

## **A Montana first: Yellowstone Club starts using treated wastewater to make snow**

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ABOVE: The Gallatin River Task Force manufactures snow as part of a 2011 pilot study that explored snowmaking as an option for disposing of treated wastewater. BELOW: The Yellowstone Club as seen on March 4.

Samuel Wilson/Chronicle

The Yellowstone Club launched a recycled snowmaking project this winter for its private ski resort, following more than a decade of scientific study, collaboration with environmental groups and legal challenges.

Starting in the 2023-24 ski season, the Yellowstone Club is using reclaimed, or treated, wastewater

from the Big Sky community to create a base layer snowpack for Eglise Mountain.

The club invested over \$12 million to launch the project, which is the first of its kind for a Montana ski resort.

The Montana Department of Environmental Quality approved the project's permit in 2021, allowing the Yellowstone Club to use 25 million gallons of treated and disinfected effluent for snowmaking.

According to the permit, 80% of the reclaimed water will come from the Big Sky County Water and Sewer District and another 20% from the Yellowstone Club's wastewater treatment plant.

Project proponents argue the increased snowpack will boost cold water stream flows in the Gallatin River in the late summer. That's important for recreation on the river and also critical for fish, who have seen population declines from low stream flows and warm water temperatures.

"Water is a precious resource and instead of using it one time, treating it and putting it directly into the rivers as most towns and municipalities do, we are reusing this resource and helping recharge the aquifer in the process," Rich Chandler, head of the club's recycled snowmaking program, said in a news release. "We know increased snowpack helps the river systems in the late season. The current dry winter makes this effort especially timely."

Chandler added he has already heard from several other Montana ski areas seeking more information and he expects similar projects to be replicated elsewhere.

Trout Unlimited, American Rivers, Gallatin River Task Force, Greater Yellowstone Coalition and the Association of Gallatin Agricultural Irrigators have all voiced support for the project.

"It's an enhancement to water supply... everybody from skiers to anglers will benefit from this and downstream agriculture benefits at a time where water supply is uncertain," said Pat Byorth, Trout Unlimited's Montana water director.

Still, others worry about the treated wastewater's impact on water quality in the Gallatin River, which was formally designated as impaired by the EPA in 2023.

Bozeman's Cottonwood Environmental Law Center sued over the project in 2021, arguing that DEQ didn't consider the impacts of pharmaceutical pollution in the water.

The lawsuit alleged DEQ failed to acknowledge pharmaceutical pollution in its environmental impact statement. Pharmaceutical pollution comes from the cocktail of prescribed medications that get into wastewater.

Research has found pharmaceutical pollution is causing some fish and amphibians to unnaturally change sex, which can lead to reproductive failure and population declines.

The Yellowstone Club intervened in the lawsuit on behalf of DEQ, which argued they didn't include pharmaceutical pollution in the environmental impact statement because the impacts are unclear and there are currently no standards to regulate it.

Meyer said still including potential impacts in the analysis would have allowed people to make more informed public comments.

“(DEQ) had all this information in front of them and they completely swept it under the rug and acted like it didn't exist,” Meyer said.

The Gallatin County District Court sided with the DEQ in June. Cottonwood appealed the case to the Montana Supreme Court and expects a ruling in the next few months.

In the meantime, since the requested injunction to block the project was not granted, the Yellowstone Club can move forward with its efforts.

The court order read that “there are significant socioeconomic and environmental benefits to the snowmaking operation that would be entirely halted or destroyed by an injunction.”

The launch has been a long time in the making. The Big Sky Water and Sewer District did its first study on recycled snowmaking in 1997. And in 2011, the Gallatin River Task Force led another study, proposing the concept as a water conservation tool.





The Gallatin River Task Force manufactures snow as part of a 2011 pilot study that explored snowmaking as an option for disposing of treated wastewater.

Courtesy of the Yellowstone Club

The EPA and DEQ added guidelines for snowmaking as a viable wastewater reuse option in 2012, and the Yellowstone Club applied for a permit in 2020.

Kristin Gardner, a hydrologist and CEO of the Gallatin River Task Force, said the group has been doing research for the project for more than a decade.

“All the data points to this water being very beneficial to the water supply of the Gallatin River and will ensure that our future generations are able to enjoy the river as we do today,” Gardner said.

While the project is a first for Montana — and has made national headlines due to the swankiness of the Yellowstone Club — ski resorts around the world are already using recycled wastewater for snowmaking.

At least 12 ski resorts in eight U.S. states are doing using treated wastewater — including Arizona’s Snowbowl, California’s Soda Springs and Pennsylvania’s Bear Creek — alongside Mount Buller in Australia and a handful of European resorts. Various lawsuits to stop the projects, most notably

the Hopi Tribe's litigation against Snowbowl, have been unsuccessful.

The Yellowstone Club's project also dovetails with Big Sky's existing use of recycled wastewater to irrigate golf courses.

Another Cottonwood case against the Yellowstone Club from 2022 argued the treated wastewater it uses to irrigate golf courses contained higher nitrogen concentrations than allowed by DEQ, Meyer said.

The holding pond that stores the wastewater for irrigation will also be used for snowmaking, with water piped from the same pond to Eglise Mountain, according to the permit.

While the case was dismissed by a Gallatin County judge, Meyer still fears the snowmaking project could worsen nitrogen pollution and algal blooms in the impaired Gallatin River.

Meyer slammed the conservation groups supporting the project and accused them of taking money from the Yellowstone Club.

“I think the biggest impediment to clean water is not only the Yellowstone Club but the conservation groups who are partnering with them,” Meyer said. “They're using so-called conservation organizations to cover up the environmental damages that we're seeing.”

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