

VOICE OF THE MISSOURI

Mission Statement

To understand, conserve, and enhance the unique ecological and recreational resources of the Upper Missouri River Watershed.



Board of Directors

Board Chair

Sherry Meador
Helena, Montana

Vice Chair

Dr. Alan Shaw
Big Sky, Montana

Board Secretary

Pat Hunter
Wolf Creek, Montana

Board Treasurer

Bill Ryan
Butte, Montana

Executive Committee

Bailey Sory
San Francisco, California

Joe Kerkvliet
Corvallis, Oregon

Jay Erickson
Helena, Montana

John Smigaj
Helena, Montana

UMOWA Restores the River to Cleaner Conditions *by Jess Raty*



Through the hot and hazy weather this summer, UMOWA held several events to restore the Upper Missouri River to its pristine condition.

UMOWA kicked off the season by hosting a trash clean-up event in early June. The community of Craig, Montana stepped up to the challenge to help UMOWA clean garbage from over 20 miles of the river, including 7 campgrounds and fishing access sites. UMOWA discovered that many of the river's visitors responsibly practice Leave No Trace ethics and pack out their garbage after float trips. UMOWA volunteers only had to collect 9 bags of trash after a full day of hunting for litter. We found some interesting items floating in the Mo's waters, including a jar of moonshine and a bag of shrimp!

In July, UMOWA raised over \$10,000 by raffling off a customized RO Drift Boat to our members and raffle participants. Raffle funds enable UMOWA to sponsor community events, educational campaigns, like our latest, Respect the Redd, and Missouri River cleanup initiatives. We are excited to also use these funds to support our upcoming Aquatic Health Summary Project. Stay Tuned!

UMOWA ended the summer in August on a high note by joining local Missouri River watershed organizations in a collaborative effort, called Bashin' Trash, to clean up over 140 miles of the Missouri River. UMOWA's 30 volunteers floated/walked from Holter Dam to Craig and collectively picked up 20 bags of trash. Volunteers collected an array of items, from broken tent poles to a porcelain doll, making sure these items were properly disposed of away from the Mighty Mo.

UMOWA is proud of the restoration work we completed, as we know our events have and will continue to enhance, protect, and improve the Missouri River's water quality. ■

Keeping the Pulse on the Upper Missouri River During a Record-Breaking Dry, Hot Year

by Dave Stagliano, Aquatic Ecologist, Montana Biological Survey



It doesn't take a scientist to know that low flows and warmer water temperatures are having, and will continue to have, immense effects on the aquatic ecosystem of the Missouri River. Just ask the anglers sipping beers at the bar instead of fishing the evening hatch because of "hoot owl" restrictions. Fisherman may notice trout holding in different areas due to a more concentrated river, less accessible side channels, or leaving the warm and slow frog water. More trout are likely holding below riffles because the water is more oxygenated; warmer water holds less oxygen (O₂). Additionally, aquatic plants give off O₂ during the day, but use it up overnight, so early morning hours may be cooler, but also may contribute O₂ stress to trout, sculpin and gill-breathing insects.

In terms of nutrients and aquatic plant growth, weed

growth in 2021 may not have exploded as one might have expected with the warm temperatures. Due to UMOWA's water quality collections, we have a pretty good explanation for why this is the case; nutrient levels, particularly total phosphorus (TP), were lower downstream of Holter Dam than in previous years. Lower mean discharge and no flushing flows in 2021 did not provide the lower Missouri River below Canyon Ferry with a large nutrient pulse as occurred in 2017-2020. The Missouri River upstream of Canyon Ferry still exceeded the old MDEQ nutrient thresholds for both Total Nitrogen (TN) and TP in July, but these nutrients are being utilized within the reservoir. The tributaries contributing these excess nutrients are Big Springs Ditch (TN), Deep Creek (TP) and the biggest contributor was Greyson Creek for both TN and TP with over 5 times the TP 'allowed' by MDEQ. ■

UMOWA's Newest Project: An Aquatic Health

Summary

by Jess Raty



Have you ever been presented with an assortment of scientific documents that were filled with so much tedious, technical jargon that you wished someone would just simply tell you how all the information relates to one another?

Thanks in part to a grant from the Montana Association of Conservation Districts and generous funding by our members, UMOWA's next endeavor, the Aquatic Health Summary Project, aims to merge data from our previous scientific studies and highlight our findings in a way that is easy to understand. Beginning in November, the Aquatic Health Summary Project will compile UMOWA's

current and historic scientific data into a data map with educational graphics about the Upper Missouri River's health. Our goal is for people of all ages to understand the Missouri River's unique ecological resources and how annual changes in water quality impact the river's animals, insects, and plants.

The Aquatic Health Summary's interactive map will include data about the Upper Missouri Watershed's water quality, flow conditions, water temperature, nutrient values, climate patterns, aquatic plant growth, insect populations, and water chemistry. Everything you have ever wanted to know about the Upper Missouri River will be available in one convenient location.

By creating a data map that tracks changes in water quality over the years, UMOWA will be able to identify potential sources that are contributing to nutrient pollution. This allows us to better educate river users on how poor water quality influences their day on the river. Compiling previous scientific studies will help UMOWA determine which one of our scientific studies deserve more attention and funding in the future.

You can help UMOWA continue to educate Missouri River anglers, birders, hunters, and other recreationists by making science more accessible! Please donate to the Aquatic Health Summary Project today. ■

Together
we give.

Visit umowa.org/givingtuesday to donate today.



GIVING
TUESDAY

Nov 30, 2021

UMOWA



PO Box 377
Helena, MT 59624

www.umowa.org

<Smart Addressee>
<Address Line 1>
<Address Line 2>
<City>, <State>, <Postal Code>



how much water to release over and through the dams on a given day. When releases are similar day after day, sediments build up in the river downstream and cover over the gravel where fish lay their eggs (spawn). Also, plants in the water become more established and change the water temperature and flow which can cause a decrease in mayflies and caddisfly populations and good fish habitat. When a lot of water is released for several days, as would happen naturally before the dam was built, the flow washes the silt away from the gravel and decreases the number of plants growing in the river.

UMOWA is working with the Bureau of Reclamation and Northwestern Energy to provide information that can help determine how much water should be released, and how often, to provide viable habitat downriver for bugs and fish. The data we collect through our water quality samples, aquatic plant, and macroinvertebrate (bug) studies is the crux of that information. Your continued support makes these studies and UMOWA's work possible. Thank you.

We talk a lot about flushing flows through dam management in our literature. Why? Because the area we are trying to protect is down river from a hydroelectric plant, Holter Dam, that controls the river's flow to make electricity. The US Bureau of Reclamation determines

Renew your membership today at umowa.org/renew. ■



Visit Us on Social Media



umowa.org



facebook.com/umowa.org



@umowaorg



@umowaorg