

VOICE OF THE MISSOURI

Mission Statement

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



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UMOWA's Work Continues



Photo credit: Mark Raisler

As 2020 has come to a close, we all acknowledge that the last 12 months have been trying at best. UMOWA has made a Herculean effort to adapt and adjust to the Covid-19 crisis. We cancelled ALL of our in-person events and activities, however UMOWA still fulfilled and completed all of the goals and objectives we had set for the year.

I will list those efforts and refer you to our website; umowa.org for the full details and results of these studies and projects:

1. The second year of the aquatic plant study over the entire course of the river from Holter dam to Cascade is completed. A report is on the website. A formal scientific paper describing the project and its results will be available in April.
2. Water quality/chemistry studies were completed and reported for the seven monitoring sites.
3. A full revision of the UMOWA website was completed.
4. We conducted a raffle that raised \$10,000.00 to offset the revenue loss from our inability to conduct in-person events. Future raffles are planned for the summer and winter of 2021.
5. A volunteer weed pull project was conducted at our streambank restoration sites (Wolf Creek bridge and Maclin property).
6. UMOWA is establishing a local cooperative with landowners to undertake a major weed assessment/abatement program from Holter dam to Cascade.
7. We are hiring to fill two critical positions:
 - a. Fundraising and new member recruitment
 - b. Enhancement of UMOWA's social media presence

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8. UMOWA is working with stakeholders to organize a major “clean-up” of the river.

Thanks for your continued interest and support for UMOWA. With your help, we will continue to preserve and protect this precious resource we all love and cherish.

Lastly, new UMOWA officers elected as of January 19, 2021 are:

Sherry Meador, Chair
Alan Shaw, Vice Chair

Pat Hunter, Secretary
Bill Ryan Treasurer

Thanks to all for affording me the honor of serving as the UMOWA Board Chair over the past two years.

Dr. Alan Shaw
Board Chairman ■

UMOWA Aquatic Plant Study

by Andrew Skibo

Description: Four side-scanning sonar floats and plant surveys (from Holter Dam to Cascade) were conducted in May and August over a two-year period (2019-2020) to document the presence and extent of submersed aquatic vegetation. These surveys were conducted to develop baseline data on submersed aquatic vegetation populations, their relative densities pre- and post-runoff; and to document sediment transport following controlled releases at Holter Dam.

Findings:

- Combined data from both years confirmed the presence of nine of eleven previously reported submersed and floating aquatic species collected by Montana Fish, Wildlife and Parks in 2010, including minor populations of the invasive, curly-leaved pondweed.

- In general, aquatic plant diversity is very low during the early spring (May), prior to higher runoff releases (late spring/early summer) from Holter Dam. Once discharges begin to decrease, plant densities and diversity (species richness) increase correlating with water temperatures and sunlight.
- Nutrient uptake by the vast beds of submersed aquatic vegetation in the summer has a noticeable effect on nitrogen and phosphorus concentrations observed during the UMOWA water quality sampling.
- Sediment transport has been shown to play a limited role in local establishment of new plants, but it is the prolonged and extensive higher flows associated with undammed tributaries such as the Dearborn river and Little Prickly Pear creek that provide

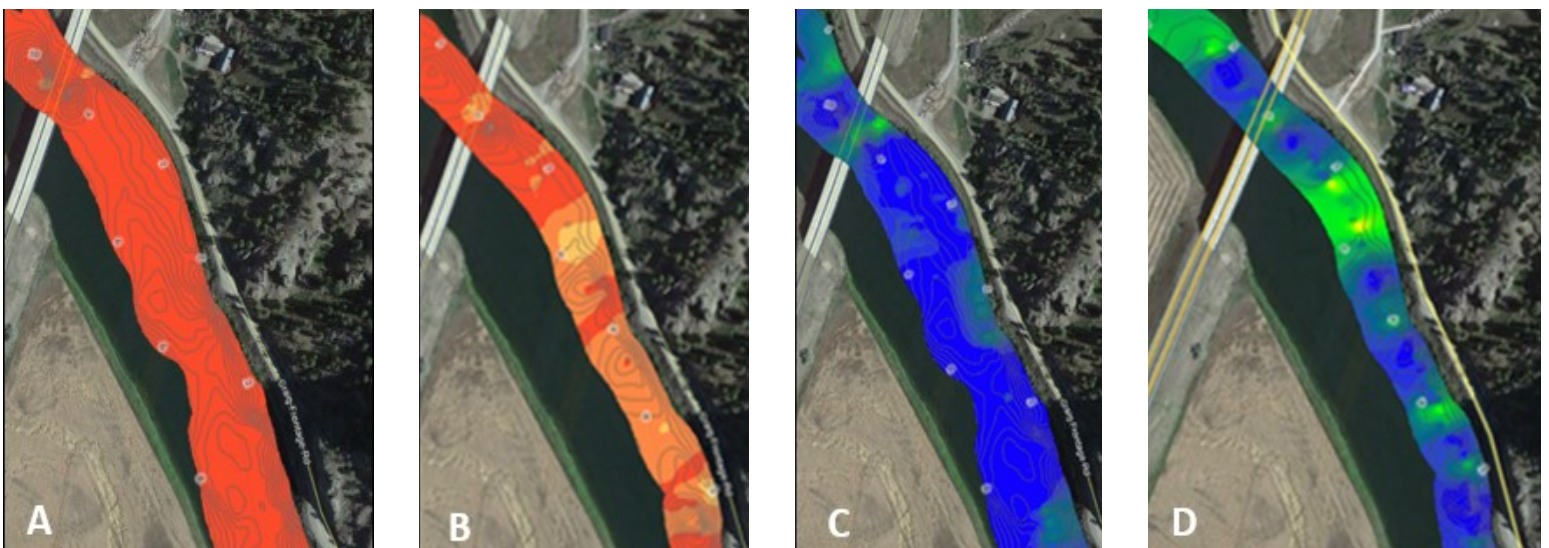


Image 1. Fine sediment distribution, measured through SONAR signal reflectance, May (A) and August (B) 2020 showing depositing of fine sediment (yellow) over coarser hard gravels (red). Aquatic weeds or submersed aquatic vegetation (SAV) populations (green) were noted to have colonized and populated newly deposited fine sediments in the interim between May (C) and operational “flushing-flow” discharges at Holter Dam in August (D) 2020.

adequate scouring of established plant beds. Plant bed densities below these tributaries are significantly reduced compared to infestations seen near Craig and above Mid-Canon.

- This 2-year data suggests that the impact of moderate flushing flows (11,000 – 15,000 cfs) is limited to the first mile of aquatic weed populations downstream of Holter Dam.

- This data also suggests that peak flows, in excess of 15,000 cfs (as calculated by R2 Resources 1994), and likely greater than 20,000 cfs, are needed to adequately scour established plant populations from existing sites within the river and to help maintain balance and diversity.

2020: A Record Year in Many Ways

by Liz Lodman, MT FWP AIS Information Officer



Did you encounter more boats on the water last year? Montana's watercraft inspectors saw record numbers of boaters in 2020 as more people were fishing and boating during the COVID-19 shutdown.

Watercraft inspections protect our waterways by preventing boats from transporting aquatic invasive species (AIS) into the state and across the continental divide. AIS can be plants, animals or pathogens that can cling to a boat or trailer, hide in mud, or float in bilge water. Watercraft inspectors, considered essential workers during the pandemic, conducted more than 170,000 inspections in 2020. This surpassed the previous year's

total of 113,168 inspections.

Inspectors intercepted 35 boats with invasive mussels, more than double the number stopped in 2019. These boats are traveling into Montana from states where zebra and quagga mussels are established. Several of the boats were snowbirds returning home for the summer. Most mussel infested boats were recently purchased from Midwestern states and varied from pontoon boats, fishing boats, sailboats, jet skis, and a kayak. A good reminder that ANY vessel, motorized or not, can transport AIS.

On the Missouri River AIS monitoring crews took 12 samples this past year between Holter Dam and Cascade. Fortunately, there were no Mussel veliger (larval stage) detections. This stretch of the Missouri River does continue to have the invasive plant – Curly-leaf pondweed.

Boaters and anglers can help stop the spread of AIS. Always remove all mud, water, plants, and animals from watercraft and gear when leaving the water. As a reminder, UMOWA has installed a boat wash station in Craig and we encourage all to use this service. Learn more at [CleanDrainDryMT.com](https://www.CleanDrainDryMT.com). ■

A Retrospective on UMOWA

by Pete Peterson

In the Fall of 2013 Mick Mickelson of the Henry's Fork Foundation convinced Pat Hunter that it was critical to form an organization to advocate for the Missouri River. In response Pat met with Pete Cardinal and Carol and Pat Hemmingway (son of Ernest Hemmingway) and hatched a plan. There was a call to arms at the Missouri River

Ranch and a diverse group of local concerned citizens agreed that there was no time to waste.

In December of 2013 the first official meeting gathered at the Wolf Creek School and agreed on the name Upper Missouri Watershed Alliance (UMOWA). Pete Cardinal

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was voted the first Chairman of the Board. It was decided that an understanding of the river through science and establishing baseline data would be the organization's central goals.

By March of 2014 UMOWA was incorporated. After discussing the most pressing projects the bug studies won out over the whitefish study. It was determined that we would also concentrate on developing bank restoration projects. In 2015 UMOWA completed the first year of Bug studies and has not looked back.

UMOWA has now completed five years of bug studies on the Missouri and 3 years on the Smith River. We have monitored the water quality of the Smith and Missouri for four years. We have completed two bank restoration projects. We have finalized the second year of an extensive Aquatic Plant Study Project on the Missouri and will continue our water quality and bug surveys to Little Prickly Pear Creek and the Dearborn River.

UMOWA is proud of the work we have accomplished in

7 short years and will continue these essential projects. Thanks to all the volunteers, members and donors that have supported us in the past and we look forward to working with you in the future. ■

"UMOWA is indebted to Pete Peterson, past Board Chair, for his hard work and dedication. As a result of his guidance and vision, UMOWA is well positioned to preserve and protect this precious resource now and into the future."

- Sherry Meador, UMOWA Board Chair



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