

Hey, the water's fine

By THOMAS R. WELCH, M.D.

Three million people in the world die annually from drinking contaminated water, including one child every thirty seconds. Severe diarrheal diseases are spread by feces, and in developing countries, the infrastructure to separate waste water from drinking water is unsatisfactory or nonexistent. This is a global problem about which we should all be embarrassed.

One of the greatest public-health accomplishments in the developed world is the widespread availability of safe, cheap drinking water. This has done more to ensure the health of our citizens than drugs or high-tech medical procedures. It's absurd to see Americans strolling about with bottled water that costs more than gasoline. The bottling and distribution of this glorified tap water inflicts an outrageous toll on the environment. Also troubling is the implied message that our drinking water is unsafe.

There is an Adirondack corollary to the clean-water story that was touched upon in an article in the November/December *Adirondack Explorer*, although the article sadly missed the point.

Common wisdom notwithstanding, there is no evidence that wilderness waters in the United States, and the Adirondacks in particular, are unsafe for consumption. Until a few decades ago, one rarely heard any mention of this topic. This changed in the mid-1970s, when a medical journal reported an outbreak of an intestinal infection, giardiasis, in a group of Utah campers. The authors attributed the outbreak to drinking water at a campsite, although they admitted that they had been unable to prove this and that many others who camped in the same area were unaffected. Today, it is clear that this epidemic was caused by food or poor hygiene.

Within a few years, widespread warnings about contaminated drinking water in the backcountry began to appear, along with a dizzying array of chemical and technological "fixes." New York was not immune from this hysteria. The Adirondack Mountain Club (ADK) began providing warnings about giardiasis in guidebooks, and the state Department of Environmental Conservation (DEC) posted warning signs at trailheads.

All of this is without scientific basis. Professional studies examining the risk have been completely consistent: No serious contamination of North American backcountry waters has ever been shown. One of the more recent examples was a report in a professional journal by Dr. Robert Derlet, who undertook water-quality studies in the Sierra Nevadas. This study was not fully explained in the *Explorer* article. I am quite familiar with the work, having been invited by the journal to review it and write an accompanying editorial. Derlet found plenty of bacteria in various waters, but this was not surprising since these organisms are ubiquitous in the environment. The main point is that



Is the water from Lake Colden safe to drink?

Photo by Susan Eibeau

he found no "pathogenic" (i.e., human-disease causing) organisms in the water.

Derlet's study was but one of many to find no connection between backcountry waters and disease. Even the non-professional literature is coming to this conclusion. A December 2004 article in *Backpacker* challenged the old teachings, in the process quoting my research and that of a number of other experts.

Erik Schlimmer, a highly experienced outdoor educator featured in the *Explorer* article, is in the mainstream of contemporary wilderness educators and wilderness-medicine physicians in his dismissal of the groundless concerns about Adirondack water safety. Unfortunately, the article may have left the impression that he is a fringe character who is subjecting himself and those who follow him to risk.

If experts are casting doubt on the giardia scare, why does this silliness endure? For one, DEC and governmental agencies, perhaps out of lack of knowledge, continue to festoon trailheads with unfounded warnings. *Medicine for Mountaineering*, a standard textbook for wilderness physicians, says "frantic alarms about the perils of giardiasis have aroused exaggerated concern."

One also has to wonder about the complicity of the recreation-equipment industry, which makes millions of dollars producing and distributing increasingly complex technologies to treat water. To their credit, a major gear distributor, REI, now provides a much

more nuanced discussion of water treatment on its website (both Dr. Derlet and I contributed to this).

I cringe seeing folks pumping pristine Adirondack water through complex plastic contraptions, just as I do seeing them toting bottled water in the city. Of course, illnesses such as giardiasis can be acquired by campers. The culprit, however, is not water but poor personal hygiene. In the developed world, most of these diseases are spread hand to mouth. Epidemics in nursing homes and cruise ships testify to this. In a backcountry trek, opportunities for such spread are legion.

By focusing on unfounded concerns about water quality, ADK and DEC are overlooking a more effective strategy to combat giardiasis. The focus should be on encouraging hand washing or the use of sanitizing gels. Coming into contact with a privy at Lake Colden presents a vastly more serious threat to intestinal health than does sipping from the Opalescent River. The DEC would be better advised to put hand-washing reminders on outhouse doors than water-quality warnings at trailheads.

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