FALL 2020 NEWSLETTER





Seeking Understanding & Consensus Creating Long-term Solutions for the Big Hole River Watershed Since 1995

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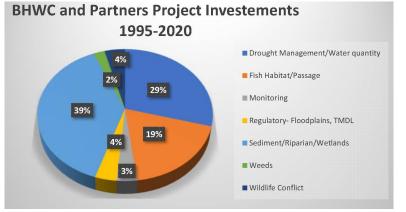
Remember When ...

As the cold season begins in this most challenging of years, I'm sure I'm not alone in remembering when ... Remember when you could just walk, drive or fly to go see your parents and give them a hug? Remember when live music and weddings spread love and hope without fear of also spreading a deadly virus? I'm guessing in 2020, everyone has some remember when's.

In this, our 25th year as an organization, I'm asking if you remember when the Big Hole went dry? Remember when every rancher and outfitter made decisions about their livelihoods based on their own assessment of costs/benefits? Remember when there was a real threat of lawsuits, and the listing of an endangered species in the river? Remember when conversations over water got heated and a real "tragedy of the commons" was set to take place in the Big Hole?

We helped change all that! Over 25 years, BHWC and partners directly invested over \$8.8 million into projects, studies, and management actions that have brought real and measurable improvements to our re-

sources. And that's just the work we've been involved in! While overall precipitation has dropped in 20 years as predicted by science, stream flows in August and September are steady or even increasing (pg. 6); Arctic grayling numbers are up (pg. 11); dozens of miles of streambanks are in better shape; and dozens of acres of wetlands have been created to hold water naturally. No wonder so many people this summer were looking at our stream gages to plan their fishing trips (pg. 7)!



So, this holiday season, take a moment

to remember when water issues were much worse. Remember all the people who came together and slogged through hard conversations and bureaucracies of all levels to make improvements. And remember to become a part of this success by donating today!

The conservation outcomes we can be proud of required people to come together and share in success and sacrifice. That's the spirit behind BHWC and the same spirit we will all need for putting this virus behind us and building a sustainable future, in our watershed and in our country.

- Pedro Marques, BHWC Executive Director Big Hole Watershed Committee

Our Governing Board:

Randy Smith Chairman, Rancher **Jim Hagenbarth** Vice Chair, Rancher **Steve Luebeck** Treasurer, Sportsman Rov Morris Secretary, George **Grant Trout Unlimited Dave Ashcraft** Rancher, **Business Owner** Sierra Harris **The Nature** Conservancy Peter Frick Rancher Jim Dennehy **BSB Cty.** Water Utility Hans Humbert Rancher Liz Jones Rancher **Mark Kambich** Rancher **Erik Kalsta** Rancher

Dean Peterson Rancher **Phil Ralston** Rancher John Reinhardt Rancher **Ray Weaver** Rancher **Bill Kemph Guiding/Outfitting** John Jackson **BVHD Cty. Commission Andy Suenram** Resident Eric Thorson **Guiding/Outfitting Paul Cleary** Resident **Mark Raffety** Rancher Brian Wheeler

Our Staff:

Pedro Marques Executive Director Tana Nulph Associate Director Ben LaPorte Program Manager Chet Robertson Range Rider Johnathan Costa Wildlife Program Tech.

Big Hole River Fdn.

Member Spotlight: Mark Kambich, Rancher

Getting to Know our Members

Our "Member Spotlight" features key board members, partners, and supporters of the BHWC and highlights their commitment to conservation and the Big Hole watershed. This edition features Mark Kambich, long-time member of BHWC and rancher in Divide.

1. How long have you been a member of, or participating with, the BHWC? "I've been involved with it for about 24.5 years. I came on either 6 or 9 months after they initially got it going. Billy Garrison helped to get BHWC going and then decided he had too many irons in the fire and asked me to take his place."

2. Why did you join BHWC and what is your role with the committee? "The reason I joined was, at the time, it was getting pretty critical on what



was happening in the river. With fish kills, nobody getting along, my biggest fear was something was going to happen, legislatively, that nobody would like. So that was really



the reason I got involved. And then, I guess to up that a little bit, if you don't get involved, you really don't have a say in a lot of things."

"If you don't get involved—you really don't have a say in a lot of things."

3. What work of BHWC do you find the most important and/or of greatest interest to you? "I think the number one and top priority – and granted this has more to do with the upper Big Hole – is being able to keep the darn grayling off the ESA. They've tried to list it 3 times now and there's been a lot of work to prevent the listing, but they're going to keep trying. I'd have to say that's the number one priority, but also getting to know the different people in our community better. I never used to talk to others in the group (like

sportsmen) – I knew them, but we never TALKED – and being able to get their viewpoints helps a lot to understand stuff too."

4. What do you like most about the Big Hole watershed? "I would have to say the openness that we still have. You've got your ranching communities all the ways from one end clean to the other. It's a basin that hasn't been ruined yet."

Photos by Hanna Kambich, Mark's daughter.



2020

10 Things We Learned

- 1. **Life** is precious. We knew this, but the year's events have certainly reminded us.
- 2. We are so fortunate to live & work in **Montana**!
- On that note, things could always be worse.
- We can live on limited amounts of toilet paper, as long as the WiFi still works!
- 5. Zoom. Enough said.
- 6. We took a lot **for** granted before 2020.
- 7. Family first.
- Our health is a gift that goes unnoticed until it's gone.
- 9. We miss connecting with our **friends & neighbors** deeply.
- We can't wait to see you all again inperson. Here's to 2021!

Ch-Ch-Ch-Changes

Learning to Live & Work in a Virtual World

This year has brought about changes we never could have foreseen. After the initial state restrictions due to COVID-19, we cancelled our May-June monthly meetings. Then in August, we transitioned our monthly meetings to a virtual format using Zoom.

It's not the same. We're missing out on so much personal connection with our friends and neighbors. We're sitting through countless virtual interactions, eagerly looking forward to a time when we can meet once again at the Divide Grange and share coffee, cookies, and conversation with you. But we are adaptable, and we're still restoring streams & floodplains, composting livestock carcasses, monitoring wolves & bears, and investing in our watershed. Every day.

We encourage you to join us via Zoom for our upcoming monthly meetings. Meeting dates and Zoom instructions can be found on our website, <u>bhwc.org</u>. Need help getting set up with Zoom? Get in touch. You can also call-in to the meetings.



Summer beauty in the Upper Big Hole watershed. Photo by Kara Maplethorpe.

Watch our Films on YouTube



http://ow.ly/ T1ID50zN0Ar

or search "Big Hole Watershed Committee"

Hot Off the Press

BHWC Efforts Recognized Near and Far

BHWC was honored to be featured in several publications this year, all of which are available on our website, <u>bhwc.org</u>. They included:

- Montana Beaver Working Group newsletter
- Big Hole Breezes; monthly articles by BHWC staff
- Dillon Tribune: Big Hole cooperative averts grayling listing AND
 - Watershed committee works to improve Big Hole region
- Society for Ecological Restoration: Members in Action
- Mtn. Journal: Composting Carcasses In Cattle Country Keeps Livestock & Predators Alive
- Montana Outdoors: Give a Big Hand for the Big Hole
- BLM: Butte FO Collaborates to Convert Rootwads to Fish Habitat

Activities & Events

Many Hands Make Light Work

Engaging Others in a Time of Disconnect

Despite the challenges of COVID-19, we've still been finding opportunities to engage volunteers, students, partner organizations, and other interested parties in on-the-ground conservation efforts in the Big Hole watershed.

Engaging Students: On September 12th, graduate students from a University of Montana class on restoration spent their Saturday volunteering to build beaver dam analog structures on the west fork of California Creek. We were thrilled to put the students to work and honored to be a part of molding the next generation of conservationists!

Thank you to Professor Dan Spencer and everyone who participated.



BHWC staff & volunteers enjoy a cold refreshment after a day of pulling fencing at CA Creek.

University of Montana Western students also joined BHWC for several of our monthly public meetings in 2020.

Volunteers: A different set of natural resource champions answered the call to help us remove fencing from California Creek on September 17th. Nine people attended the fence-pulling day, and we removed an impressive amount

of plastic and metal fencing from the landscape, much of which was given away to Big Hole residents.

In 2015, dozens of beaver dam analogs were built and several thousand trees & shrubs were planted and temporarily fenced to protect them from browse by elk, deer, and moose while they became established. Five years later, the site looks great, the plants are thriving, and the fencing is



University of Montana graduate students help build beaver dam analog structures at West Fork California Creek.



BHWC & partners have installed >120 beaver dam analogs on E. Fork Divide Creek since 2019.

now gone!

Thank you to Vanna Boccadori, Zach Nulph, Les Castren, Olivia Regnier, Larry Lynam, and Mike Wilkinson for your help! California Creek project partners included Montana DEQ, MFWP, NRDP, and Watershed Consulting.

Partners: In mid-October, we finished the second phase of our East Fork Divide Creek project, just beating the snow! BHWC and partners installed 55 beaver dam analogs on a section of East Fork Divide Creek that crosses private land. Project partners included MWCC, NRCS, Watershed Consulting, and landowners. One volunteer also participated.

Thank you to volunteer, Gabriella Poupart, and partners.

Join the Momentum

Get Involved with BHWC Today

When you donate to the Big Hole Watershed Committee, you can be confident that your money will support critical, on-the-ground restoration efforts in the Big Hole watershed. For 25 years, we have been working to maintain, enhance, protect, and inform the Big Hole watershed and its communities, and we're proud of our results. YOUR results.

YOU — our donors, stakeholders, friends, and supporters — make what we do possible! You keep us updated on community events, alert us to projects that fit our mission, and provide the valuable capital we need to get the work done. Your diverse and informed perspectives keep our work relevant and insures we meet local needs with local solutions. Your support ensures four Big Hole River stream gages continue to deliver real-time streamflow and temperature data.

Sure, we get grants. And grants are great. We need grants. But you know what we need even more?

COMMUNITY BUY-IN PARTICIPATION NON-FEDERAL MATCHING CONTRIBUTIONS FEEDBACK LANDOWNER SUPPORT FLEXIBLE FUNDING (DONATIONS)

Even a small donation can make a measurable impact on the watershed and river we all love.



Third generation beaver mimicry structures have widened California Creek's wetted perimeter 5x.

Can't donate right now? That's ok, there are other ways to get involved that are just as important! Sign up for our newsletter at <u>bhwc.org</u>, follow us on social media, join our Zoom meetings, give us a call if there's something you want to chat about, just be engaged. We need you now more than ever.



Lower French Creek, pre– and postconstruction. By constructing 4,000 feet of new stream channel away from an erosive terrace, BHWC & partners removed >800 tons of sediment from the system.



BHWC glues together restoration dollars & partners with engineers & contractors to restore our water resources to their full potential for the benefit of all users.

Your contributions are tax deductible and can be targeted to any of our work areas. Donate online today at <u>bhwc.org</u> or by mail using the envelope provided.

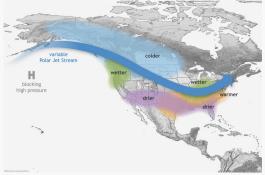
Building Drought Resilience in the Big Hole Watershed Fall/Winter 2020 Snowpack & Climate Forecast

From Matt Norberg, Montana Department of Natural Resources and Conservation

Streamflow. Return to seasonal fall temperatures coupled with seasonal precipitation events have brought streamflows back to normal conditions (or slightly above) in the past weeks. Recent and forecasted precipitation across the watershed provides much needed soil moisture as we transition into the winter months.

Snowpack: WY 2021 officially started October 1, 2020. It is still very early, but the higher elevations have already received some snow and we are off to a good start. Additional rounds of winter storms are forecasted, which should boost snowpack in the high elevations as well as contribute to soil moisture in the mid elevations and valleys.

Forecast: La Niña conditions are present and are likely to continue through the Northern Hemisphere winter (~85% chance) and persist into the spring months.



What does this mean for Montana and the Big Hole specifically?

"Generally,", La Nina winters in the southern tier of the US tend to be warmer and drier, while the norther tier and Canada tend to be colder. These events tend to reach their maximum strength during October-February.

Big Hole River Streamflow: Conservation Connection

From Matt Norberg, Montana DNRC

The Big Hole Watershed is a snowmelt/precipitation driven basin which typically experiences an early season low/mid elevation runoff (April-May) and then a high elevation snowpack derived peak typically occurring in the beginning to middle of June. Post runoff streamflow conditions are highly dependent on remaining snowpack, precipitation, air temperatures, and water use such as irrigation diversions, stock, and municipal/domestic uses.

Conservation efforts across the watershed include a variety of projects, such as stream restoration projects, improved irrigation infrastructure, beaver dam analogs, and the Upper Big Hole Arctic Grayling CCAA. These conservation efforts are particularly evident as the season progresses. Conservation projects can help increase stream flows/habitat due to water storage, bank stabilization, thermal refugia, and irrigation efficiencies. Streamflow data from the Wisdom Bridge (USGS-06024450) indicate a slight upward trend between late season flows and conservation efforts, particularly during drier years, and data from the Glen Bridge (06026210) indicate late season flows holding steady. By comparing these drier years (Fig. 1 and 2) the effects of these conservation projects throughout the watershed starts to become apparent.

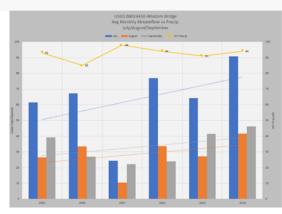


Figure 1. USGS 06024450 Monthly Mean Flow vs WY Precipitation

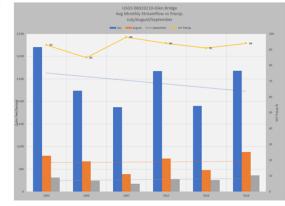


Figure 2. USGS 06026210 Monthly Mean Flow vs WY Precipitation

Building Drought Resilience in the Big Hole Watershed

"Gaging" Montana's Interest in Stream Data

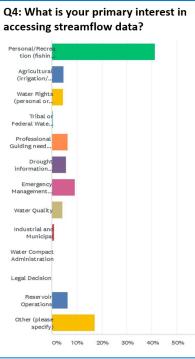
Stream Gage Stakeholders Survey Yields Results

In 2020, BHWC helped the Montana Stream Gage Working Group design and release a survey to assess Montanan's usage, knowledge, and need of stream gage data. 575 people responded to the survey, showing a range of different

man Mark Mark Market			
May 2020 June 2020 July 2020 August 2020	September 202	10	
Aost viewed gaging stations			
Page Title	Pageviews	Unique Pageviews	
USGS Current Conditions for USGS 06025500 Big Hole River near Melrose MT	52,246	43,806	
USGS Current Conditions for USGS 06077200 Smith River bl Eagle Cr nr Fort Lo gan MT	38,727	32,192	
USGS Current Conditions for USGS 06192500 Yellowstone River near Livingston, MT	35,441	31,071	
USGS Current Conditions for USGS 06066500 Missouri River bl Holter Dam nr W olf Cr MT	21,959	18,635	
USGS Current Conditions for USGS 06024540 Big Hole River bl Mudd Cr nr Wisd om MT	19,009	16,581	
USGS Current Conditions for USGS 06026210 Big Hole River near Glen MT	18,337	16,544	
USGS Current Conditions for USGS 06073500 Dearborn River near Craig MT	17,702	12,735	
USGS Current Conditions for USGS 12354500 Clark Fork at St. Regis MT	17,403	15,760	
USGS Current Conditions for USGS 12358500 M F Flathead River near West Gla cler MT	17.104	15.013	

This summer the Big Hole's stream gages were among the most visited of the USGS's Montana stream gage web pages. uses for this gage data. While most respondents accurately guessed at the cost of installing a gage, the majority of respondents (~63%) underestimated the cost of maintaining the gages (\$11,810-18,360 annually).

Montana's Stream Gage Working Group was founded in 2019 as a result of SB32, a bill passed in the 2019 legislative session after extensive research and coordination by BHWC's previous Director, Jen Downing, who recognized the fragile state of funding for Montana's gage network. BHWC has partnered with USGS



and the State for over 10 years to pay the costs of Big Hole stream gages and lis working alongside this group to secure reliable state funding for this critical infrastructure.

It Could Have Been Worse

2020 Drought Season Recap

All things considered, 2020 could have been worse, at least in terms of drought. CCAA staff worked with irrigators to maintain flows as much as possible in Big Hole River Sections I and II. BHWC Associate Director, Tana Nulph, watched gages closely and sent out regular email updates with summaries of river conditions and fishing restrictions. Hoot Owl Restrictions on Sections II, IV, and V made things difficult for outfitters and guides in August, but Section III remained open throughout the summer. Section I was closed due to low flows for 20 days.

You can always view current river conditions, access the <u>Big Hole River Drought Management Plan</u>, or learn more about our efforts to build drought resilience in the Big Hole watershed by visiting our website, <u>bhwc.org</u>. The Big Hole River Drought Subcommittee will meet this fall to review the 2020 season and plan for 2021.

Section	Flow-based Fishing Restrictions	Temp-based Fishing Restrictions
Section I: Saginaw Bridge on Skinner Meadows Rd. to N. Fork BHR mouth	Full Fishing Closure 9/15 to 10/5 (20 days)	
Section II: North Fork Big Hole River confluence to Dickie Bridge		Hoot Owl Restrictions 8/6 to 8/27 (21 days)
Section III: Dickie Bridge to MFWP Maiden Rock FAS		
Section IV: MFWP Maiden Rock FAS to Notch Bottom FAS		Hoot Owl Restrictions 8/6 to 8/27 (21 days)
Section V: Notch Bottom FAS to confluence with Jefferson River		Hoot Owl Restrictions 8/6 to 8/27 (21 days)

Fish & Water

Fixing the Faults of our Forebears

Restoration Continues in the Mount Haggin Uplands

Mount Haggin is a State-owned Wildlife Management Area in the Deep Creek drainage, located along Mill Creek Road in between Wise River and Anaconda. The first gold strike in the Big Hole occurred in this area in 1864 and as a result, the area was extensively placer-mined. Logging to feed the Anaconda Smelter left hillsides bare, and emissions from the smelter killed broadleaf plants. Mining and smelting activities continued for nearly a century, until 1980. Thousands of tons of sediment have since eroded from the hillsides into the creeks below, leaving the entire drainage with impaired water guality. BHWC and partners (MFWP, NRDP, Watershed Consulting, and Pioneer Technical Services) have been working over the past six years to repair the damage done, improve water quality, and enhance native fisheries in the Mount Haggin uplands.

Recent projects have included:



A spreader dike constructed by BHWC & partners to store water on the Mt. Haggin WMA landscape.

Muddy Gulch: There are few things more satisfying than watching water flow-for the first time-through a

Ben LaPorte, BHWC Program Manager, watches water flow through a new

stream channel for the first time.

newly constructed stream channel in a freshly restored riparian area. This project restored an abandoned beaver dam that blew out in 2013. The failed dam left behind seven feet of sediment build-up and a deeply incised channel. BHWC and partners dug out the sediment and rebuilt the stream through a new, wider floodplain. This stretch of stream will now be able to access its floodplain and deposit sediments during spring runoff!

Spreader Dikes: BHWC and partners built three spreader dikes (pictured left) and one check dam to store water naturally on the Mount Haggin landscape. Spreader dikes are essentially large, more robust beaver dam

structures designed to catch eroding sediment from the hillsides above and slow, spread, and store water while also enhancing riparian vegetation and habitat conditions. In addition, these structures will catch and store sediments contaminated by historic smelter emissions, preventing them from entering Big Hole River tributaries.

Telling Knapweed to "Bug Off"

Controlling Knapweed with Insects

Knapweed Root Weevils (Cyphocleonus achates), pictured right, are biocontrol agents that target Spotted Knapweed. They lay their eggs on the plants and when hatched, the larvae destroy knapweed's vascular root tissue, preventing the plant from absorbing and transporting water and nutrients. The plant eventually dies. These weevils can be very useful in reducing weed densities!

Over the summer, BHWC worked with MFWP, Watershed Consulting, and the Beaverhead-Deer Lodge National Forest to map weed infestations, collect weevils, and release them strategically throughout ~5,000 acres of the Mount Haggin & Fleecer WMAs and portions of adjacent USFS land.



Knapweed Root Weevils (Cyphocleonus achates)

Fish & Water

Counting Fish at Coolidge

Gathering Baseline Data at Elkhorn Mine

In September, BHWC Program Manager, Ben LaPorte, helped Jim Olsen, MFWP Fisheries Biologist, electroshock and count fish in Elkhorn Creek. The goal was to establish a baseline population estimate. Results are in: mostly Westslope Cutthroat trout with a few brook trout. Not surprisingly, the heavily contaminated portion of the creek had very few fish present. BHWC is currently seeking funding and making plans to restore this section of stream, which is impaired as a result of historic gold mining.

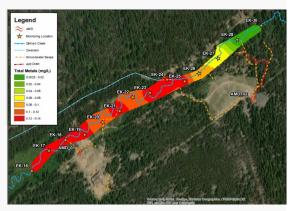


This adit, or horizontal mine shaft, at the historic Elkhorn Mine contributes bright orange, metals-laden contamination to Elkhorn Creek & the surrounding area.

Water quality sampling on Elkhorn Creek has been completed, and the data collected will help us proceed with the next steps of this project. With a preliminary water quality study and baseline document in hand, BHWC will be working with the USFS to plan and fund a remedy for this chronic water quality issue. Project partners include the Beaverhead-Deer Lodge National Forest, Beaverhead CD, and Montana DNRC.



MFWP's Jim Olsen electroshocks fish in Elkhorn Creek to determine a baseline population estimate.



Watershed Consulting provided a hydrologic & metals-loading summary report for the stream area immediately below the old mine works & waste rock dump.

Opening Stream Miles to Native Fish

Planning our Next Restoration Project

Next up on our radar: restoring passage to native fish in upper French Gulch! Historic placer mining effectively cut off the upper 1.7 miles of stream, preventing fish from accessing cooler upstream reaches late in the season. To address this issue, BHWC and partners will replace the existing cascade with a sinuous, step-pool system. We will also restore two eroding streambanks downstream of the cascade.

Project partners to include, but not limited to, MFWP and Deer Lodge Valley CD. In 2020, BHWC and Morrison-Maierle, Inc. produced an Alternatives Analysis document that BHWC then used to draft a substantial proposal to the DNRC to fund this project.



Created by historic placer mining, this 30' cascade prevents fish from accessing upper French Gulch.

Wildlife & Uplands

Beavers in the Big Hole

Living and Learning with Beavers

Beavers are a staple of the west. A native species that was nearly eradicated by the fur trade in the 1800s, beavers are nature's engineers. But did you know that beavers also provide measurable benefits to the ecosystems they inhabit? Beaver dams raise the water table, inundating wetlands and providing food and habitat for invertebrates, fish, mammals, reptiles, amphibians, and birds.

At BHWC, we are employing lessons learned from beavers in our stream restoration and natural water storage projects while also using innovative, non-lethal techniques to help landowners live with beavers. This year, we've formed new partnerships and supported two beaver conflict reduction projects:

Sugar Loaf Lodge: A culvert had been continually plugged by a beaver over the years, causing water to flood the road and making havoc for county road crews, who had to repeatedly unclog the dammed culvert. BHWC partnered with the Clark Fork Coalition, Defenders of Wildlife, National Wildlife Federation, Anaconda-Deer Lodge County, and Sugar Loaf Lodge property owners on October 5th to build a beaver culvert fence to prevent beavers from plugging the culvert.

Mule Ranch: On October 9th, BHWC staff joined the Clark Fork Coalition, the National Wildlife Federation, and Montana Fish, Wildlife and Parks (the landowner) at the historic Mule Ranch to build a culvert fence to manage beaver activity. The new structure replaced a vertical culvert that was in-place to prevent beavers building in the culvert, but didn't allow enough streamflow.



Ben LaPorte, BHWC Program Manager & Elissa Chott, Beaver Conflict Resolution Field Tech., Clark Fork Coalition, installing a beaver culvert fence at the Mule Ranch.

"The greatest significance of projects like these is being able to find a feasible solution to a problem by working with mother nature rather than against her. Taking a more holistic approach to the perceived problem benefits both the beavers and human needs. Keeping these amazing critters on the landscape is important, so finding common ground is crucial." - Ben LaPorte, BHWC Program Manager



BHWC is also using beaver mimicry techniques to store water naturally and help restore floodplain health in several project areas. We recently released two short films about this work: *Holding Back the Snowpack* and *Beaver Mimicry in Action*. Both films can be viewed on our YouTube channel. By learning from beavers, helping them share the landscape with humans, and using their methods, BHWC is enhancing watershed health , helping wild-life thrive, and providing a valuable service to landowners.

Having problems with beavers in the Big Hole watershed? Contact us at info@bhwc.org or 303-808-5611.

Wildlife & Uplands

Learning to Share the Landscape with Wolves and Bears

BHWC Wildlife Programs Model Collaboration

BHWC's wildlife conflict reduction programs provide a key example of collaborative conservation. In 2020, a local rancher provided the use of his loader (again, like he does every year) for use at our livestock carcass compost site. Wood chips and hay were donated to aid the composting process. The Red Rock Lakes National Wildlife Refuge provided the use of



BHWC's Range Rider program's new game cameras captured photos of several wolves this summer.

their dump truck for carcass removal services, AND they paid for fuel!

The Upper Big Hole Range Rider program operated for its 11th year in 2020, and our carcass removal & composting program processed 53 livestock carcasses from 9 ranchers in its 4th year. BHWC



BHWC uses this dump truck, on loan from Rock Rock Lakes NWR, to remove carcasses from local ranches during spring calving.

composts dead livestock to reduce conflict between wildlife and livestock in the Big Hole Watershed by removing predator attractant from local ranches. BHWC's range rider patrols grazing allotments during summer months, monitoring predator activity and livestock condition.

New in 2020, we now offer loaner toolkits to ranchers and residents that

include scare devices, temporary electric fencing, bear-resistant garbage cans and food canisters, bear spray, resource guides, and more. In addition, we've expanded our program to address human conflict with beavers (see pg. 10), purchased new game cameras for our range rider program, and published several wildlife-related articles in the *Big Hole Breezes*. Wildlife program partners in 2020 included Red Rock Lakes NWR, Centennial Valley Association, MDT, NFWF, Heart of the Rockies Initiative, People & Carnivores, Livestock Loss Board, Vital Ground Foundation, and local ranchers.

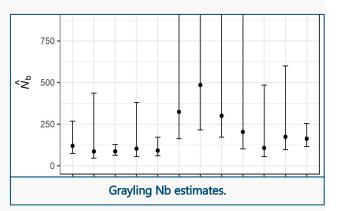
Our Catalyst, Our Icon

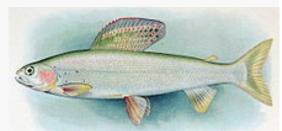
An Update on Arctic Grayling

BHWC spoke with Ryan Kreiner, Native Species Biologist with Montana Fish, Wildlife and Parks (MFWP), about the current status of the Big Hole's iconic fish, the Arctic grayling. In late September, MFWP collected 120 fin clips from age-0 grayling distributed from multiple known spawning and rearing areas in the Big Hole. The genetics can then predict how many adults produced that cohort of grayling (Nb- Effective number of breeders). The trend in Nb is what MFWP now uses to gauge

population numbers in the Big Hole watershed. According to Ryan, that number has been trending upwards significantly over the past few years. Samples from 2020 have been submitted to the genetics lab, and BHWC will share the results when they are released.

In July 2020, the USFWS found it not warranted to list the Arctic grayling under the Endangered Species Act due to the best scientific information available, including these Nb estimates from Montana FWP.





Big Hole Watershed Committee P.O. Box 21 Divide, MT 59727

Return Service Requested

FALL 2020 NEWSLETTER





Big Hole Watershed Committee P.O. Box 21 Divide, Montana 59727 Phone: 406-960-4855 E-mail: info@bhwc.org

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Visit bhwc.org to learn more & donate online.

Conservation Through Consensus Since 1995

Mission: To seek understanding and agreement among individuals and groups with diverse viewpoints on water use and management in the Big Hole River watershed of Southwest Montana.

Established in 1995, the Big Hole Watershed Committee (BHWC) is a collaborative organization representing diverse regional interests, including ranchers, sportsmen, conservationists, tourists, and community members. For two decades, BHWC has taken a leadership role in enhancing the vitality of the Big Hole River, the surrounding watershed and communities, and the diverse and rare wildlife that inhabit the Big Hole Valley. The Big Hole River is the lifeblood for the surrounding area's natural and agricultural legacies, and the foundation for the region's economy. By proactively working to conserve this precious resource, BHWC is enriching one of Montana's last, best places for local residents and visitors from around the world.

BHWC is a consensus-driven, multi-stakeholder entity that works closely with other conservation organizations as well as local, State, and Federal agencies on water-shed restoration and management plans.

The Big Hole Watershed Committee is a non-profit, tax-exempt charitable organization under Section 501(c)3 of the Internal Revenue Code. Donations are tax deductible as allowable by law. *Our tax identification number is 11-3737644*.