

## WATER

Continued from Page A1

Owen emphasizes, though, that the city would impose such restrictions only if there was no other choice.

“I don’t want to get there,” she said, referring to the third stage. “But if we don’t do something now, we could. I’m not taking it off the table.”

With a goal of avoiding such a drastic step, the city will enact the second stage of the water curtailment ordinance on Monday, July 12.

The city announced the first stage — “alert status” — on June 28.

The city also asked some large water users, including the contractor who maintains city parks and Mount Hope Cemetery, as well as the city-owned Quail Ridge Golf Course, to cut water use by 30%.

The very next day, though, the temperature rose to a record 103 degrees at the Baker City Airport, and water use actually increased by half a million gallons from the previous day, Owen said.

That increase happened despite the golf course reducing its use by more than 30%, because its irrigation pump failed, she said.

Stage 2, which takes effect Monday, is also known as “warning status.”

Unlike the first stage, which is wholly voluntary and asks residents and businesses to curb their water use, the second stage includes specific restrictions.

The major one for residents is that they can use city water (private wells aren’t affected) to irrigate lawns and gardens only between 7 p.m. and 7 a.m.

Owen pointed out that irrigating during the middle of a hot day isn’t efficient, due to evaporation.

“It’s not very effective to water your lawn in the middle of a 100-degree day,” she said. “It’s wasteful.”

The water curtailment ordinance gives the city manager the authority to restrict outdoor watering either based



Jayson Jacoby/Baker City Herald

Goodrich Lake, seen here from the summit of Elkhorn Peak on June 19, 2021, is one of Baker City’s two supplementary water sources.

on the time of day, or by allowing residents to irrigate on alternate days, based on whether their address ends in an odd or even number.

Owen said city officials, who met on Wednesday, July 7 to discuss the situation, chose the former option for a couple of reasons.

First, the schedule still gives residents a chance to irrigate when there’s daylight, either in the evening or the morning.

Second, the schedule is intended to reduce the water demand during the day, which allows the city to refill its reservoir overnight.

Owen acknowledged there’s a potential, with the 7 to 7 limit, for residents to leave their sprinklers on all night.

She encourages people not to do that.

But all else being equal, outdoor irrigation at night helps balance the water demand throughout the day, she said. The worst scenario is when irrigation demand is heavy during the daylight,

which is normally the highest-use period since people are awake, flushing toilets and drawing baths and filling wading pools.

Another advantage of restricting outdoor water use during much of the daylight hours is that it allows public works employees to educate residents if they happen to see a sprinkler spraying in the middle of the day.

Owen emphasized that although the water curtailment ordinance allows the city to issue citations and fines under the second stage, the city doesn’t intend to do so.

If the city has to move into the third stage, however, the city would aggressively enforce the outright ban on outdoor watering that’s part of that stage, including issuing citations if warranted, Owen said.

### Where does the city get its water?

The heart of Baker City’s water supply for more than a century is a series of a dozen

## Thirsty Month

Baker City residents used much more water this June than in the same month in 2020.

### JUNE 2021

129.9 million gallons

### JUNE 2020

81.7 million gallons

streams and springs, including Marble, Mill, Salmon and Elk creeks, that flow from the east slopes of the Elkhorn Mountains west of town.

The city diverts water from those sources into a gravity-fed pipeline.

In late June, when the heat wave started, the watershed was producing about 4.9 million gallons per day, Owen said. But this week that volume has dropped to around 4 million gallons. In a typical summer — and this year isn’t typical due to the severity of the drought — the watershed production will drop below 3 million gallons per day later in the summer and potentially below 3 million, she said.

Because the city’s daily water demand during summer usually averages around 4 million gallons — though it can reach 8 million gallons or more on especially hot days — the city needs to supplement the watershed with other sources.

There are two.

One is Goodrich Lake, a natural alpine lake at the base of Elkhorn Peak for which the city increased the capacity by building a dam many decades ago.

Goodrich, which nearly filled this spring as usual, is holding about 200 million gallons.

The second supplementary source is a well.

The city has a state permit — the first of its kind issued in Oregon, about 15 years ago — that allows the city to divert water from the watershed into the well during the winter and spring.

That mountain water in effect becomes a second, albeit underground, reservoir.

Owen said the city dumped about 88 million gallons of mountain water into the well in February and March of this year, adding to approximately 94 million gallons left from 2020, for a total of about 182 million gallons.

The city started using well water this year on July 1 — at least a few weeks earlier than usual, Owen said.

(Even when the mountain water has been pumped out of the well, the aquifer will produce water. But Owen said it doesn’t produce as much water, and the well water tends to have higher concentrations of iron and manganese, which can stain clothes. The well water meets drinking water standards, but Owen said she prefers to use the well to draw mountain water. That’s one reason the city applied for the state permit.)

As for Goodrich, Owen prefers to wait until Aug. 1 to start using that 200-million-gallon source, but she said she’ll almost certainly have to tap Goodrich during July this year.

Owen’s trepidation about the recent usage rate of about 5 million gallons per day comes down to what amounts to a liquid ledger.

On the demand side, if the city continued at its current rate, the city would need at least 400 million gallons of water through the end of September, when demand generally drops substantially with cooler weather.

Based on a reasonable estimate of how much water the city can produce from all its sources, Owen said that level of demand leaves the city with a very thin cushion — thin enough that an unexpected problem, such as a mechanical failure with a well pump, could quickly put the city into a dire situation where it simply can’t meet the water demand.

“I can’t make more water — there is no other water

coming,” she said.

Owen points out, though, that making a significant change to that balance sheet doesn’t require people to make drastic changes.

If everyone who irrigates a lawn or garden adopts modest changes to reduce their water usage — irrigating in the evening or early morning to minimize evaporation, for instance — the city can easily cut its daily use from the current 5-million-gallon range to less than 4 million gallons.

Indeed, that’s usually what happens during the summer if daytime temperatures drop into the 70s or low 80s, or a thunderstorm brings a torrential downpour, Owen said.

If the city cuts its daily use by 1.5 million gallons per day through the end of September, that equates to an additional 120 million gallons available, which thickens that supply cushion.

“That would make a significant difference,” Owen said, describing the 3.5 million-gallon daily average usage as a “nice goal.”

### New well will help — but not until 2022

The city’s water supply situation will improve significantly by this time next year, when its new well will be available.

The city hired a contractor to drill that well in 2020 and earlier this year, but installation of a pump and construction of a well house will take place during the current fiscal year, which started July 1, Owen said.

The city spread the project over three years — the first year was for design work — to avoid having to borrow money, she said. The City Council raised water rates over a few years to raise money for the new well.

Owen said the well will produce up to 2.5 million gallons per day, and the city, as with the current well, will be able to divert mountain water into it.

## OUTAGE

Continued from Page A1

The outage had such a widespread effect because the Quartz substation, which is owned by Idaho Power Company, is along the transmission line that serves all of Baker Valley, Tracy said.

That line brings power generated at Idaho Power’s dams on the Snake River, and from wind farms in eastern Baker County.

Restoring power to a room in your home is usually a simple matter of flipping a plastic lever on the breaker box.

The process isn’t dramatically different at a substation, Tracy said — but the potential danger is many factors greater due to the much higher voltage.

Public and employee safety is the highest priority for OTEC, he said, so workers didn’t reset the substation breaker, thus restoring power, until they had investigated to ensure that doing so doesn’t pose a hazard.

For instance, if a power line is down, and then reenergized, it could harm people or start a wildfire, Tracy said.

With Wednesday’s outage, OTEC officials could isolate the problem — what

engineers call a fault — but only to a certain degree.

Tracy said only a fault on a transmission line would have tripped the substation circuit breaker. Damage to a neighborhood feeder line, for instance, would not have had that effect because of the way the power distribution system is designed.

OTEC, which has monitoring equipment on its lines, also could determine that the fault happened “downstream” of the substation — between it and the rest of the distribution system that extends through Baker City to North Powder — rather than “upstream,” or between the Idaho Power dams and the substation.

But even with that level of detail, Tracy said OTEC workers had approximately 10 miles of transmission line to examine for possible faults before it was deemed safe to reenergize the lines.

“We need to be sure there’s no hazard,” he said.

Because OTEC employees could determine that certain areas were safe, and not the source of the fault, power was restored to some parts of the valley sooner than others, Tracy said.

Although the exact cause, and location, of the fault is unknown, Tracy said it had

to be a “transient” issue — which is to say, a temporary one.

Had the fault resulted from a failed insulator or other equipment, or from an accident such as car crashing into a pole, OTEC employees would have found the problem during their patrols.

And even if they hadn’t, if the fault had remained, the circuit breaker would have opened again when the lines were reenergized.

Tracy said faults don’t have to be obvious things such as a tree toppling across a transmission line.

A length of baling twine can wrap around a line and cause a short circuit. The electricity would in effect “vaporize” the twine, though, leaving no evidence of what happened, he said.

Regardless, Tracy said OTEC’s system is designed to make outages rare — and widespread outages even more so.

He said the workers who were investigating the outage Wednesday morning, although thorough in their patrols, were also working as quickly as possible.

“We are keenly aware of the hardship even a two-hour outage causes our members,” he said. “We are aware that the clock is ticking.”

## WILDFIRE

Continued from Page A1

Crouch said a key to the successful firefighting effort was early detection of the blaze.

A warden from the volunteer Ironside Rangeland Fire Protection Association reported the fire about 10:39 a.m. Wednesday. It started on private land near Baldy Mountain, about two miles south of the Baker County line, Crouch said.

Thanks to “decent” road access, bulldozers were able to start digging control lines rapidly, he said.

The eight single-engine air tankers dropped retardant, and a BLM helicopter dumped water. “We were able to send a comprehensive, full response,” Crouch said. “Everything went very well.”

But with the gusty winds in the wake of the thunderstorm, there was considerable potential for the fire to spread quickly through the dry grass and sagebrush, he said.

The fire near Baldy Mountain was the second blaze this week that had fire managers worried.

A human-caused fire that started Monday, July 5 along North Pine Creek, about 10 miles northeast of Halfway, was contained at 3.5 acres but could easily have grown much larger, Forest Service officials said.

“This could be a long summer,” Crouch said.



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