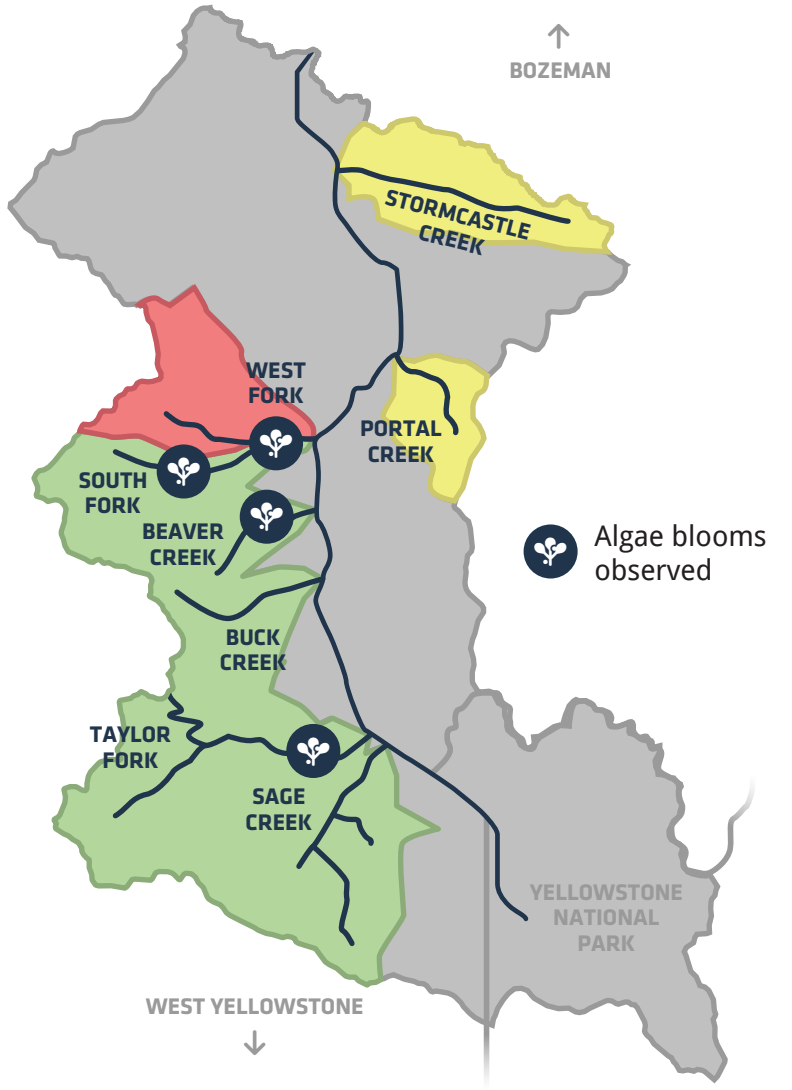
2023 GALLATIN RIVER REPORT

2023 DATA RESULTS FOR NUTRIENTS AND ALGAE



Below state standards for nitrogen and phosphorus.

High in phosphorus (geology related) but not subject to typical water quality standards.

Above water quality standards for nitrogen at various points throughout the summer.

WHAT CAUSES ALGAE BLOOMS?

In 2018, nuisance algae on the Gallatin led to a partnership between the Gallatin River Task Force and Montana DEQ to study water quality. While algae is important for ecosystems, excessive blooms harm river health by degrading water quality, harming aquatic habitats, and deterring recreation. These blooms have multiple causes:

EXCESS NITROGEN AND PHOSPHORUS

While essential for ecosystems, excess nitrogen and phosphorus can be harmful. The West Fork, Middle Fork, and South Fork are impaired by excess nitrogen.

WATER TEMPERATURE

Seasonal storms and cooler air temperatures in 2023 were influential to lower water temperatures compared to years when algae blooms occurred.

STREAMFLOW

Excessive rainfall in 2023 kept streamflow above average from August through fall, preventing low streamflow which facilitates algae growth by allowing more sunlight to reach the streambed. The rain helped maintain colder water throughout the summer.

2023 SAMPLING

In 2023, water quality monitoring was conducted by the DEQ along the mainstem Gallatin, and on the nine tributaries shown on the map by the Task Force. There was not a nuisance algae bloom on the mainstem Upper Gallatin, but blooms were observed along the West Fork, South Fork, Taylor Fork and Beaver Creek.

Algae present on the West Fork

WHAT WAS UNIQUE ABOUT 2023

The 2023 sampling season was one of the wettest summers in recent memory. While we did not see a large-scale bloom, nuisance algae was still present near the Yellowstone National Park boundary.

This reiterates that drivers of algae growth are complex and caused by a range of factors that differ depending on where in the watershed they are. This highlights the need for ongoing collection to better characterize the conditions in the Gallatin that lead to large-scale blooms.

Algae blooms present in areas testing below state standards for nitrogen + phosphorus

Lower water temperatures

Higher streamflow in late season

WHAT'S NEXT?

The next two years of intensive study will complement data from 2023, giving a better understanding of the system and guiding management to protect the river. This will help guide a path forward backed by sound science, but luckily steps are already in motion to ensure the Gallatin runs clean and cold for generations.

VIEW THE FULL 2023 WATER QUALITY REPORT →

LEARN MORE

GALLATIN RIVER TASK FORCE

The Gallatin River Task Force is a 501(c)(3) nonprofit in Big Sky that works to address issues such as excess algae, execute stream restoration projects, advocate for state and federal protection, and push for responsible local management of land and water.

Learn more at **gallatinrivertaskforce.org**, or visit us on Facebook, Instagram, Twitter, or LinkedIn.