



# BIGHORN

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### VISIT WEBSITE FOR DIGITAL REPORT & ADDITIONAL INFO



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### Cover image: Christine Nelson on the Bighorn River, by John Sindland.

# THE MISSION O

BIGHORN RIVER **ALLIANCE** PROTECT, PRESERVE AND **ENHANCE** LONG-TERM **HEALTH** AND VIABILITY OF **BIGHORN** RIVER RECOGNIZING ITS SIGNIFICANCE TO THE WILD TROUT FISHERY. THE AGRICULTURAL COMMUNITY, AND THE CROW NATION THROUGH WHICH IT FLOWS.







## MESSAGE FROM THE EXECUTIVE DIRECTOR

Anne Marie Emery BHRA Executive Director

It is with great pride that the Bighorn River Alliance (BHRA) shares the many ways it takes lead to protect and

preserve the Bighorn River through its first comprehensive annual report. This report will be a new addition to our annual membership and donor communications and will work to inform our supporters of the organization's fiscal health, its annual accomplishments and programs, and mission-driven focus moving forward. We are thrilled to debut this new metric of growth with you!

When I began working as the organization's first executive director, I accepted the position understanding the complex landscape in which the Bighorn flows, and the difficult position the organization was in as a result. At that time, there seemed to be more problems than solutions. The river was experiencing consecutive years of sustained, high river flows, wild trout health and populations were declining, and the organization that people were turning to for help was struggling

to respond due to limits in organizational capacity, donor support, and lack of river baseline data.

However, it is within the spaces of high water and hardship that tippet is tested, and good things rise.

Fast forward to today, the BHRA has evolved into a respected organization comprised of a full-time staff, led in service by a talented board of directors, and supported by nearly 1,000 generous members nationwide. Together, the Alliance has organized in true benefit to the Bighorn River and its wild trout. This is due to generous donor after generous donor stepping up to invest in the Alliance and its growth, helping create a strong basis from which we can preserve and protect.

In result of this growth, BHRA perpetuates its mission into actionable, forward-thinking programs. From establishing long-term monitoring programs that track river health over time, to implementing large-scale restoration projects- such as Side Channel Reactivation- we work to build upon the resilience and knowledge base of the Bighorn River in care of today's issues and tomorrow's benefit.

Tomorrow matters. Since I started with the

IT IS WITHIN THE SPACES OF HIGH WATER AND HARDSHIP THAT TIPPET IS TESTED, AND GOOD THINGS RISE.



Alliance, I have encouraged its members, staff, contractors, and board members to think "for the future" when it comes to Bighorn River conservation. What actions taken today will position us to preserve and protect in the context of climate change, increased resource use, and competing interests? While these are tough discussions to have, the Alliance recognizes that through addressing hard topics, we work not only in the best interest of the river, but also in preservation of our donors' legacies.

As you wade through this report, we hope you experience pride at what you make possible. More importantly, we hope you find security. Security in knowing that the waters and trout that are important to you and your experiences are being protected and preserved with a long-term vision that is in the care of all of us working together for the benefit of tomorrow. You are the Bighorn River Alliance.



Above photo courtesy of Forrester's Bighorn River Resort.

### **UPCOMING PROJECTS IN 2023**

- Reconnect up to 12 Bighorn Side channels in the fall of 2023 -"The Big Dig."
- Continue long-term monitoring of Bighorn water quality and macroinvertebrate populations.
- Continue spawning complex assessment in upper 13 miles.
- Survey channels restored in 2021 to assess sediment accrual, macroinvertebrate colonization and wild trout use.
- Install and fund a real-time temperature device at the St. Xavier bridge.

# Because of



Volunteers worked with BHRA to remove over 1300 lbs of metal rip rap from the river, and a mile of barbed wire along its banks.

Miles of river temperature recorded by BHRA installed thermographs.



Wild Trout spawning complexes representing a large proportion of spawning habitat in the upper 13 miles identified and mapped.

Ujou in 2022



USBR water m e e t i n g s attended keeping river flows above 2,000cfs in the winter, and below 8,000cfs during a challenging runoff.

Miles of water quality measured on the river, its tributaries and Bighorn Reservoir.



A quatic insect samples collected at 8 long-term monitoring sites & 2 restored channels.

- REDD SURVEYS
- MACROINVERTEBRATES
- THERMOGRAPHS
- RIVER CLEAN UP SITE
- WATER QUALITY
- SIDE CHANNELS
- MILE-LINES



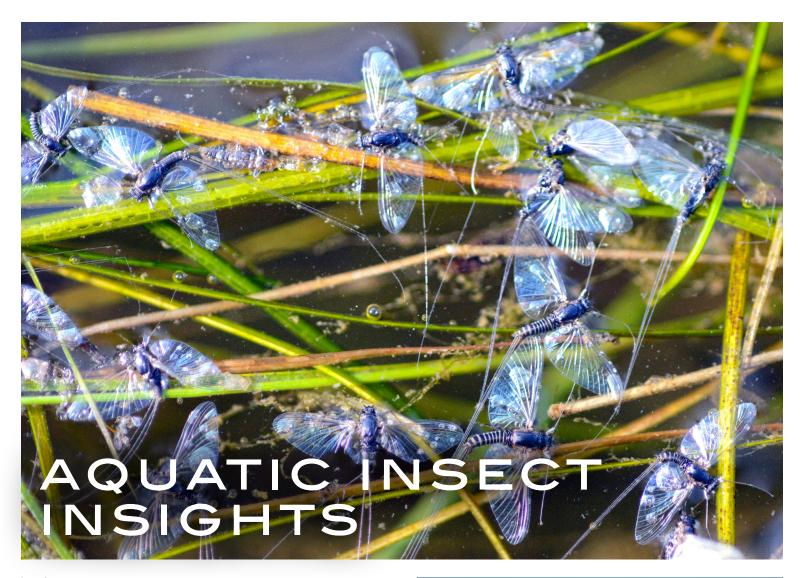
Inactive side channels surveyed for reconnection in 2023.



Priority mile-lines assessed for potential improvement with Bighorn Irrigators.

Data points collected by Bighorn guides using the BHRA FishLog app, connecting BHRA to real time catch rates, trout health and river conditions.

Grants awarded funding 2023 side channel reactivationtion work.



The Bighorn River is a unique river system that transitions from the warm-water prairie river that it was prior to dam construction to the coldwater trout river that it is today. Because of this, aquatic insect diversity fluctuates between river sections based on distance from the dam, flow volume and water temperatures.

To understand how its aquatic insect communities change annually and throughout different sections of the river, BHRA collects annual spring and fall macroinvertebrate samples at 8 sites on the Bighorn River, plus two new sites on the recently restored Juniper and Rattlesnake side channels.

While only in year three of monitoring, interesting relationships between insect communities and flows are developing, data that will continue to grow as the BHRA monitoring program expands and continues.

VISIT OUR WEBSITE TO READ THE BIGHORN AQUATIC INSECT MONITORING REPORT FOR 2022

# 2022 FAST FINDINGS

- 1. 2022 samples showed that the short peak flow at the end of June reduced the densities of midges and aquatic worms, while increasing the abundance and species diversity of mayflies and caddisflies.
- 2. Aquatic species diversity increased with increasing distance from the Yellowtail Dam.
- 3. Restored Bighorn River side channels (Juniper and Rattlesnake) recolonized quickly averaging 30,000 individuals per m2 in just 6 months post restoration.
- 4. Compared to the main channel, midge densities in restored side channels were less affected by peak flows.
- 5. Caddisfly densities dramatically increased at nearly every site in the fall.



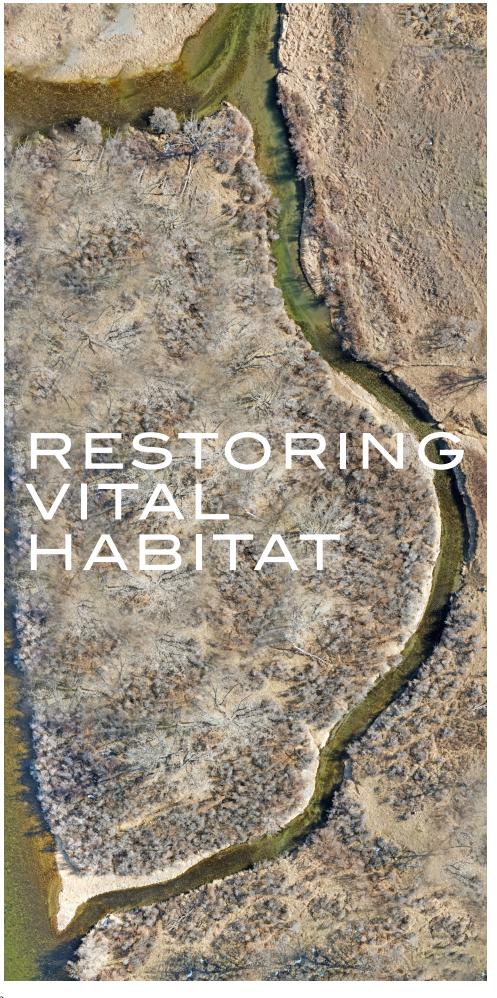
A side from a blue-ribbon trout fishery, the Bighorn is a working river that provides irrigation and stock water to over 25,000 acres of farm and range lands throughout the valley. Fertile soils made alkaline with heavy silt clay loam, long growing seasons, and ample access to water gives sprout to an array of crops including wheat, malt barley, alfalfa, corn, and sugar beets. In fact, the conditions that generate high crop-yields within the valley also facilitate record fast growth rates expressed by Bighorn wild trout.

In 2022, BHRA worked with the agricultural community to understand how tributaries and mile lines\* affect river conditions, and to learn how improvements to the water delivery system could improve water clarity or turbidity on the river. While turbidity is indicative of the clay soils through which the river flows, its influence on river clarity at certain mile-line returns and tributary junctions has been a point of concern expressed by anglers, especially during low water years.

During the irrigation season of 2021 BHRA collected drone imagery at 9 locations where mile-lines or tributaries influenced water clarity conditions below the Bighorn FAS. In 2022, BHRA and the Bighorn Irrigation District gathered baseline data on certain returns to measure their outputs to the river. Findings indicated that turbidity outputs to the river are primarily driven by precipitation events (in which rainfall delivers clay soils into the canal and then to the river), and by downcutting, or erosion, within the canal and mile-line systems themselves.

Moving forward, BHRA and the Irrigation District will analyze data collected to examine if funding received as part of the Crow Irrigation Project could allow for high-turbidity mile lines to be piped. This would reduce the amount of water needed for irrigation and reduce erosion rates occurring within these delivery systems from entering the river.

\*Mile-lines are small ditches that return diverted water to the river.

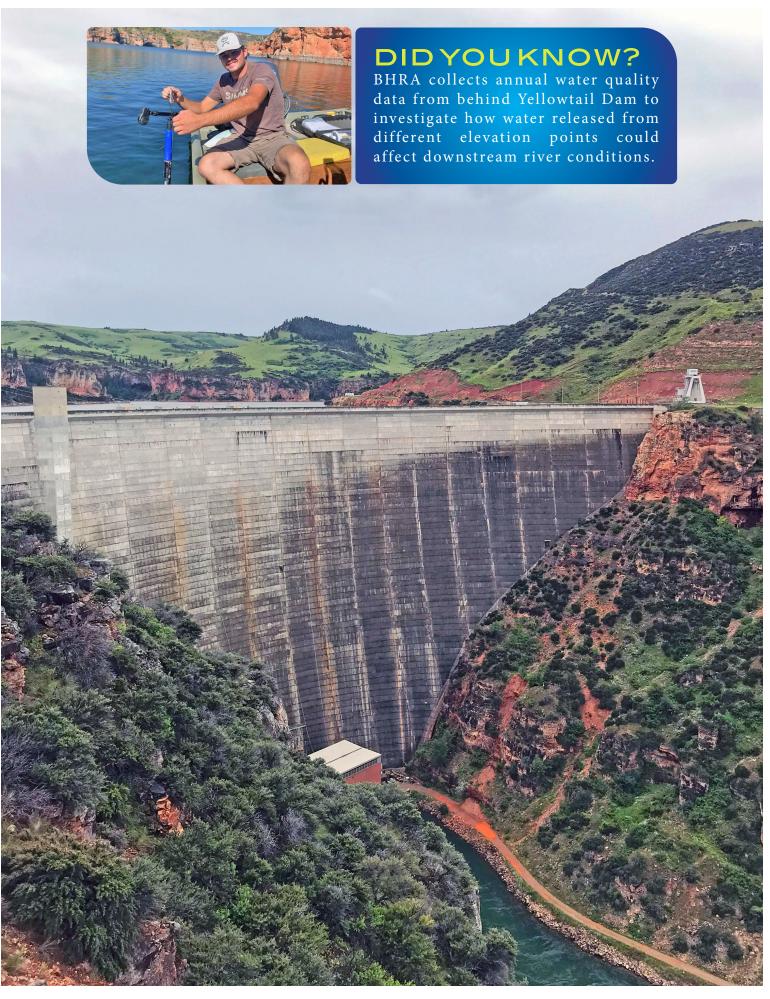




The construction of Yellowtail Dam in 1966 created the coldwater trout fishery that we enjoy today, but also significantly changed the downstream river habitat on which the fishery depends. Over the past several decades, moderation of natural river flows has led to progressive channelization of the river corridor, disconnecting the river from important side channel habitats which wild trout require to fulfill their life stages.

BHRA improves connectivity in areas of both recent and long-term side channel loss by identifying channels with best benefit/cost relationships associated with their reconnection. Based on those priorities, channels are reconnected through mechanical excavation of channel entrances. After restoring two channels in 2021, BHRA surveyed an additional twelve channels in 2022 that, pending final permitting, will be restored in the fall of 2023. When complete, this work will add a total of six miles of habitat back to the river and its wild trout and is made possible through state and federal grants and vital year-end member support.

BHRA will monitor the success of restored side channels through annual surveying of channel heads, flow monitoring, macroinvertebrate sampling and trout surveys while building a long-term endowment account to ensure these vital habitats remain connected into the future.



FINANCIALS				
FINANCIAL RECAP (2019-2022)				
REVENUE CONTRIBUTED REVENUE	<b>2019</b> 213,861.77	<b>2020</b> 185,254.64	<b>2021</b> 323,465.87	2022 381,760.00
EARNED REVENUE	46,273.15	79,232.30	67,020.18	76,621.70
TOTAL REVENUE	260,134.92	264,486.94	390,486.05	458,381.70
EXPENSES				
PROGRAMS	137,292.00	128,863.00	128,092.00	242,397.08
ADMINISTRATIVE	61,332.00	85,181.00	110,700.00	49,890.85
FUNDRAISING	26,536.00	22,246.00	24,726.00	73,812.44
TOTAL EXPENSES	225,160.00	236,290.00	263,518.00	366,100.37
TOTAL NET INCOME	34, 974.92	28,196.94	126,968.05	92,281.32
CUMULATIVE NET ASSETS	206,831.00	227,699.65	342,323.41	436,797.05
* 2022 awarded grant funds not included in total				





### MESSAGE FROM THE BOARD CHAIR

Harry Miller BHRA Board Chair

The organization's ability to carry out its mission relies heavily upon the engagement and support of the members and

donors that provide annual financial support to its cause. We are pleased to report both income and membership continue an upward trajectory of growth. Revenue for our twelve-month fiscal period that ended December 31, 2022 was \$458,381.00, a 17% increase over the prior year's income. Total expense for the period was \$366,100.00 with fundraising and administration costs only about 1/3 of total expense.

Impressively, program expenses grew 89% in 2022 which exhibits the organization's dedication to its mission-driven purpose, and the expansion of projects that protect, preserve, and enhance the health of the Bighorn River.

In 2022 BHRA implemented an investment strategy to benefit future research needs and project opportunities. In years where cash holdings exceed operating requirements, surplus funds are placed in a short-term special projects account and a long-term endowment account. These accounts ensure the Alliance is prepared to act on project opportunities as they arise, while simultaneously fulfilling our long-term commitment to projects such as side channel reactivation maintenance.

The Bighorn River Alliance is dedicated to the health of the Bighorn River for today and for tomorrow. It is an exciting and special time to be part of the organization's growth and we hope you consider the many ways (provided below) that you can include the River in your giving legacy. The board and staff join me in thanking you for your contributions and hope you are as proud of the work being done as we are. We look forward to seeing you on the river!

# YOU CAN HELP PRESERVE AND PROTECT THE BIGHORN RIVER BY EXPLORING ALL THE WAYS TO GIVE TO BHRA

- Stock Share Transfers helping you avoid capital gains and increasing your charitable deduction.
- Donor Advised Fund (DAF) via our website or through your grant administrator.
- **IRA Qualified Charitable Distributions (QCD)** for those 70½ and older, you can meet your Required Minimum Distribution (RMD) & receive credit for a charitable contribution.
- Legacy Gifts by naming BHRA as a beneficiary of your estate plan
- Matching Gifts from your employer, which can double or triple your impact

# Wild Trout Cociety

Annual Giving of \$1,000 or more





## **CELEBRATING LEADING DONORS**

John Sindland Vice Chair; WTS Chair

On behalf of the Bighorn River Alliance, I would like to thank everyone who contributed to the financial success of the organization in 2022 and recognize those who elevated their

annual giving through the Wild Trout Society (WTS) program. The Wild Trout Society consists of a particularly dedicated group of donors who contribute a minimum of \$1,000.00 annually in support of BHRA general operations and research. Without these donors, it would be impossible for the Alliance to fund staff and research at the level we currently operate at (low overhead, high programs).

In 2022, WTS donors contributed a total of \$267,500 to BHRA - over half of our total annual budget. We greatly appreciate this support, because without it, the Alliance and its programs would not exist. We are eternally grateful for all donors, but would like to extend special thanks to the below names who participated at the WTS level in 2022.

### 2022 WILD TROUT SOCIETY MEMBERS

\$20,000 +

James Chalmers Sam & Barb Jampolis Allen Neelley Mike Parnell

\$10.000 - 19.999

Dee Rolph Jim & Chris Scott

The Browne Family Iim Brownlie **James Greene** Donald Jackson & Beverlee Nelson Ryan Lumaco Patagonia Steve Whisler

\$2,500 - 4,999

Michael White

Tim Hanks Wink & Libba Hartman G Thomas Lang Harry Miller Randy & Alice Randolph Jr Jack & Pat Shelton Dave & Barb Thomas

\$1,500 - 2,499

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Steve & J.J. Hilbers Thomas Holtz

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Richard Allgood **Brad Bischoff** Ioe Bruno Pat Cathey John Chalmers Jerry Connolly

David Cost **Jav Coulter** 

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Patricia Hamman Thomas Hansen

Mari Hill Harpur

Roger Hile Mike Kelly Steve Lerner

Rvan Majerus Sam & Carol Mayrakis

William McMaster

John Orr Bob Phillips Larry Pollard Randall Roehl Edward Rossi Paul Shibley

John & Debbie Sindland

Steven Smith **Edward Spalty** Michael Thomas Michael & Shirley Trapp

Brad Vassar

Dan Vermillion (Sweetwater Travel) Tom Welsch & Stephanie Dubravac

Steven Zuckerman

Anonymous



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