

along the McKenzie River on Hwy. 126. If a tanker were to spill fuel into the McKenzie, the utility could have as many as six hours to fill its reservoirs. Its intake 30 feet below the surface may not even be affected, he says.

One distinct advantage of EWEB's planned intake site is its proximity to the Willamette Confluence where restoration work has been underway for several years. Replanting riverside forests mitigates algae conditions by shading and cooling the water. The riparian trees also naturally filter sediment, reducing turbidity (cloudiness) and heavy metals, EWEB says.

The Nature Conservancy (TNC), Friends of Buford Park and Mt. Pisgah, Oregon Parks and Recreation and Willamalane Park and Recreation District all have restoration projects along the confluence. The projects reconnect the river to its historic floodplain through connecting ponds and back channels, controlling invasive species and restoring habitats.

Jill Hoyenga, EWEB water resource and system planner, says one of TNC's projects, Pudding Ponds, which reconnected gravel pits to the river, showed a reduction in air and water temperature in the area in only two years. Cooler water reduces the changes of algae blooms that affect water quality.

Treating the Cost

"It is usually more reliable to have more than one source, but this also can be more expensive," says Jay Lund, director of the Center for Watershed Sciences at University of California Davis. "Many systems that rely on a single source will invest in some local storage so as to be able to survive for some days or weeks, or longer, if the source is interrupted," he adds.

That Eugene's water source will someday be interrupted is not in question — the Cascadia Subduction Zone quake is going to happen. It's a question of when.

Increased storage would still leave EWEB with only one filtration plant, and in order to have true redundancy, the second water source also needs its own treatment plant.

And no matter how clean the water in the river, it still needs some treatment. According to the presentation given at the water forum by Hoyenga, Lawson, McCullough and other EWEB representatives, testing at the intake location since April 2013 show the "water quality is in many ways remarkably similar to the McKenzie River intake," though water treatment will have to take into account higher turbidity, algae/algal toxins and something called geosmin, which gives soil that nice earthy smell, but can make drinking water taste foul.

EWEB paid Barney and Worth professional consultants just more than \$160,000 to help undo "100 years of 'polluted Willamette' headlines" that "have etched a public perception of the river as a potential threat to public health — even though in other parts of the U.S. and world, the upper Willamette would be considered near pristine."

Back in August 2015 the EWEB board approved purchasing the narrow strip of land between the Willamette and Glenwood Boulevard where it runs north-south for about \$62,000 from Wildish Land Co. The deal also involved a land swap that gave Wildish a parcel near Armitage Park. That deal gave EWEB the land needed for the water intake — there are two possible water intakes along that strip. Hoyenga says the land there is not prone to liquefaction in the case of a major earthquake — a good thing for a water transmission line.

On west side of the property, uphill from the river and wedged between Glenwood Boulevard, there is another section of land, this one owned by the Macauley Family Trust. It is the site where EWEB would like to place a new, state-of-the-art water treatment plant.

However, after the trustees declined EWEB's \$961,000 offer for the undeveloped industrial zoned land, EWEB began the condemnation process last April in Lane County Circuit Court. Under condemnation, land can be taken by the government via eminent domain and the owner is given just compensation for the land — basically private property is taken for public use.

Hoyenga says the proposed location for a plant is above the 500-year flood plain, hopefully protecting it in case

one or more of the dams on the river were to give way in that looming catastrophic earthquake.

EWEB currently has its Hayden Bridge plant on the McKenzie River in Springfield. A second treatment plant, in addition to the second water source, gives EWEB further redundancy — the utility has a backup if the Hayden plant were to fail.

The new Willamette filtration plant would treat detected as well as anticipated substances in the water. So Parisi says, while mercury has not been detected, the plant would be able to treat it.

As McCullough discussed at the stakeholders' meeting, the plant would use several processes — clarification, ozonation, filtration and disinfection to treat the water. The new plant would be more up-to-date than the Hayden Bridge plant, but Lawson says that the older plant, built in the 1950s, would also be up for improvements.

The total cost for the new filtration plant, replacement and renewal as well as system maintenance has a preliminary estimate of \$70 million. Customers have actually already begun to pay for it — EWEB says that small, steady price

increases began in 2014 and part of that initial increase goes into a reserve fund. There will be annual 2.6 percent increases from 2018 to 2026, the utility says.

EWEB argues that in 2017 its water bill will remain lower than cities such as Junction City, Coburg, Portland and Seattle. In a 2015 customer survey, 62 percent of customers "are somewhat or very aware of Eugene's potential water supply issue," 90 percent think a second source is important and 63 percent "support some increase to pay for a second source."

As Kathryn Schulz writes in "The Really Big One," her 2015 *The New Yorker* article that brought the Cascadia Subduction Zone to mainstream attention, the Pacific Northwest is vastly underprepared for the earthquake that is going to hit. "The odds of the big Cascadia earthquake happening in the next fifty years are roughly one in three," Schulz writes. "The odds of the very big one are roughly one in ten."

An earthquake will hit, and as climate change advances, droughts and forest fires loom. Moving chemicals and fossil fuels along rivers endangers them. And we need water. ■



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