

Disputed claims of leaky Big Sky wastewater ponds resurface

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Pine trees grow inside a chain link fence surrounding the sewage and water holding ponds at the Big Sky County Water & Sewer Rachel Leathe/Chronicle



Summary of leakage investigations

An admission by the Big Sky Water and Sewer District that officials estimated data in 2020 used to decide litigation has revived allegations that their holding ponds are leaking.

For years, Bozeman's Cottonwood Environmental Law Firm has said the three ponds are leaking far more than the amount allowed by regulators, and that over-irrigation of Big Sky golf

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courses with wastewater is leaching nitrogen into the Gallatin River.

Cottonwood brought the sewer district to court over the claims in 2020, but lost the federal case and its subsequent appeal.

The district and the Montana Department of Environmental Quality both pointed to the failed litigation — and said no state or federal investigation has found evidence of leakage in excess of standards.

Unlike most American towns, including Bozeman, Big Sky is unique in that they don't discharge treated effluent directly into waterways. In winter, the sewer district stores treated wastewater in three holding ponds upstream of the West Fork Gallatin River. The rest of the year, the effluent is used to irrigate golf courses in Big Sky and for Yellowstone Club snowmaking.

But elevated nitrogen pollution and excess algae growth in the Gallatin River have spurred calls to investigate how much treated wastewater is reaching the river anyway.

If the DEQ failed to adequately investigate the leaking holding ponds is the subject of another Cottonwood lawsuit, filed in 2022. A decision for that Gallatin County District Court case is

expected sometime this summer.

Cottonwood's executive director John Meyer said it was in deposition for the current lawsuit that sewer district manager Ron Edwards admitted to estimating data in 2020.

The data in question surrounded how much wastewater flowed into and left the district that year.

In the deposition, lawyers representing Edwards repeatedly told Meyer his questions about potential leakage were out of scope and didn't require answers. But when asked if there were any known lapses in monitoring data, Edwards said there was a gap in 2020 because a flood in the irrigation pump room ruined five pump meters, and COVID delayed replacing them.

"We estimated total water volumes in 2020 because we didn't have all the meters in place," Edwards said.

Edwards told the Chronicle just because the data was an estimate doesn't mean it was "completely made up" like Meyer is saying. Asked how the district ensured the numbers were accurate, Edwards said his civil engineers made the best possible estimates based on historic data and the working pump meters.

Meyer said he's hopeful the revelation will influence Cottonwood's current litigation against DEQ.

"It's going to put more pressure on the DEQ to hold polluters accountable. The Big Sky Water and Sewer District provided the DEQ false records, and if the DEQ looks the other way, it says a whole lot about their commitment to protecting natural resources and their commitment to the law," Meyer said. "It is not okay for a polluter to make up numbers and then lie to the investigators."

The data is key for estimating potential leakage through a "water balance." Cottonwood's expert report, authored by University of Kansas PhD student Trevor Osorno, posits that if the volume of wastewater imported in a given year is less than the amount exported, the water system is leaking.

Using water balance calculations, Osorno's report found that from 2015 to 2020, the sewer district could not account for an average of 25.7 million gallons of treated sewage each year.

But state and federal judges found the methodology to be inaccurate. Edwards said Cottonwood has repeatedly targeted him with claims that "have proved meritless time and time again."

"The amount of leak loss he was claiming was 21 million gallons. That's bigger than my entire Pond 3 volume that's 18 million and change. If we had that kind of leak loss, we would see that. My operators would see that something was wrong," Edwards said in the federal trial.

The facility has two storage ponds that can hold a total of roughly 105 million gallons of wastewater, and an aeration basin that holds roughly 10 million gallons.

DEQ spokesperson Moira Davin said in an email the agency has completed two separate investigations into Cottonwood's allegations, once before the federal trial and once after, and "was unable to find credible evidence of leakage in excess of that allowed by state law."

The claims were also considered by a jury of Montanans and investigated by the U.S. Environmental Protection Agency, she added.

A March 5, 2024 letter from DEQ closing the investigation said the agency reviewed Cottonwood's expert report and additional data submitted by the sewer district.

Cottonwood's expert report "is based on generalized assumptions without supporting data" and "uses outdated, inaccurate averages for precipitation and evaporation calculations," wrote Susan Bawden, DEQ's environmental enforcement specialist in the letter.

The district did repair a leak found in the "Chapel Drain" and inspected and repaired visible parts of the pond liners in late 2023, the letter said.

Cottonwood's original complaint was prompted by a fluorescent tracer test in 2021, which dyed holding pond wastewater and

then detected dye in the West Fork Gallatin River and tributary Chapel Springs days later.

The holding ponds are allowed to leak some, though. In court testimony, Edwards said the more accurate leakage estimation was 270,000 gallons in 2020. That's still far below the 2.89 million gallons that DEQ allows to leak each year, a number calculated by Cottonwood's expert.

Davin said current DEQ standards allow the holding ponds to leak up to six inches per year.

When wastewater systems are constructed, DEQ requires a leak test, Davin said. As systems age, DEQ can investigate leakage allegations and pursue enforcement actions if necessary.

The EPA investigation from July 2023 found that Osorno's report is "not positive evidence" for a water leak — but agreed better records and a more refined water balance could help with investigations.

"The facility has stated because they do not have a discharge permit, keeping meticulous records of flows and pond volumes is not required, and acknowledges there are gaps in their records," the EPA letter said.

The district isn't required to hold a Clean Water Act permit because of the federal case that determined they are not a "point source" polluter.

A point source refers to pollution that comes from a discernible vessel like a pipe or a ditch and is directly discharged into a waterway. The district has an underdrain under one pond that collects groundwater to discharge to a manufactured wetland. The underdrain isn't connected to the storage ponds, though. It sits underneath to prevent groundwater from "floating" the pond liners, the EPA said.

So far, Cottonwood has failed to overturn the court decision, which Meyer said is "unprecedented" and runs counter to a recent Clean Water Act case from Maui. He plans to push for a retrial again.

The sewer district has said previously if found necessary, it could apply for a permit to discharge treated wastewater directly into the mainstem Gallatin. The river is currently classified as water-quality impaired by algae, and DEQ is in the midst of a six-year study investigating the causes.

Meyer said if DEQ wants to figure out where the algae is coming from, they should look at the leaking holding ponds.

Edwards said ongoing \$50 million improvements to the district will significantly reduce nitrogen and phosphorus concentrations in the wastewater recycled for irrigation.

“The Gallatin River watershed has faced some challenges in recent years due to population growth. The district has stepped up to be part of the solution,” Edwards said.

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