UMOWA
Upper Missouri Watershed Alliance

WINTER 2025

VOICE OF THE MISSOURI

Mission Statement

Guided by scientific data, our mission is to conserve, enhance and advocate for the unique ecological resources of this valuable watershed.

Board of Directors

UMOWA Updates

by Sherry Meador, UMOWA Board Chair

We are excited to introduce our newest board member, Mike Day. Mike grew up hunting and fishing along the Rocky Mountain Front and currently leads a natural resources team of a civil engineering, planning, and natural resources engineering firm in Missoula.

We are also very happy to have Josh Seckinger join us as UMOWA's first executive director. He's been a long-time guide on Montana rivers, and has a wealth of knowledge about water systems and natural resource issues in representing HD62 in the last legislative session.

This year, to facilitate our integrated weed management program, we treated over 900 acres of noxious weeds through our Noxious Weed Trust Fund Grant, collected and distributed 25,000 flea beetles/biocontrol agents to new sites, provided a native grass seed mix to local landowners, and monitored established plots for weed management impacts. In addition, we worked with local landowners to create new weed management areas in Cascade, Missouri Overlook, and Mid Canon/Bluebird Drive.

Having collected our tenth year of water quality and macroinvertebrate data, we developed and shared educational materials of river health data and invasive species control with local landowners and community members. This winter, we plan to expand the educational materials and further develop our River Health Dashboard to provide a useful baseline and on-going data that identifies and supports effective water management practices.

We also collaborated with Trout Unlimited, Cascade County Conservation District, the local landowner, and Fish, Wildlife and Parks, in the development of a bank restoration project for Lower Hound Creek, a tributary of the Smith River.

Please stay up to date on our projects by checking out our website, signing up for emails, and following UMOWA on Facebook and Instagram. Also, feel free to email me, smeador@umowa.org, if you would like to become involved with UMOWA or have any questions about our projects. We appreciate your support. ■

Is it Algae?

By DEQ staff Hannah Riedl, Gabby Metzner, Darrin Kron, and Madison McGeffers

We all love the Missouri. But when there's a bunch of green stuff in the water, you'll want to know what it is and why it matters.

Naturally, algae has a lot of nicknames. So, it's no surprise that the average person may feel like scientists are talking in circles when they talk about algae. When terms like harmful algal bloom (HAB), cyanobacteria, blue-green algae, green algae, and Cladophora are tossed out without clarification, it can cause one to scratch their head.

DEQ water quality scientist, Mike Suplee, takes a look at green algae on the Yellowstone River.

On the Missouri River, we see a combination of factors that contribute to the algae confusion. The Missouri River has seen blooms of green algae, and reservoirs along it also see blooms of cyanobacteria (commonly known as blue-green algae). Green algae and cyanobacteria blooms can occur when there are increased nutrients in the water and where factors such as temperature, sunlight, and water flow are right for them to thrive. Green algae, aquatic plants, and cyanobacteria can all affect fish health and aquatic insect hatches.

Green algae (often the species Cladophora) can be found in many types of water bodies. It can resemble string, horsehair, or underwater moss. Many green algae attach to the bottom of the river or lake, but they do not have roots. Although green algae can affect aquatic insect communities and annoy recreators during a bloom, it does not produce toxins and is not a concern for human health.

Interestingly, the same conditions that encourage green algae to thrive can contribute to aquatic plant growth. Aquatic plants usually have roots and can be attached to the sediment or float at the water surface. These plants are common on the Missouri River, especially downstream of dams. Dams create more favorable conditions for aquatic plant growth since they modify flows, temperature, and nutrients.

Green algae overgrowth at York Island Fishing Access this summer.

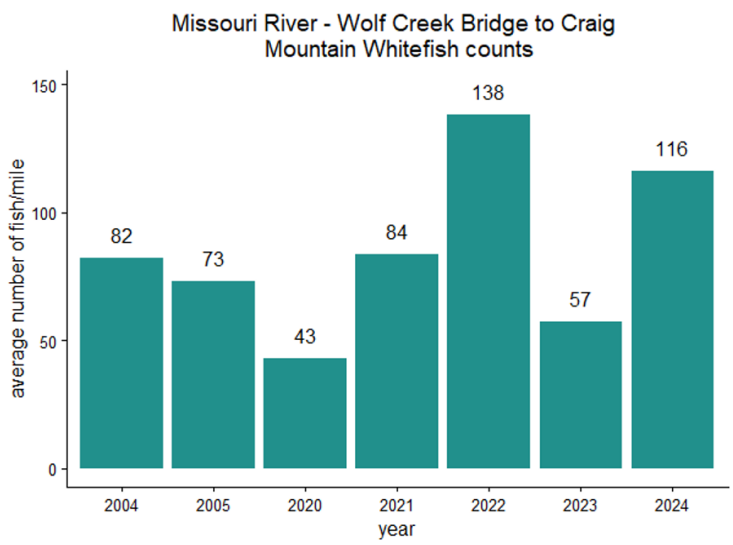
Adding to the confusion, harmful algal blooms (HABs) of blue-green algae are not actually algae. HABs are a type of photosynthetic bacteria, called cyanobacteria, which are native organisms that can release toxins that can harm human and animal health. Cyanobacteria blooms regularly occur in reservoirs along the Missouri, such as Holter Reservoir, but blooms are even possible in rivers. HABs are most commonly found in water bodies with slow-moving water such as lakes, reservoirs, ponds, and roadside ditches.

These cyanobacteria blooms (HABs) may be green, blue, gold, or red in color and can look like spilled paint, pea soup, or grass clippings. If the water shows signs of a HAB, do not drink, swallow or swim in the water and keep children, pets and livestock out. The Department of Environmental Quality and the Department of Public Health and Human Services maintain a website at hab.mt.gov that contains information about HABs and it is where we point people to report a suspected HAB. If you suspect you're looking at a cyanobacteria bloom, remember the phrase "When in doubt, stay out," and submit a report. ■

Confirmed HAB at Canyon Ferry Reservoir, August 2025.

Mountain Whitefish

by Adam Geik, Fisheries Biologist, Montana Fish, Wildlife & Parks



It was a sunny but cool day in February and I had waded a couple miles upstream from a public access site to a pool on a medium sized freestone river in central Montana that I knew well. I quietly cast a double nymph rig into the riffle above the pool to give time for the lightly weighted flies to sink. They slipped off the riffle and plunged to the deeper water at the head of the pool. A second later the strike indicator on my line shot down. When I lifted the rod to set the hook I felt a solid weight, unmoving at first but with just enough give to know that it was a fish and not a snag. The fish bulldogged at the bottom for bit before making several impressive runs downstream. Once it was in my landing net I measured its length, all of 19 inches and a hefty fish to boot. I held it in a gentle flow to let it recover and watched it swim back to the safety of deeper water while noting the sleek, athletic build designed for life in constant movement. I checked the knots in my leader and cast again to the same spot with the same result, only this time the fish was one inch shorter. Still a quality catch in this particular river.

Catching those two fish back to back made that day one of the most memorable I've had in regard to fishing. You might be picturing them as rainbow trout or brown trout or even cutthroat, but they weren't trout at all, they were mountain whitefish. Some anglers turn their nose at them, but I've never understood why the fish they enjoyed hooking and fighting suddenly becomes disappointing when they see the fish at the net. I have always loved catching whitefish; I target them often and appreciate them when caught incidentally.

Mountain whitefish Prosopium williamsoni are not trout but they are Salmonids, members of the trout and salmon family. They are native to Montana and inhabit clear, cold rivers in the central and western parts of the state. They have a distinctive pointed

snout and small mouth that is specialized for eating invertebrates from between rocks and gravel. Since trout tend to mostly eat drifting insects, there typically isn't much competition between them and whitefish, despite rumors to the contrary.

Mountain whitefish spawn in the fall in late October to early November; spawning congregations can be rather large and easy to spot when water is low. While monitoring data is sometimes limited, it appears some populations in Montana, including the upper Missouri River, have declined in recent decades. Other populations still appear abundant. Reasons for these trends are not totally understood. Montana Fish, Wildlife and Parks fisheries staff started monitoring mountain whitefish annually during trout sampling on the Missouri River below Holter Dam in 2020. Since whitefish are sensitive to electrofishing, only a few are netted to collect weights and lengths. The rest are counted visually which results in a count of fish per mile. Numbers of fish have varied from year to year, but as monitoring continues into the future, trends in whitefish counts should start to become more apparent.

Mountain whitefish are an exciting, valuable game fish that too often go unappreciated. Next time you catch one, maybe take a moment to marvel at one of Montana's coolest fish.■

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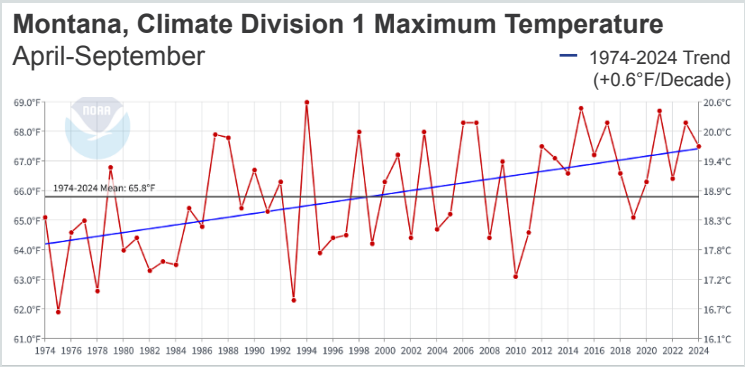
Upper Missouri River Drought Impacts

Data collected from Montana Climate Office, MT DNRC, and US Drought Monitor

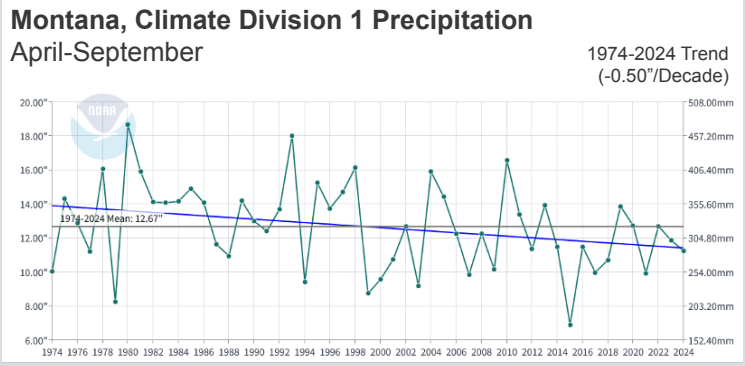
Early summer rains and a near average snowpack brought some relief from fire this year. However, river flows below Holter were notably below the 10-year average – 3,400 to 3,800 cubic feet per second (cfs) (2025) compared to 4,000-5,300 cfs (2015-2024). The low flows were heavily influenced by last year's dry, hot fall and the previous year's low snowpack. It takes a lot to catch up. A combination of long-term trends in temperature, and when and how much precipitation we receive drives our current conditions. See graphs right.

Historically, our biggest precipitation months are April, May, and June. That's changing. In recent years, precipitation in the January through March quarter has increased while every other quarter has declined. In addition, early run-off due to higher temperatures doesn't allow the moisture in the soil to adequately recharge, diminishing what acts as passive water storage that gets released back into the river system. Longer growing seasons, because of increasing temperatures, put more pressure on soil moisture as well. Many factors complicate the impacts of drought.

Our State Climate Office and NOAA affiliates like the National Weather Service and National Center for Environmental Information- provide substantive data to help us better understand and prepare for the consequences of drought. We can try to mitigate these impacts by increasing water storage and managing consumptive uses, but we can never take our river systems for granted – even in a "good" year. SM ■



Average daily maximum temperature by year, Upper Missouri River Watershed 1974 – 2024 NCEI/NOAA - Climate at a Glance



Annual precipitation by year, Upper Missouri River Watershed 1974 – 2024 NCEI/NOAA - Climate at a Glance