

## FREQUENTLY ASKED QUESTIONS ISSUE

The Bighorn River Alliance (BHRA) understands the significance of the Bighorn River fishing experience, the importance of the river to the agricultural community that depends on it, and the cultural significance of the river to the Crow Nation. We are working on all fronts to identify the issues challenging the fishery and its lands through our flow management working groups, long term research initiative efforts and basin wide user group alliances.

As the Bighorn River Alliance wraps up 2019, and prepares for another year of Bighorn River conservation efforts, we wanted to take the opportunity in this newsletter to reflect upon some of the most frequently asked questions from our membership regarding river flows, fish counts and the work we are doing moving forward. This FAQ issue of our communications is a joint effort between the Alliance staff, its board of directors and our partners at Montana Fish Wildlife and Parks to deliver you understandable and honest answers to your most pressing Bighorn questions. Furthermore, we will be launching a new website and blog in February of 2020 where we will be committed to answering your questions regularly, as well as keeping you updated on issues.



### 1. WHAT'S HAPPENING AT THE BIG HORN RIVER ALLIANCE?

The Alliance has been very, very busy for the last year and a half. In that time, our Executive Director, Anne Marie Emery has moved from Idaho to Billings, opened a new office, interviewed and hired an associate, administered fund-raising events as well participated in countless meetings and presentations with the Bureau of Reclamation, MT Fish Wildlife and Parks, the Crow Tribe, Bighorn County, conservation organizations, donors, vendors, fly shops, guides, various agricultural organizations and individuals, just to name a few. Even with the all that going on, we've managed to fund and implement the first year of the Bighorn River Research Initiative.



### 2. WHAT IS THE RESEARCH INITIATIVE?

Despite being one of the highest used trout streams, the Bighorn River (from Afterbay dam to Hardin) is one of the least studied and monitored wild trout fisheries in the state of Montana. Understanding that our ability to influence the long term health of the river depends on the quality of our knowledge base of the ecology of the river basin, the BHRA launched the Bighorn Research Initiative in 2018. The goal is to fund research and monitoring efforts on the River that can be used to develop successful long term conservation strategies, influence policy decisions and better our understanding of the resource. In 2018 the BHRA and various stakeholders and state/federal agencies created a Plans and Priorities Report\* which identified important questions around seven research categories which include:

socioeconomic considerations, spatial information, hydrology, geomorphology, terrestrial and aquatic biology, water quality and climate. From that report (which outlines all areas of study to be implemented over the years) BHRA identified five initial baseline studies that were conducted and completed in 2019, leading the way to on the ground monitoring efforts that will be implemented in 2020.



\* Find 2019 Research Initiative reports at [www.bighornriveralliance.org](http://www.bighornriveralliance.org)

5000 Southgate Drive  
Billings, MT 59101  
info@bighornriveralliance.org  
(406) 534-2915  
www.bighornriveralliance.org

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Executive Director  
emery@bighornriveralliance.org

Melissa Lombardozzi  
Development Associate  
melissa@bighornriveralliance.org

## 3. WHY ARE THE TROUT NUMBERS LOW?

We have learned that years of severe drought (early 2000s) and years of high flows reduce the amount of fish per mile on the Bighorn River. The recent low fish counts are a byproduct of successive, sustained high spring river releases that have compromised spawning success and limited the recruitment of juvenile trout. While high spring flows are a natural occurrence on all river systems, dammed systems, like the Bighorn

rely on their upstream reservoir to help buffer the effects on downstream resources. The problem we are seeing today is primarily due to changes in the hydrologic system, in addition to BOR severely underestimating spring precipitation forecasts and inflows. However, the Alliance has taken the lead in pushing for a review of dam operations which has led to recommendations that will improve water management in the future.

## 4. WHAT HAS BHRA DONE TO IMPROVE FLOWS BELOW THE YELLOWTAIL DAM?

The Alliance was successful through its #SavetheBighorn campaign in helping the Bureau of Reclamation (BOR) develop 14 recommendations\* that benefit the river. These recommendations, which will be implemented in stages beginning this year, and ending in 2021, fall into two groups: those that affect general operations, and those that affect the data used in making operational decisions. For example, there are changes to the rule curves (an algorithm used during the spring only to set river releases and lake levels) and the operating criteria (rules that include congressionally mandated purposes such as flood control, hydropower and irrigation, along with stakeholder

priorities). These are part of the day-to-day operations. The second group is operational decisions, and this involves data acquisition, the accuracy of that data, and how that data affects river releases and lake levels. For example, one of the most important recommendations was to research, devise and implement a more accurate way to determine inflow forecasts. One of the things that the Alliance helped to uncover was that the spring inflow forecast data Reclamation had been using was grossly inaccurate, leading to insufficient reservoir drawdowns in the spring and high, sustained river flows that have, over the years, affected trout numbers.

\*Visit [bighornriveralliance.org/campaign-results](http://bighornriveralliance.org/campaign-results)

## 5. WILL THERE STILL BE HIGH FLOW EVENTS ON THE BIGHORN?

The short answer is yes, sometimes. But there's good news. Several of the key recommendations being implemented by Reclamation is to research and establish better methods of inflow forecasts. Reclamation is already working with a wide variety of state and federal agencies both inside and outside our region to implement new technology for aid in improving inflow forecasts. Turns out A LOT of agencies are having the same problem. This is a tremendous undertaking, and the Alliance

is proud to have had a part in getting this started. Keep in mind, since it is a governmental operation, it will be a year or more to get the research completed, tested, and implemented. Even if the forecast could be improved by 50%, this translates to more accurate storage estimates (lower high flows) and shorter periods of high flows. In addition, several operational criteria changes will be implemented in Jan 2020 that will also help trim off those high spikes in flows in certain years.

## 6. CAN WE STOCK THE BIGHORN TO HELP BOOST THE POPULATION?

Since 1974, Montana Fish Wildlife and Parks has managed the state's river systems under a no stocking policy. This policy decision stems from research by Montana Fish, Wildlife and Parks that found that stocking sizeable catchable fish is not only expensive but can hamper and interfere with the natural reproduction of wild trout. In addition, 90% of stocked fish die within the year. The best management tool is working

with water operators on improving flow improvements where possible, and waiting for Mother Nature to return to normal water years. Much like the drop in numbers during the drought years, the fisheries will recover from the high flow years. The good news is with less competition, the current population of adult trout are in excellent condition equating to more "trophy sized" trout in the system.

## 7. WHAT CAN WE EXPECT FOR FISHING IN 2020?

While fish numbers are down, the fishing on the Bighorn has been relatively good, with much larger (trophy) sized fish being caught this Fall. With good winter flows throughout the winter, a healthy brown trout spawn, and some luck from Mother Nature, we should see good winter survival of large trout, along with a good number of smaller trout that will grow very quickly. We suspect that fishing in 2020 will be the year of the "big trout," which equates to a one of a kind Bighorn fishing experience.



A beautiful wild Rainbow caught in early December.

## OUR WORK



Crow youth Reid Walks Over Ice and Yvon Chouinard on the Bighorn River in 2019.

## FARMS AND FISH WORKING TOGETHER

The BHRA recognizes the significance of the Bighorn River to the farm and ranch operators of the Bighorn Valley. As part of the 2020 Research Initiative work plan, the BHRA will be working with farm and ranch operators to identify projects that would mutually benefit agricultural operations and improve the health of the river, as well as identifying

potential sources of funding for demonstration projects that could work in benefit of both user groups. This summer, BHRA will work with agriculturalists to identify potential lists of project opportunities which will then be prioritized with estimated budgets to determine on the ground projects to implement in 2021 Research Initiative efforts.

## CONNECTING TRIBAL YOUTH

The BHRA strongly believes in cultivating connections between Crow tribal youth and the Bighorn River. For the past three years, the Alliance has partnered with Yvon Chouinard (Patagonia) to increase its participation with the Crow tribe through "Tenkara with the Tribe," a program that introduces youth to fly-fishing as a positive form of recreation within Crow reservation boundaries. For 2020, the Alliance is expanding its youth education efforts outside of the river and into a Crow Agency classroom. We will be partnering with the Crow program

"Guardians in the Classroom" to implement place based Bighorn watershed education themes to teach state required science based curriculums pertaining to watershed health and the water cycle while assisting students in collecting water quality monitoring data that will compliment our 2020 Research Initiative water quality monitoring program. At the end of the school year, students will have a better understanding of their watershed and their role as "agents of change" for the resource.



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## OUR WORK

### RECONNECTING BIGHORN SIDE CHANNELS

Since construction of the Yellowtail dam, the Bighorn River has transformed from a braided, complex river to a more channelized system- a change that has negatively impacted the river through loss of side channel connectivity which in turn, decreases instream channel diversity and trout spawning and recruitment habitat. Loss of side channel habitat also increases downstream flooding by reducing the water width of the river which would help spread high flows across a larger area. In 2012, the BHRA in partnership with state and federal agencies, led efforts to reconnect a side channel known as Cline's Channel to the river main in hopes of diversifying instream habitat for Bighorn wild trout. This fall, at the request of the BHRA, Montana Fish Wildlife and Parks performed a presence/absence sampling effort on the channel to determine if it was

successfully holding trout. Results found Clines channel as holding many trout, especially young of year trout who are reliant on side channel habitat in the winter months to escape predation risks found in the river main, an important finding considering the low recruitment rates we have seen from concurrent high flow events. From the success of this project, the Bighorn River Research Initiative has identified a total of 45 additional side channels that have become disconnected from the River, and is currently working with geomorphologist Karin Boyd to identify which of these channels have the highest probability for successful reconnection. This review and assessment which will be completed in our 2020 RI efforts will lead to on the ground efforts that could, potentially reconnect many, miles of river habitat.



*A young of year rainbow trout discovered in Clines Channel in late November.*



### BHRA HIRES NEW DEVELOPMENT ASSOCIATE

BHRA is excited to announce our new Development Associate, Melissa Lombardozi, to our team! Melissa is a graduate of Montana State University and specializes in film, graphic design, website design, videography, photography, the legal profession and customer service. She has experience working with several Montana based NPO's where she has improved donor organization platforms and communications. In her free time, Melissa enjoys spending time in Montana's great outdoors with her husband (an avid fly fisherman), and her three children.



For current daily reservoir and river levels visit [www.usbr.gov/gp-bin/arcweb\\_bhr.pl](http://www.usbr.gov/gp-bin/arcweb_bhr.pl)

### BHRA CELEBRATES FIRST OFFICE OPENING

On October 10th, the Bighorn Alliance celebrated the grand opening of the organizations first ever central office location, located in Billings within the Billings Sports Plex. Over 70 people attended the event including all federal/state agency heads, guides, Crow Nation members and representatives from Senator Tester, and Senator Daines offices. Each U.S. Senator had written a letter of support and encouragement

to the BHRA which was read publicly at the opening. The office, which is located at 5000 Southgate Drive in Billings, is open from 8 AM to 4 PM Monday-Friday and contains a conference area, and work stations which will house BHRA daily operations. The office also showcases BHRA materials and Research Initiative reports which will be used to increase public participation and education.

