

WARMER WATERS

In recent years restoration projects along the Willamette have tried to undo some of the effects of past wrongs to the river. Moll's McKenzie River Trust works to restore islands, side channels and woody debris. Watershed councils work to restore tributaries such as the Long Tom River and in urban Eugene the Be Noble Foundation is trying to buy the land where the headwaters of Amazon Creek lie. But the river is facing a new challenge, one that though we recognize it, we aren't required to plan for: climate change.

"We're expecting more winter rain instead of snow, less snowpack, less late spring and summer flows," says Babe O'Sullivan, the city of Eugene's sustainability liaison. Lower summer flows could affect the river's ability to dilute wastewater and more winter flooding could bring more contaminants into the water.

"The plans that are currently in place don't account for climate change but it's something we are working on," O'Sullivan says.

Matt McRae, a climate and energy analyst with the City Manager's Office, says that they are specifically looking at critical infrastructure — things like hospitals, police departments, fire departments, schools because they tend to be shelters — and making a plan to over time to move infrastructure away from the river, outside of the flood zone, because of a recognition that "that flooding is likely to intensify here, both river flooding and urban flooding in the streets."

When Eugene does its planning around the Willamette, it takes into account natural disasters such as historic flooding and earthquakes, says Carolyn Burke from the city of Eugene's Planning Division. It also takes into account statewide planning goals that were put into place to protect timber and farming and prevent urban sprawl. Goal 5 sets standards for open spaces, scenic and historic areas and natural resources. Goal 15 established the Willamette Greenway, which says that space, public access, native vegetation and scenic views must be considered when planning new developments. Though Nena Lovinger of LandWatch Lane County warns, "The Willamette River Greenway Program has good intentions but no teeth." She says, "It lacks strong legal hooks needed to prevent development that damages natural, scenic and historical aspects of the riverine environment."

That riverine environment is altering thanks to climate change, but according to Philip Mote of the Oregon Climate Change Research Institute (OCCRI), most state and municipal governments are not required to use best available science to plan for future issues, such as global warming.

Eugene and Lane County are no different, but Eugene is trying to take a different tack, according to McRae, and bring climate change into the equation in its planning.

"We need to look at risk as changing over time," he says.

McRae says that though the Federal Emergency Management Agency (FEMA) is coming out with new planning maps, those new maps don't include climate change as a variable, and the maps are not going to project climate change onto projected precipitation patterns. As part of Envision Eugene, in which the city is planning growth for the next 20 years, the city is considering taking climate change into the equation, something that is key when dealing with a living river flowing through town.

Eugene and Springfield haven't always made the best planning decisions for critical infrastructure even based on historical data. Sacred Heart's RiverBend hospital was built in a floodplain and the Eugene Police Department's recent move to Country Club Road puts those emergency responders in the floodplain as well, leaving those emergency services vulnerable in a flood.

McRae says the city is "chipping away" at improving the way it deals with stormwater, partnering with the Long Tom Watershed Council to retrofit existing private properties along Amazon Creek, whose waters eventually flow into the Willamette, with features such as bioswales, raingardens and permeable pavement.

According to OCCRI, climate change-induced increasing rain and decreasing snow in the Cascades will affect water supplies: "Recent research, using sophisticated observations, climate models and Northwest U.S. hydrological models, indicates that as much as 60 percent of these changes in the water cycle result from human activities. The chances for a water crisis are high in Oregon."

Warmer and lower-flowing streams affect water quality for humans and fish, more frequent storms mean paved urban areas will be more prone to flooding and warmer temperatures and less water in the summer means more unmet demand for water.

And McRae says, "Everybody acknowledges that no one has a crystal ball" when it comes to population projections, and he says that climate change could throw a "wild card" into predicting the amount of people who could move to Eugene in the next 20 years, possibly fleeing drought and rising temperatures in areas like the Southwest, and competing for space and water.

While Eugene doesn't currently pull its drinking water from the Willamette, we do send our treated and cleaned sewage into it. And downstream cities such as Corvallis pull their water from the river. Lance Robertson of Eugene Water and Electric Board says that EWEB has an interest in the

Willamette as a backup source for water because Eugene, which gets its water from the McKenzie, is "one overturned chemical tanker truck on Hwy. 126 from being out of water."

WATER WOES

One thing that Eugene does have along the river is parkland, says Jeff Krueger of the Lane Council of Governments. He has been part of a Rivers to Ridges partnership that asked people to envision what they would like to see the river be in 30 years. There are 15 miles of paths along the Willamette corridor, he says, and one of the things people wanted for the river was connectivity. He says to picture the Willamette as a necklace with parks such as Mt. Pisgah, Dorris Ranch and Alton Baker as its pearls. Some, he says, need polishing while others need to be added.

Delta Ponds is an addition that is cited often. Former gravel pits, the ponds have been rehabilitated, Krueger says, into recreation and habitat where you can find juvenile Chinook salmon, western pond turtles and other native species. The extension of the paths in Delta Ponds in particular has really good benefits in terms of public use and getting people down to the river, Krueger says. They give direct river access to a huge population of north Eugene. Pointing to the ponds and to other bike and open space projects, he says, "No one should drive 40 miles for a bike ride or to get into a canoe."

"In our area we have very little development that goes right up to the river that is residential or retail," says Krueger, a landscape architect, adding, "Older commercial, industrial uses may not be the highest and best use for urban portions of the river."

Those commercial and industrial uses have, and will continue to have, effects upon the river through town. While the gravel pits at Delta Ponds were shallow — only 12 to 15 feet deep — and made for good ecological restoration, other pits that are along the river are more than 100 feet deep, sometimes as much as 200 feet deep making them difficult, if not impossible to restore.

Moll points out that at least one portion of Alton Baker Park was historically a dump site, and he wonders what effects flooding could have on what remains there. The Oregon Department of Environmental Quality says the dump accepted liquid and chemical wastes from the JH Baxter wood treatment plant, possibly including creosote, coal tar, pentachlorophenol and chlorodibenzodioxins, but information on hazardous materials disposed at the landfill is not available for most of the 11 years of operation. In 1974 when the landfill closed, the entire site was covered with a minimum of two feet of sandy, silty loam and grass was planted over it.

WATER IS TREATED AT A PULP MILL BEFORE BEING DISCHARGED INTO THE WILLAMETTE



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