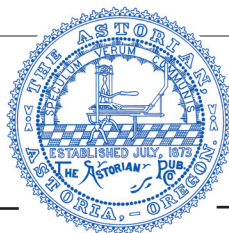


OPINION

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SOUTHERN EXPOSURE



FROM RIVER TO TAP IN SEASIDE



Photos by R.J. Marx/The Daily Astorian
Headwaters of the Necanicum, where water is diverted for Seaside's water supply.

Usually, we don't think about it until we lose it. Our most precious resource was brought to mind after 200,000 Salem residents lost fresh water for the month of June because of a potentially toxic algal bloom.



R.J. MARX

The bloom shut down the Salem water system and led to the delivery of bottled water. It also led to a statewide review of water systems. Nearly 100 public water systems around Oregon began testing for harmful contaminants

from algae blooms under rules unveiled by the Oregon Health Authority on July 1, said Dave Emme, environmental public health section manager.

While the state monitors 3,000 water systems, the Health Authority chose only 200 or 300 that use surface water, and of those, narrowed it down to about 100 systems — including Seaside — that would be potentially susceptible to algal blooms.

Under the new rules, those water systems are required to collect samples of the raw water flowing into their treatment facilities every other week and continue testing through October.

Seaside was named to the list because of a mid-July 2009 incident that led the city to send out a notice of "unusually high algae growth in the raw water reservoir at Peterson Point" after identifying a blue-green algae called anabaena that could produce cyanotoxins, Emme said.

The city determined the water supply was back on track the next month.

Seaside already tests for coliform and any other potential contaminants.

If the biweekly tests turn up cyanotoxins above a certain threshold, the city will be required to conduct weekly tests. Water providers would be required to issue "do not drink" advisories if toxins are detected above health guidelines in treated water.

H2O in Seaside

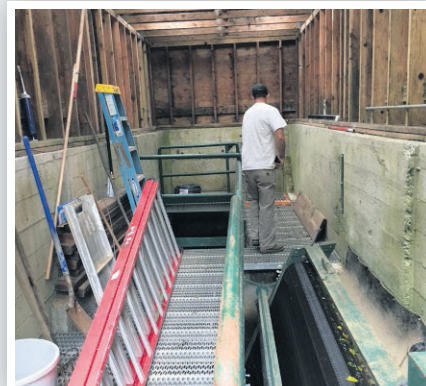
Water department utility worker Kevin Nagle introduced me to the system with a tour of the city's reservoir and source.

I rode shotgun as Nagle took me up Underhill Road, where you first see the pump station on the road leading up to the Peterson Point reservoir, named for the nearby portion of U.S. Highway 101.

One of seven pump stations, this one feeds treated water to residents of High-



Fish diversion at the system's headwaters.



LEFT: Kevin Nagle inside the diversion building. RIGHT: Seaside's reservoir at Peterson Point.



way 26.

Up a steep side spur, the reservoir stands as a glittering pond of fresh water, a picture postcard of Seaside's infrastructure. The reservoir is cleaned by a Solar-Bee — basically a solar-powered paddle wheel that stirs the water and discourages the creation of algae.

Farther up the road, adjacent to the water treatment plant, stands an unassuming brick building with a blue metal roof. Visitors enter by a double door, next to the sign reading "RESTRICTED AREA: Get permission before entering."

The room smells like a big swimming pool, which in a sense it is, with big concrete ponds holding water as it is clarified.

In a computer room, monitors present data on filters, generators, chlorine feeds and flow trends — "the brains of the system," Nagle said.

The processor provides live measurements monitoring multiple aspects of the process: 1,936 gallons per minute flowed while I was there. The reservoir level stood at 186 feet the day I was there, water temperature at a little above 20 degrees Celsius, or 68 degrees Fahrenheit.

The main area of the water treatment plant consists of what looks like a giant swimming pool, accessible by a metal staircase to a second level. Lights overhead illuminate a series of concrete pools with multiple layers of sand and rock. Chlorine and a small amount of fluoride are added before water is sent to a filtering tank.

The filtered water must sit for a certain amount of time before it enters the system and much of the chlorine "cooks off" before it is sent to the city. The pip-

ing system is comprised of 43.4 miles of water main of materials from 2 inches to 2 feet in diameter.

Layers of anthracite both air- and water-clean the filters every three hours in a process called "a rinse," Nagle said, removing unwanted chemicals. Water from the rinse goes into a waste pond, not the water supply.

A backwash cleans the filters once a day.

Back to the source

Our next stop was the water intake source at the South Fork of the Necanicum River, where fresh water is diverted to feed into the Peterson Point reservoir.

In a pristine setting with a lack of development, agriculture or septic systems around it, "It's Mother Nature at her best," Public Works Director Dale McDowell commented as he introduced the city's Source Water Protection Plan at a City Council meeting in July.

Neighboring landowners Lewis & Clark and Weyerhaeuser have "stringent rules for their own property," McDowell said. "Everybody is working together to protect the city."

The city has owned water rights since the 1920s, providing 8.0 cubic feet of water per second or 5.2 million gallons per day.

To get there, Nagle drove to a logging road turn-off another seven or eight miles up Highway 26.

After entering a series of locked gates — squatters sometimes camp in the nearby woods, Nagle said — we arrived at the headwaters where the water split.

The headwaters of the Necanicum are a lonely, beautiful place, the river abundant with fall chinook, Oregon Coast coho, chum and winter steelhead.

During spawning season, the fish are jumping. "There are some huge things," Nagle noted.

Along with separating leaves, sticks and stone before the water is piped downhill, the small diversion house — looks a bit like an Irish cottage — includes a fish bypass. Debris is manually removed by water department workers.

The trip ended back where we started, at the Public Works building on Avenue U.

I got out realizing I would never look at a glass of water the same way.

R.J. Marx is The Daily Astorian's South County reporter and editor of the Seaside Signal and Cannon Beach Gazette.



LEFT: Kevin Nagle at a pump station on Beerman Creek Road. It provides water for residents of Highway 26. MIDDLE: Inside the city's water filtration plant. RIGHT: Nagle monitors the system at Seaside's water filtration plant.