



Big Hole Watershed Committee

Monthly Meeting Minutes

August 16, 2023 – 7:00 pm at the Divide Grange

Zoom option also provided

In Attendance

In-person: Pedro Marques, BHWC; Tana Nulph, BHWC; Ben LaPorte, BHWC; Tom Bowler, Resident; Betty Bowler; Charlie Ivor, Elkhorn Ranch; Jenna Dohman, MBMG; Jim Hagenbarth, Rancher/BHWC; Craig Fellin, Big Hole Lodge; Ginette Abdo, MBMG; Steve Luebeck, Sportsman/BHWC; Mike Gurnett; Jeff Wolk; Chris Edgington, Montana Trout Unlimited; Diane Hutton, Resident/BHWC; Cass Kohler, MFWP; Katelin Killoy, MFWP; Kayla Kirkpatrick, Rancher; Cyrena Kirkpatrick, Rancher; Kaitlin Boren, DNRC; Zach Owen, Beaverhead Watershed Committee; Mary Sutherland, MBMG; Jacob Smith, Rancher; Ed Scott, Rancher; JM Peck, Rancher; Roy Morris, GGTU/BHWC; Sean Lewis, NRCS; Jaime Trivette, USFS; and Randy Smith, Rancher/BHWC.

Zoom: Jack Curren; “salmo”.

Meeting Minutes

BHWC monthly meetings are held at the Divide Grange with a virtual (Zoom) option provided thanks to Southern Montana Telephone Company, who donated the internet service. Meeting minutes and recordings are available at <https://bhwc.org/monthly-meetings/> (scroll down for meeting minutes archive). Printed copies are available during in-person meetings. Contact Tana Nulph, BHWC Associate Director, at tnulph@bhwc.org or (406) 267-3421 to suggest additions or corrections.

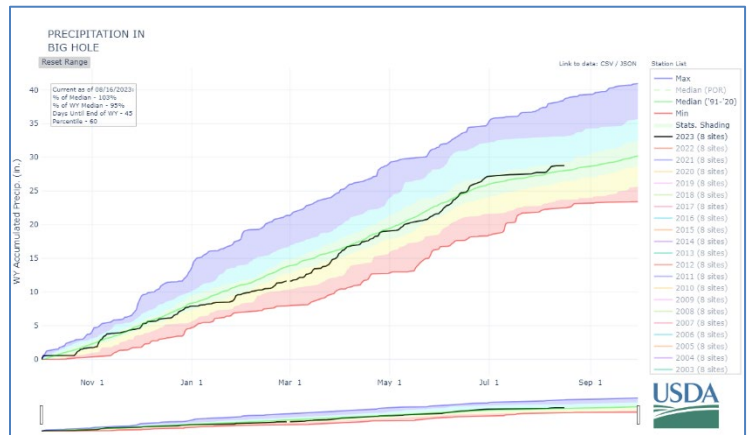
Reports

Streamflow and Snowpack Report – Kaitlin Boren, Department of Natural Resources and Conservation

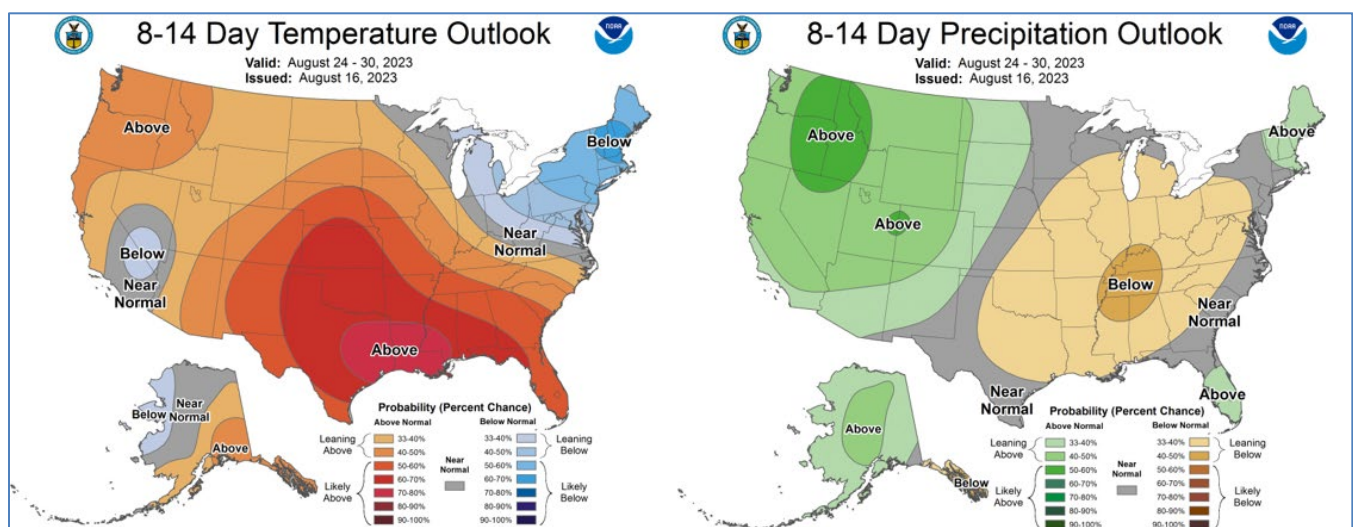
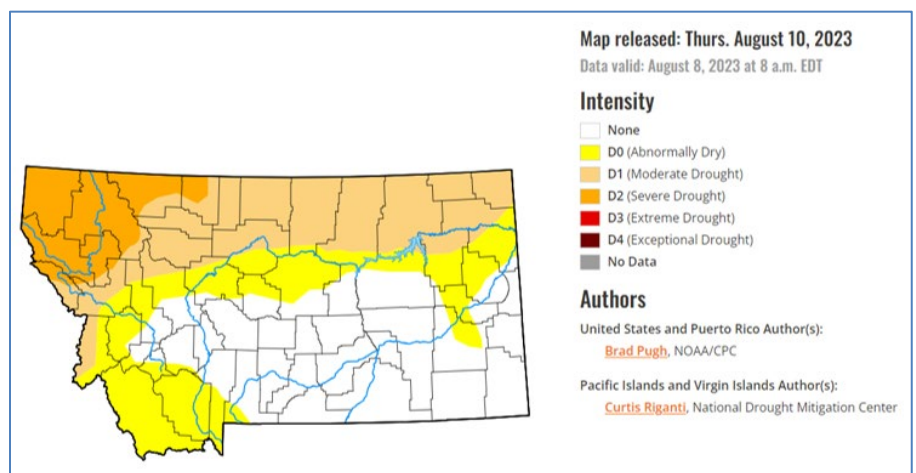
- *Streamflows:* Streamflows in the Big Hole River watershed are above average for this time of year. The precipitation boost received around August 4th increased water levels immensely, but it is now trending downwards. Without further precipitation, flows will decrease towards base levels. There is currently an increase in biologic instream growth due to the increases in water temperature typical for the end of summer on the river.

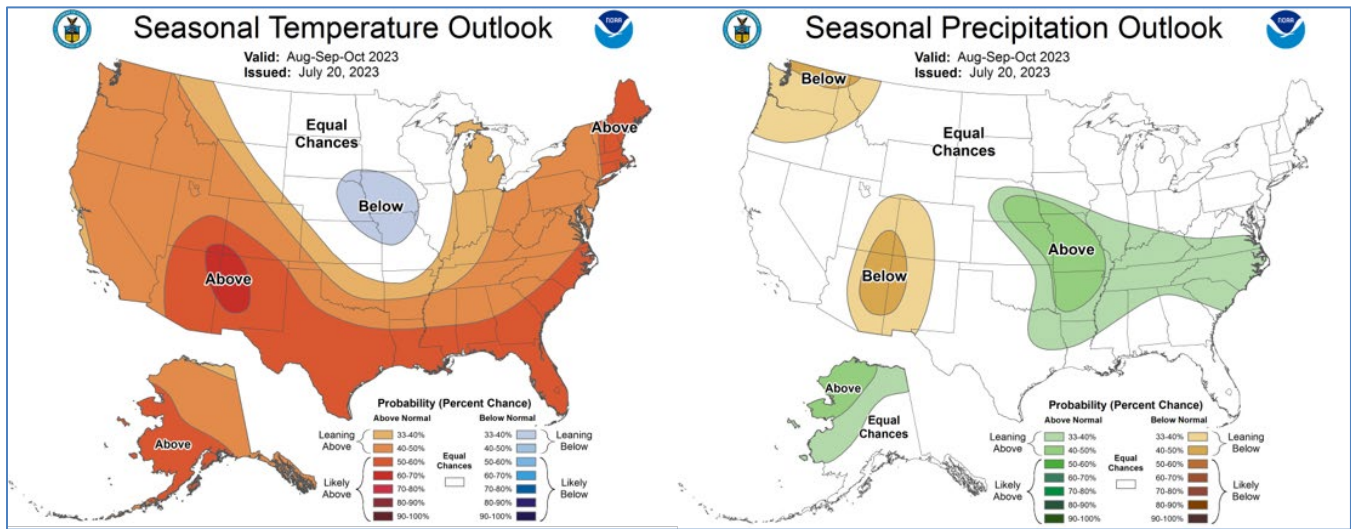
Station Number	Station name	Date/Time	Gage height, feet	Dis-charge, ft ³ /s	Long-term median flow 8/16	Temperature, water, deg C
■ UPPER MISSOURI RIVER BASIN						
06024450	Big Hole River bl Big Lake Cr at Wisdom MT	08/16 14:45 MDT	1.83	26.4	26.0	--
		08/16 13:45 MDT	--	--	---	20.3
06024540	Big Hole River bl Mudd Cr nr Wisdom MT	08/16 16:30 MDT	2.65	184	101	--
06024580	Big Hole River near Wise River MT	08/16 16:45 MDT	--	--	---	Eqd
06025250	Big Hole River at Maiden Rock nr Divide MT	08/16 16:45 MDT	2.94	386	330	21.1
06025500	Big Hole River near Melrose MT	08/16 16:15 MDT	1.42	329	373	21.8
06026210	Big Hole River near Glen MT	08/16 16:30 MDT	2.11	204	267	23.5
06026420	Big Hole R bl Hamilton Ditch nr Twin Bridges, MT	08/16 16:30 MDT	0.660	129	148	23.5
41D 01000	Big Hole River abv Jackson, MT	Upper Missouri Basin	8/16/2023, 3:45 PM	21.51	1.06	19.71
41D 02000	Big Hole River abv Spring Cr nr Jackson, MT	Upper Missouri Basin	8/16/2023, 3:45 PM	16.73	1.48	21.17
41D 05000	Big Hole River at Miner Creek nr Jackson, MT	Upper Missouri Basin	8/16/2023, 3:45 PM	50.88	0.99	22.13
41D 08000	Big Hole River near Wise River, MT	Upper Missouri Basin	8/16/2023, 3:45 PM	163.23	2.64	20.51

- **Precipitation:** Precipitation in the Big Hole is currently 103% of median values and 99% of the total Water Year. The Water Year ends on September 30th. However, with the exception of the large storms at the beginning of August, July through the beginning of August has been dry which is directly correlated to the steady decline in streamflows. Timing and intensity of precipitation has a direct impact on soil and streamflow conditions.



- **Drought Status:** The Big Hole drought status ranges from NONE to D0 (abnormally dry), with the majority of the watershed in no drought status. The Big Hole Watershed made tremendous improvements this spring and early summer due to late season improved snowpack, cooler temperatures, and rainfall. Hot and dry conditions for the last month have dried out soils, range, and forest conditions and without precipitation we could easily slip back into advanced drought conditions.
- **Outlook:** The 8-14 day outlook predicts above average temperatures and above average precipitation.
- **Seasonal Outlook:** The three-month outlook is equal chances of normal temperatures, and equal chances of above or below average precipitation.
 - **ENSO Alert System Status (from NOAA):** El Nino Advisory
 - **Synopsis:** El Niño is anticipated to continue through the Northern Hemisphere winter (with greater than 95% chance through December 2023 -February 2024).





Director's Report – Pedro Marques, Executive Director

- Drought Management
 - Emergency measures adopted: Section III will be closed when/if Section IV reached closure trigger of 150 cfs (to prevent angling pressure from concentrating on Section III).
 - Updated DMP here: https://bhwc.org/montana/uploads/2023/08/DMP-2023_Final-1.pdf
 - Quick Reference: <https://bhwc.org/montana/uploads/2023/08/DMP-2023-Quick-Reference-1.pdf>
- Governor's visit
 - Science for the fish
 - Storage of all kinds (BHWC proposal)
 - Vegetation management
- USFS Leadership Team Meeting at Elkhorn, August 17th (cancelled)
- Wise River flows
 - FWP and DNRC continue monitoring
 - Potential projects identified
- Wise River Irrigation Infrastructure
 - Survey this month
- Future Fisheries project monitoring



Steering Committee Report – Jim Hagenbarth, Vice-Chair; Roy Morris, Secretary; and Randy Smith, Chairman

- The steering committee met recently. They are happy with the work BHWC is doing.

Communications and Wildlife Report – Tana Nulph, Associate Director

- Outreach and communications
 - Wildlife Speaker Series
 - June 14
 - Melrose Bar
 - Macroinvertebrates
 - Clark Fork Watershed Education Program

EVERY DROP COUNTS

Our restoration and conservation projects hold back snowpack and make the water last longer

Add a drop to the
Big Hole Conservation Fund!

- 20 people attended
 - Montana Folk Festival – BHWC worked water filling station/hosted table about BHWC
 - July 14-16
 - 31 new email subscribers
 - Pedro/Tana – panel presentations on stream access and public wildand conservation
 - Promoted conservation fund
 - Drought
 - Weekly drought updates via text message
 - To sign up, text DROUGHT to 26989
 - Upcoming monthly meetings
 - September 20 – Sage Grouse
 - October 18 – Wildlife
 - November 15 – Deep Aquifer Pumping (MBMG)



- Wildlife
 - Carass removal
 - May 2023 (shortened season due to dump truck being snowed in at Red Rock Lakes NWR)
 - 21 carcasses
 - 5 participants
 - Range Rider
 - July 1 – September 30
 - Wolf activity
 - No confirmed depredations so far
 - Proposals
 - Livestock Loss Board - \$15,000 (secured)
 - Submitted LOS for ATBC, RCCP proposals
 - Heart of the Rockies Initiative



Restoration Report – Ben LaPorte, Program Manager

- Smith Sage Springs Restoration Project
 - Pictured, right
 - Finalized DEQ Monitoring Plan
 - Additional fundraising-Trout and Salmon Foundation
 - August 23 start date!
 - Project outreach film



- Trail Creek Conifer Encroachment and Riparian Enhancement
 - 507 acres of conifer removal
 - Future stream enhancements
- Browns Gulch
 - YEP, Wisconsin Church Group and WRFI



- Upper Oregon Creek/Anaconda Uplands
 - Monitoring
 - Pictured, below



BEFORE



AFTER

- Other Happenings:
 - Elkhorn Repository Investigation
 - Cultural Inventory complete
 - Watershed Consulting Hitch (AU Uplands)
 - Project Scoping and future planning

New Business

- Mike Gurnett (comments):
 - Mike came from Helena to join BHWC to “... say thank you to the irrigators and the ranchers on the Big Hole River and the Big Hole Watershed and encourage all of you to continue working together ... This is a community that hinges on that water, and and it's being shared, has been shared with us in the past, and we really appreciate it.”
 - Mike is a fisherman and retired employee of Montana Fish, Wildlife and Parks. He worked for 37 years in information and education for MFWP.
 - Mike typically fishes the Big Hole each year with retired Big Hole fisheries biologists/fisheries managers, Ron Marcoux and Jerry Wells. But this year, in light of the articles about the trout decline in the Montana Standard, they decided not to fish the Big Hole until it is known what is wrong with the river and the river has turned the corner and started to recover from the current conditions.
 - Mike, Ron, and Jerry consider the Big Hole the “gold standard” of rivers because of the fishery, the landscape the river runs through, the diversity of landscape, and also the culture of the people here, the tradition, the values, and the history.
 - They wanted to do something to make a difference since they have so much institutional knowledge about the Big Hole and a lot of data, so they got together with Jim Olsen and Dick Oswald (another former MFWP fisheries biologist/manager), and Jim went over the material that he presented to BHWC at our June monthly meeting.
 - Mike, Ron, and Jerry then drafted a letter (attached) to MFWP with some recommendations, and subsequently met with MFWP Director Dustin Temple and Quentin Kujala, Chief of Conservation Policy. Also spoke with Montana Trout Limited. Jerry contacted existing and former biologists that worked on the Headwaters Rivers and tried to just get those people engaged in what was happening here.
 - Ron and Mike attended Governor’s roundtable at Wise River and were especially impressed by what they heard from Jim Hagenbarth, Mr. Stanchfield, and Bill Garrison.
 - What they plan to do to hopefully make a difference in the future is to encourage people to share information and to to work collaboratively. They're going to try to direct the conversations they have regarding the river to focus on agriculture with the message that it's not about what agriculture takes from the river but what agriculture leaves behind for the trout. To try to engage people in a positive way of looking at what it takes to grow grass and what it takes to keep this culture together.
 - The people who are ranching are also the people who are on the volunteer fire department, on search and rescue. They're on the school board. They are in the local churches. They're important to this community, and that's been overlooked.
- Beaverhead-Deerlodge National Forest seeking Resource Advisory Committee (RAC) members:
 - *See attachment*

Break – 10 minutes

Special Topic Presentation

- **Old Salt Co-Op Farm to Market Meats**
 - *Presented by: Cole Mannix, Old Salt Co-Op*

OLD SALT CO|OP

Introduction/Background Information

- Old Salt is 4 member ranches based in Helmville, Adel, Melville and Augusta, with more ranches and farms joining soon, as well as 24 Helena-based employees.
- Old Salt uses vertically-integrated livestock, meat processing, and hospitality enterprises to connect directly with customers:
 - Meat Company
 - Meat Processing
 - Old Salt Outpost
 - The Union by Old Salt
 - Old Salt Festival



The Why

- Less than 2% of meat consumed in Montana is from here.
- Livestock allow for the raising of nourishing human food in keeping with the ecological integrity of large landscapes. That is no small thing, and it's our passion.
- But like agriculture writ large, the meat industry has issues. Most customers and growers are so disconnected from each other, they hardly see the problems, let alone solutions. In Montana, now less than 2% of the meat eaten here was raised here. We need to reconnect.
- Every day, more people are getting behind Old Salt Co-op to do just that. We are building a regional, resilient economy for Montana meat raised with integrity. The land is kin and we aim to leave it better. We envision nourishing, enduring agriculture, wild and wide open habitat, and vibrant main streets.

What Makes Old Salt Different?

- Products
 - Quality beef, lamb and pork (eventually bison) from one brand
 - Specialty products like bone marrow butter and pâté
 - Top of the line packaging
- Process
 - All animals are born, raised and processed in Montana.
 - No growth hormones or sub-therapeutic antibiotics
 - Tracking of impact on soil, water and wildlife habitat health

- Company
 - Supplier-ranches and workers participate in ownership
 - Comprehensive quality control
 - Custom processing offered for other farms and ranches
 - Bridging agriculture and conservation

Success Metrics

- By 2028 Old Salt will sell directly (online or at wholly-owned retail locations) to at least 5,000 Montana families that each spend \$983/household/yr. on meat.
- Currently only about \$6 million of the \$428 million that is spent in Montana on beef, lamb, pork and eggs each year is from Montana. Old Salt will more than double that.
- Annual Sales are projected at \$15.7 million by 2028.
- 60 people employed by 2026.

Capitalization

- To date, the parent company, Old Salt Co-op, LLC has raised:
 - \$2.3 million in private capital, \$572,000 in grants
 - \$6,350,000 in debt from Steward Lending LLC and Great Falls Development Authority via USDA funding.
 - They aim to raise another \$750,000 by fall 2023 in Class C Preferred Interest.
- Non-voting Class C Preferred investors receive:
 - Principal back with 6% IRR (this “preferred return” is projected to be fully distributed by 2028); After receiving the preferred return, Class C continues to share in profit according to the following percentage: original principal invested divided by \$7,500,000 valuation.

Learn More

- Cole Mannix:
 - cole@oldsaltco-op.com
 - 406-544-7329
- www.oldsaltco-op.com

Upcoming Meetings

- September 20, 2023: **Sage Grouse Update (MFWP/USFWS)**
 - 7:00 pm at the Divide Grange/Zoom
- October 18, 2023: **Wildlife Update (MFWP)**
 - 7:00 pm at the Divide Grange/Zoom
- November 15, 2023: **Deep Aquifer Pumping (MBMG)**
 - 6:00* pm at the Divide Grange/Zoom
 - Please note the time change to 6 pm to account for the shorter winter days.

Adjourn

Quentin Kujala, Directors Office, Montana Fish Wildlife and Parks

In light of the recent significant decline in the wild trout populations of the Big Hole River, we are heartened to see the department's proactive proposals for research and management focused on the Big Hole. We have, in total, been fishery biologists, fish managers and writer/film maker for the Big Hole River for a half a century. We have also floated and fished the river extensively. In response to the department's request for ideas and suggestions, we offer the following recommendations and comments for your consideration. They are in the spirit of supporting the department's efforts going forward to gather the scientific information necessary to determine the cause(s) of the population declines and make management decisions based on that information.

1. Water is the crucial driver of the Big Hole River trout populations. We encourage the department to increase it's efforts to be pro-active in working with landowners/irrigators to identify and develop collaborative, practical options and seek other potential innovative approaches.
2. We support the ongoing background review of existing population data. There is an extensive data set on study sections of the river, some going back nearly 50 years.
3. We support the department's proposals to Montana State University for two graduate student projects to look at trout mortality in the Big Hole (study includes Ruby, Beaverhead and Madison Rivers) and natality of those populations.
4. We strongly encourage the department to close an existing study section of the Big Hole to fishing for up to 5 years and comparing the trout population over time with that of a similar existing study section of the river where fishing is allowed. We believe this approach would be the most direct way to investigate the impacts of fishing and environmental factors on the trout populations. It could complement and enable research that the department and Montana State University are developing by creating a control section of the river. There is a historical precedent of this approach. In 1977 in response to significant summer mortality of age III and older trout in the upper Madison River the department closed a section to fishing for 2 years and compared the populations in the closed Snoball (control)section with a nearby study section(Pine Butte) where fishing was allowed. The data collected on the closure was invaluable in management decisions on the upper Madison River.
5. We support closing the Divide reach of the river when adjacent reaches are closed to fishing because of temperature and/or flow triggers. This reach receives cool ground water input in the summer and likely becomes a refugia for trout seeking more and cooler water. Leaving this reach open to fishing increases impacts to a population that has already been significantly reduced.

6. We support developing a robust communication plan to emphasize wild trout management and updates on population changes, research parameters and results, and other department proposals and actions.
7. We support continuing the analysis of dead and dying fish by a qualified histopathologist.

We would also recommend a review of existing wild trout plans and developing a new, long-range plan for wild trout management for Montana.

We greatly appreciate the department viewing the Big Hole River trout population as a high priority. We look forward to new information being collected on the river and recognize that it will take time to get answers and results. Thank you for the opportunity to share our thoughts.

Ron Marcoux

Mike Gurnett

Dick Oswald

Jerry Wells(contact person- **salmotrutta70@gmail.com**)

Secure Rural Schools Tri-County and Southwest Montana Resource Advisory Committees Membership Interest

We'd like to invite you to participate in a unique and engaging opportunity to participate in the management of your national forests by serving on a local Resource Advisory Committee. Please share this outreach with your networks.

The Beaverhead-Deerlodge National Forest (BDNF) is actively seeking nominees to fill a total of 30 vacancies on each 15-member Resource Advisory Committee (RAC) chartered under the Secure Rural Schools & Community Self-Determination Act.

What a Resource Advisory Committee is:

Volunteer members of Resource Advisory Committees (RACs) are valuable assets in **recommending how funds received by counties under the [Secure Rural Schools Act](#) will be spent in their area on projects that are on, or will benefit, nearby National Forest lands.** Funds may be used for projects that improve the maintenance of existing infrastructure, implement stewardship objectives that enhance forest ecosystems, restore and improve land health, fish and wildlife habitat, and water quality. Examples of projects implemented with RAC recommendation include trail maintenance, bridge construction, watershed and habitat restoration, weed control, and re-establishment of native fish species.

By law, RACs must be comprised of a 15-member committee with balanced and broad representation of the public who have varied interests and life experience. Committee members must reside in Montana, preferably near Beaverhead-Deerlodge National Forest, and be representative of the interests of one of the following three categories:

Category A: organized labor, developed outdoor recreation, off-highway vehicle use, commercial recreation activities, energy development interests, the commercial timber industry, and Federal grazing or other land use permits.

Category B: nationally recognized environmental organizations, regionally or locally recognized environmental organizations, dispersed recreational activities, archaeological and historical interests.

Category C: state, county, or local elected offices, American Indian tribes, school officials or teachers, and the affected public-at-large.

RAC Member Duties and Commitment:

- Review proposed projects and make recommendations to the Forest Supervisor.
- Each member serves a four-year term.
- Participate in meetings an average of 1-2 times per year. Attendance may be in-person, by telephone, or virtual via computer.
- There is no compensation for RAC service, but committee members may be reimbursed for certain travel expenses.

Being a RAC member is an excellent way to take an active role in the management of our National Forests for the benefit of our lands and communities.

Benefits of Being an SRS RAC Member

- Advancement of professional development skills
- Creating a lasting impact on public lands and the wellbeing of the environment for future generations
- Uplifting your community through economic advancements and an increase in ecosystem services
- Experience in collaborating with the federal government
- Making your voice and ideas heard amongst people and agencies who value your perspective

Please reach out to Megan Mallowney, RAC Coordinator for the Beaverhead-Deerlodge National Forests, to explore becoming a member of a RAC in your area. Provide a brief statement explaining why you would like to serve, what special qualifications or expertise you may have, or any other information you would like to include. You can email this info to megan.mallowney@usda.gov, or mail to 420 Barrett St. Dillon, MT 59725.

Name:

Organization:

Address:

Phone:

Fax:

Email:

Please indicate interest group(s) you represent from the above categories.



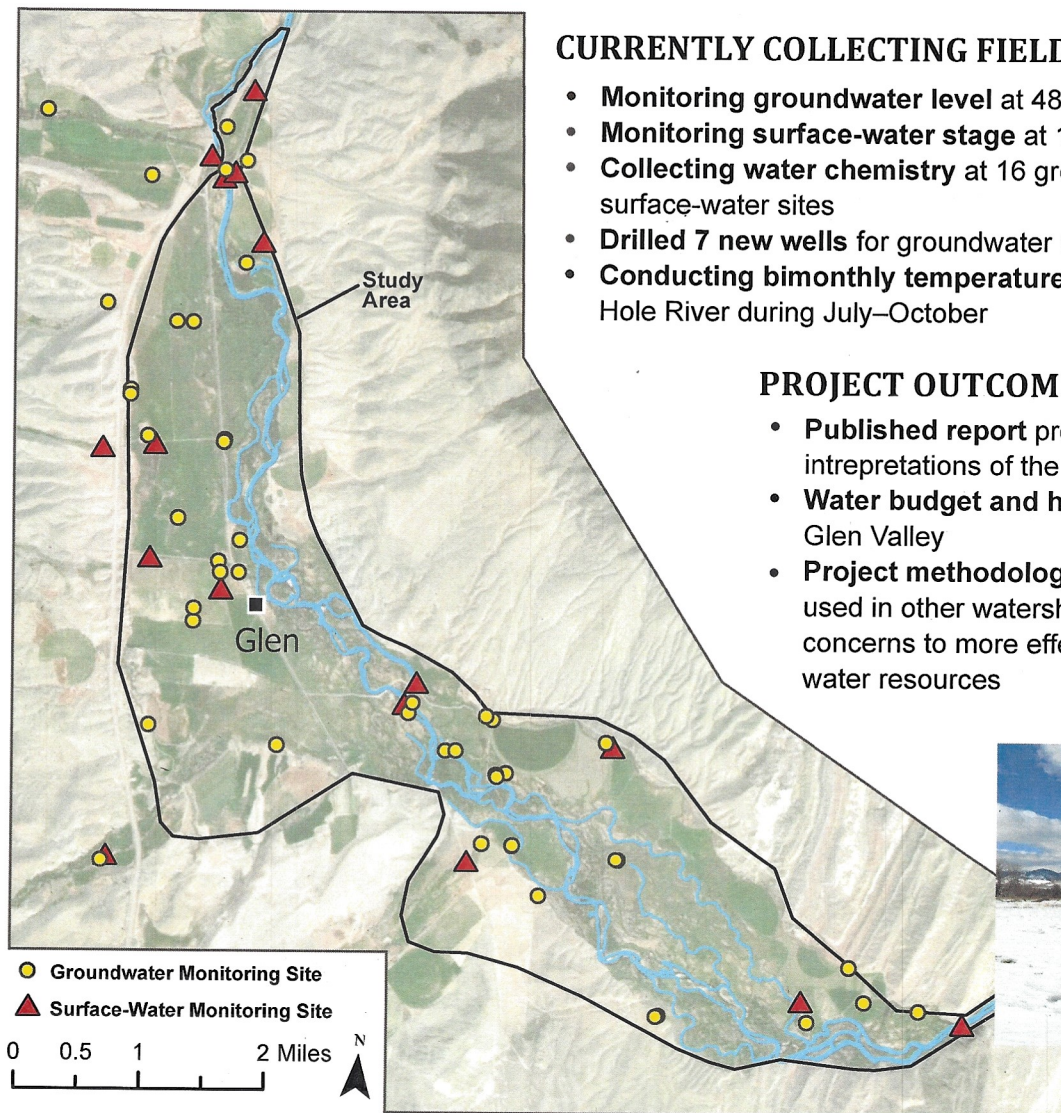
MONTANA BUREAU OF MINES AND GEOLOGY

Lower Big Hole Groundwater Investigation

August 2023

The Ground Water Investigation Program (GWIP) of the Montana Bureau of Mines and Geology (MBMG) is conducting a groundwater/surface-water study (2022–2024) in the Big Hole River Valley near Glen, MT. This project was proposed by the Big Hole Watershed Committtee.

Purpose: Determine the hydrogeologic influences that most affect water supply and temperature on the lower Big Hole River near Glen. Stakeholders can use this information to better understand which land management practices most benefit the water resources in this area.



CURRENTLY COLLECTING FIELD DATA:

- **Monitoring groundwater level** at 48 sites
- **Monitoring surface-water stage** at 16 sites
- **Collecting water chemistry** at 16 groundwater sites and 11 surface-water sites
- **Drilled 7 new wells** for groundwater monitoring
- **Conducting bimonthly temperature surveys** of the Big Hole River during July–October

PROJECT OUTCOMES

- **Published report** presenting hydrologic interpretations of the data
- **Water budget and hydrologic model** of the Glen Valley
- **Project methodology and results** could be used in other watersheds with similar concerns to more effectively manage their water resources



Measuring groundwater levels in wells.

GWIP CONTACTS

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For more information about GWIP, visit: <https://www.mbm.mtech.edu/WaterEnvironment/GWIP/main.asp>