



Salt And A Wound

Summertime and the salting is easy on Palmer Glacier

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Skiers and snowboarders are gearing up for the summer skiing season that begins in June at Timberline Lodge.

Just 60 miles east of Portland, Timberline has since 1956 been one of the country's premier skiing destinations for an estimated 95,000 visitors each summer. And it's the training grounds for the U.S. Ski Team.



FREEZE FRAME: Environmentalists want the impact of salting re-examined on Mount Hood. IMAGE: KATE MCCARTHY
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But at what environmental cost?

Timberline Lodge applies almost a million pounds of salt to the Palmer Glacier every year to melt and refreeze the top layer of snow during the hot summer months. Refreezing the top layer reduces surface friction, thereby eliminating the sticky sensation of slushy summer snow. It also provides a much more stable riding platform, particularly on tricky formations like half-pipes and race courses.

Oregon no longer de-ices roads with salt, but dumping sodium chloride all over a fragile glacier is just fine?

Not according to activists who have been calling for a re-examination of salting practices on Mount Hood for decades. They warn that the damage is only getting worse each year.

"We can't believe that a million pounds of salt is inconsequential," says Barbara Wilson, chairwoman of the Friends of Mount Hood, a 300-member volunteer nonprofit that monitors Mount Hood's national forest lands. "But we never knew how to move ahead when no one was interested in talking about the matter."

According to Timberline and several independent agencies, chloride levels on the mountain remain well below the standards set by the Safe Water Drinking Act, as

well as the criteria set by the National Water Quality Criteria for salt-sensitive plant and animal life.

Timberline's testing program is monitored by the federal Environmental Protection Agency, the Oregon Department of Environmental Quality, and the U.S. Forest Service.

DEQ establishes the "chronic toxicity threshold" at 230 milligrams of chloride per liter (mg/L) for a period of more than four days, while the Environmental Protection Agency's drinking water standard is set at 250 mg/L. Timberline's 2008 report, compiled by environmental engineers Golder Associates of Redmond, Wash., confirms that chloride levels did not exceed 117 mg/L— about half the threshold limit.

"[Salting] presents no threat to aquatic resources, wildlife or drinking water," wrote Timberline spokesman Jon Tullis in an email to WW. "We are committed to sound environmental stewardship of our beautiful alpine area."

But it isn't alarmist or paranoid to be concerned about the amount of salt being used, either. Just because a 60-pound dog can eat a pound of chocolate before needing to have its stomach pumped doesn't mean it's a good idea to toss Hershey kisses to your Lab.

And just because chloride levels haven't met the chronic toxicity threshold—yet— doesn't mean serious long-term damage isn't being done to the mountain, according to Ralph Bloemers, co-director and staff attorney at the nonprofit conservation group Crag Law Center.

"We have to reconsider whether our water quality standards are actually protecting fish, wildlife, or anything that we actually care about," Bloemers says.

Timberline has been testing since 1998, but Robert Jackson, an ecology professor at Duke University, notes, "Chloride concentrations take decades to build up."

"It doesn't mean that there's a problem," Jackson says. "But monitoring the system for a lot longer seems like a good idea."

A 2004 study by the U.S. Geological Survey showed that chloride levels in the Salmon River, which originates from Palmer Glacier, while below EPA limits, are well above what can be accounted for by precipitation.

That's obviously not great news, and those numbers can reasonably be expected to increase. A study by the National Academy of Sciences measured chloride concentrations in the Northeast over 40 years and found chloride concentrations in streams and rivers did not return to baseline levels during the summer once salt was no longer actively applied to roads.

Soil quality is also being overlooked. Soil isn't just dirt—it's a delicate balance of minerals, earth and micro-organisms, most of which can be damaged by surprisingly low concentrations of salt. Inhibition of soil micro-organisms has been documented at as low a concentration as 90 mg/L. To continue salting may have serious effects on alpine vegetation, even if no effect is visible at the moment.

As a ski area that is particularly at risk from global warming, according to a 2006 Oregon State University study, Timberline might want to reconsider doing anything to make the Palmer Glacier melt any faster than it already is.

Yet activists' protests remain unheard. Mostly because they're caught in a cyclical holding pattern. If chloride concentrations meet the existing guidelines, the Forest Service and the DEQ won't call for further studies—even if the existing guidelines are sometimes inadequate.

"There's just an accountability problem," Bloemers says.

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