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Clean and plentiful: Logan residents enjoy some of region's cleanest drinking water

By Katie Peikes staff writer Apr 2, 2016

Eli Lucero/Herald Journal

Paul Lindhardt shows the machinery that pumps water from a well that supplies Logan with some of its water.

A recently released report on Logan's water quality shows there are inorganic contaminants and compounds in the city's drinking water, but Logan officials and educators say residents should not be worried.

"We're very fortunate in the fact that our aquifers and our water sources are high quality and they're both very plentiful," said Paul Lindhardt, the water and wastewater division manager for Logan. "Even in our valley, while other cities have to deal with lower quality water, we are fortunate enough to not have to deal with that."

Inorganic contaminants and compounds in Logan's drinking water listed in the city's 2015 Annual Water Quality Report include arsenic, barium, selenium, sodium and sulfate, among others, though not in amounts the city says people should worry about. Additionally, although the city does not fluoridate its own water, 200 parts per billion of fluoride were detected as naturally occurring in the drinking water.

Logan is required by the Environmental Protection Agency (EPA) in Utah to conduct water testing frequently, and employees test for over 80 different substances. Each substance is given a maximum contaminant level defined by the EPA or the Utah Department of Environmental Quality, Lindhardt said.

"Anything below that maximum contaminant level (MCL) is deemed safe," Lindhardt said. "If you look at the actual level detected versus the MCL, every one of them are considerably below. It's considered safe drinking water."

Water quality reports available on Logan city's website range from 2008 to 2015 and show no violations. Logan also has no water quality violations on record prior to those years, said Ken Bousfield, director for the Division of Drinking Water, part of the Utah Division of Water Quality.

“Logan has a well-operated and maintained system. They comply with all of our rules,” Bousfield said.

Logan received a score of -10 in its water quality, a commendable score, Bousfield said. Cities want to be as close to zero as possible and Logan received additional points for its emergency response program.

Where does our drinking water come from?

Logan’s drinking water derives from the groundwater in DeWitt Spring up Logan Canyon, with 4,000 to 12,000 gallons a minute flowing from the source. Although the spring provides a sufficient amount of water to everybody in Logan, it is supplemented by four culinary wells that assist the supply, primarily in the summer.

“Our water quality is excellent overall because of the care we take in installing the spring in Logan Canyon. That’s our main source,” said David Stevens, a Utah State University professor and division head in environmental engineering. “The water quality at the spring meets all standards without doing anything to it.”

Under the Safe Drinking Water Act, Logan employees conduct routine and annual testing depending on the types of contaminants they are looking for, Lindhardt said. They constantly watch and inspect for back-flow of water and cross connections to ensure the water quality stays clean. The city treats it with chlorine, primarily to ensure the pipes stay disinfected, Stevens said.

“There’s all sorts of regulations for materials we can use in the piping, our storage tanks, how we do those things, how we handle them,” Lindhardt said. “It’s an ongoing everyday process to maintain the water quality in the city.”

While the water is naturally occurring as it goes into the ground and comes up into the spring, people play a key role in impacting the drinking water. Those who use dirty water in their sprinkler systems and cross connect the sprinkler system through a pipe, for example, could put dirty water into the drinking system, something Logan watches for, Lindhardt said.

“If we put dirty water into the environment, it will eventually come back to us,” Lindhardt said. “People fertilizing their lawns should not over-fertilize, or it runs off somewhere.”

Surveying residents about water

A survey focused on water quality done by Utah State University faculty yielded an average of 76 percent of the respondents from Logan neighborhoods viewed the city’s drinking water quality as sufficient. However, the city as a whole sees the drinking water quality as more than sufficient, with this year’s water quality test results yielding the drinking water meets the state requirements.

“Issues we worry about with drinking water are in areas that have a lot of arsenic or heavy metals in there,” said Douglas Jackson-Smith, a USU sociology professor and one of the professors involved in the onset of Utah’s water future survey. “Anecdotally, that’s in the west side of Salt Lake City.”

The issues with drinking water are often concerning arsenic, groundwater sources, sediments and metals, said Nancy Mesner, a professor in the department of watershed sciences at USU and an extension specialist in water quality. Logan, however, has none of that, with Mesner claiming the drinking water is “some of the best (she has) ever seen.”

Jackson-Smith, Courtney Flint, Andrea Armstrong and Taya Carothers conducted an iUTAH study on Utah’s water future, which focused on perspectives from residents in different cities regarding their water issues. They studied 23 neighborhoods across 13 cities in Salt Lake County, Cache County and Wasatch County. In Logan neighborhoods, an average of 76 percent of residents who participated in the survey rated their drinking water quality as good or very good. The sample taken in Bridger neighborhood was found to be the lowest, at only 58 percent of the residents thinking highly of their drinking water. The survey found that 10 percent of Bridger respondents classified their drinking water as bad or very bad.

A heat map provided by Jackson-Smith also shows Logan to be in the light blue category, with the responses of 345 participants averaging out to opinions of the drinking water quality being between “neither good nor bad” and “very good.”

“I’d say overall, virtually everybody isn’t concerned about their water quality,” Jackson-Smith said. “The 76 percent would say it’s good or very good and almost everybody else says it’s neither good or bad which is a way of saying they’re not sure.”

Jackson-Smith said although they surveyed hundreds of residents about their opinions of water quality, groundwater, reservoirs, lakes and more, they simply asked them to rate the water quality. They did not ask them for the reason why they rated it a certain way.

“Neighborhoods do differ and in a way the community conversation in the neighborhoods might be different,” Jackson-Smith said. “It might be very interesting to find out what experiences they’ve had that contribute to that.”

Tap water versus bottled water

Numerous studies have revealed misconceptions about bottled water, including being healthier than culinary drinking water. For its purposes and requirements of regulation, Stevens said bottled water is comparable to food.

“It’s not governed under the same regulations as our water supply,” Stevens said. “If there’s a problem with bottled water, companies that produce it can quietly pull it off of the shelf.”

The United States has adopted a backwards way of thinking on bottled water, Stevens said, with people believing bottled water to be safer than tap water simply because of advertising.

“You’re spending more, you’re drinking something safe that really isn’t water,” Stevens said. “Chemically it is, but it’s not the same that you think of as water which is something out of a river or a lake or something like that.”

In addition to the negatives of consumers paying more for bottled water, Mesner said industries producing the plastic bottles are actually using a lot of water to create and produce the bottle it goes into.

“Bottles use three times as much water to make the bottle as it does to fill the water bottle,” Mesner said. “It’s become a huge waste issue on the other end.”

The cost for a one-liter bottle averages $1.25, which Mesner converted to totaling $4.73 a gallon. Logan’s tap water is priced at 99 cents per a thousand gallons for a single family unit, which is $0.001 cents per gallon, Mesner said. Thus, a family that drinks from their tap is saving a lot of money in comparison to a family that frequently buys bottled water.

The solution to the issue of people’s reliance on bottled water and a way to couple the convenience of a bottle with the safety and compliance of tap water, is not new, Mesner said. Reusable, stainless steel water bottles have been on the rise as a marketable product for their convenience and safety.

“The message is we are so lucky to have such good water here,” Mesner said. “Not every community has it.”

The future of Logan’s drinking water

Logan’s water supply is not infinite and with predictions that the population is projected to double in size by 2050, the city will have to keep its supply in line with a growing population. Lindhardt said the city has prepared for this and has another well that is drilled into the ground and will be ready for use when needed. It also has another well site ready to be drilled, if required.

“We’re always looking ahead that way so that we have more sources of water as the population grows,” Lindhardt said.

Stevens has a prediction for the city’s water quality that entails safe and fortuitous drinking water in the short-term and long-term future as long as the city prepares for the population growth.

“It requires oversight, repairs to the equipment that delivers the water to you, it requires breaks in the water mains to be researched properly and for people to understand the connection between water and health,” Stevens said.

He continued, “As long as those things are in place as they are now, we’ll have good water for forever.”

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