Cascade Lake at 51.4 milligrams per liter; and Lake Colby at 45.8 milligrams per liter.

Kelting drew direct correlation to road salt.

"Road salt was applied at a rate of 98 tons per lane-mile per year on State Route 73 along Upper and Lower Cascade Lake, which is over four times the average (DOT) application rate."

There are 2,831 lane-miles of state roads in the Adirondack Park, the Salt Study said, and 7,735 lane-miles of county, town and local roads.

"State roads interact with a minimum of 180,000 acres of surface waters within 100 feet of the centerline of the road, constituting 56 percent of the total acres of surface waters in the park."

ANTI-ICING

Kelting evaluated several de-icing chemicals in the study and researched a process called "anti-icing" used in some states to pre-treat roads with brine, so snow and ice can't stick.

Anti-icing tests done in Oregon and Washington state last year resulted in one-third fewer snowplow trips, costing less time in labor, gas and vehicle upkeep.

"Plowing was easier and faster, with snow removal completed up to three hours sooner, resulting in reduced labor cost," Kelting's report says.

"In Boulder, Colo., liquid anti-icing chemicals "had a total application cost of \$2,500 per lane mile, as compared to \$5,200 per lane mile for conventional de-icing and sanding operations."

Similar results were reported in Idaho.

The Watershed Institute, AdkAction.org and environmental groups want DOT to run a test case on a stretch of Adirondack road to get a solid cost analysis.

ROAD TEST

But first, they suggest mapping the most sensitive park road areas and using it to assess salt application and mileage.

Alternative de-icing products could be used economically where water quality is at risk.

The Adirondack Council issued a similar salt report last year.

While it did not derive cost analysis, the group recommended DEC and DOT create a salt-sensitivity map for Adirondack Park roadways and outline a test site for salt alternatives.

"We have had conversations with DOT and DEC since our report came out a year ago," said John Sheehan, spokesman for the Adirondack Council. "To have the specific tasks laid out (in the Watershed Institute report) is going to be more helpful to the state agencies."

CONTACT

Lee Keet, water quality chairman of Adirondack Action, said that organization sent copies of the report to state agencies, "as well as (announcements) to all of the town supervisors in the park and all of the heads of lake associations."

David P. Wolff, AdkAction.org's Steering Committee chairman, has called on DOT to respond to the study's findings.

"Our members underwrote this important, groundbreaking study because water quality is an issue of highest importance to Adirondackers," Wolff said in a statement with the report. "Deteriorating water quality is an issue of huge concern with near universal support."

The technical report and a list of 11 recommended actions is online at:
www.adkaction.org/Salt.pdf.

E-mail Kim Smith Dedam at: kdedam@pressrepublican.com