



Money Down the Drain: Tap Water Versus Filtered Water in Marin

By Corliss Sio, Earthscope Reporter

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Under the impression that all tap water needs to be filtered, consumers spend millions of dollars each year attaching filters to their faucets. But just how badly are these devices needed?

Data show that tap water is generally safe to drink, but some areas of the country fare better than others. In 2001, the Natural Resources Defense Council, a nonprofit public health and safety agency, conducted a study entitled *What's on Tap?* in 19 major U.S. metropolitan areas and found the safety of drinking water in some cities is indeed at risk. The report stated that "pollution, old pipes and outdated treatment" are the major causes for poor drinking-water quality.

While the study did not include Marin County, the NRDC encourages people to check with their local utility companies to make sure the water is clean and safe. The Marin Municipal Water District, the water supplier for West Marin and the largest water supplier in the county, and North Marin Water District together serve 95 percent of the Marin population. Every July, public water suppliers in California are required to issue an annual Water Quality Report, also known as the Consumer Confidence Report, and make it accessible to their customers. If residents find it difficult to understand, they can call their agencies and request assistance and additional information.

The good news for Marin residents is that water from the two major agencies is very safe to drink.

"Our water meets all state and federal regulations," said Marcia Davis, water quality supervisor at NMWD. "We do a lot of testing, for example, at our treatment plant, and with our lake water — that's called the 'process control.' If anybody calls and says 'My water tastes funny,' we will test their water and try to resolve their problem."

Jennifer Clary of San Francisco Tomorrow, an urban environment group, examined MMWD's most recent water quality report and agreed, "Their water quality is excellent — better than San Francisco." She added, "I don't think filters are necessary for Marin County waters, although a filter would remove most of the relatively small amount of haloacetic acids and trihalomethanes."

According to Multi-Pure Drinking Water Systems, trihalomethanes, also referred to as disinfection byproducts, are contaminants causing widespread concern as of late. Many believe that DBPs are the single greatest health threat in water supplies. DBPs are contaminants, some of them cancer causing, that are left behind by the very chemical (chlorine) that utilities use to make their water potable.

About 15 years ago, scientific testing identified chlorine as a potential health hazard, but it is not the chlorine in itself that is dangerous. Scientists discovered that chlorine reacted with organic material in water, such as decaying leaves, to produce hundreds of chemical byproducts, several of which have been proven to be carcinogenic (trihalomethanes make up the bulk of the cancer-causing DBPs). Other disinfection byproducts may have adverse effects on the liver, and nervous and reproductive systems. The use of chlorine for water treatment to reduce the risk of infectious disease may account for a substantial portion of the cancer risk associated with drinking water. Trihalomethanes are associated with increased risk of bladder and rectal cancer, possibly accounting for 5,000 new cases of bladder cancer and 8,000 new cases of rectal cancer per year in the U.S. According to a study done by the American Water Works Association, more than 230 million people (approximately 90 percent of America's population) receive disinfected drinking water containing hundreds of disinfection byproducts.

Haloacetic acids are organic compounds containing chlorine and/or bromine, according to Pacific RO Products. The compounds are formed from naturally occurring organic substances during chlorination. The HAAs of significance in disinfected water are chloroacetic acid, dichloroacetic acid, trichloroacetic acid and some brominated forms. Animal studies have demonstrated that dichloroacetic acid causes adverse effects on the brain, testes and eyes. Less is known about trichloroacetic acid and the brominated acids.

John Ferguson, executive editor for the Water Quality Association, said that although the federally regulated Maximum Contaminant Level Goal for haloacetic acids and trihalomethanes is ideal at zero, cost and technology is the barrier for eliminating all traces of them. "The Maximum Contaminant Level is what they allow. They take into account how much it would cost for the community to remove all of the trihalomethanes," he said.

Do some people need to worry about these trace amounts of haloacetic acids and trihalomethanes? In an information booklet, the Metropolitan Water District of Southern California, in cooperation with the California Department of Health Services, states, "People with severely weakened immune systems are not always protected by federal-regulated standards because they are based on reducing risks for people in good health." The agency, along with many others, recommends that people with severely weakened immune systems talk to their physicians about possible alternatives to tap water.

Water filters are among the most popular approaches to producing cleaner water. However, with the many choices available on the market, it is sometimes a dizzying process to know which one meets specific needs. If consumers are looking to reduce the amount of contaminants in their water, they need to know what kind of contaminants they are worried about and which filter does works best. For example, a whole house system would not be a good choice for reducing contaminants.

"A whole house system is basically a taste and odor filter. It's not going to do a whole lot more and the reason it can't is because of the floor restriction. You need to have a certain amount of water flowing and water pressure in your house," said Robert Bruce, an independent filter distributor and a biomedical electronic technician who works at Marin General Hospital.

"If I were to buy a water filter, I would only buy one that is certified by an independent testing organization," said Castle. Organizations that perform that task are NSF International, Underwriters Laboratory, and California Health Department Services. According to Bruce, water filters are certified under two standards: Standard 42 and Standard 53. Standard 42 certifies chlorine and chloramines reduction, and particulate matter reduction – that is, the filter has been confirmed to remove chlorine taste and odor, and cloudiness.

“That’s usually the one filters are mostly certified under,” Bruce explained. Standard 53 is for health effects. It certifies filters to reduce contaminants such as chlorine, chloramines, lead, trihalomethanes and MTBE. More information about contaminant filtration can be found on the NSF International Web site:

www.nsf.org/-consumer/drinking_water/dw_contaminant_guide.asp?program=WaterTre

Water filters are not necessary for most Marin residents because tap water provided by NMWD and MMWD is considered extremely safe for drinking. However, when a filter is needed, Castle suggested that consumers make sure that the water filter is certified to reduce the specific contaminants posing a threat through their water.