



Big Hole Watershed Committee

Monthly Meeting Minutes

May 15, 2024 – 7:00 pm at the Divide Grange
Zoom option also provided

In Attendance

In-person: Pedro Marques, BHWC; Tana Lynch, BHWC; Ben LaPorte, BHWC; Tom Bowler, Resident; Betty Bowler, Resident; Steve Luebeck, Sportsman/BHWC; John Jackson, Beaverhead County Commission/BHWC; Jim Griffin, Resident; JM Peck, Rancher/BHWC; Craig Fellin, Big Hole Lodge; John Reinhardt, Rancher/BHWC; Tom Gordon, Resident; Jim Olsen, MFWP; Paul Siddoway, Sportsman/Resident; Jim Hagenbarth, Rancher/BHWC; Chad Ball, Resident; Dean Peterson, Rancher/BHWC; Jane and Jim Wiezba, Residents; Mary Ann Nicholas, Resident- Dillon; Mark Raffety, Rancher/BHWC; Howard Varner, Rancher; Tim Kepford, Resident; Dave Duffy, Resident; Roy Morris, GGTU/BHWC; Erik Kalsta, Rancher/BHWC; Katelin Killoy, MFWP; Eric Thorson, Sunrise Fly Shop/BHWC; Luke Lutz, MFWP; and Jim Keenan, BSB-Water/BHWC.

Zoom: Diane Hutton, resident/BHWC; Duncan Adams, Montana Standard; Stephen Begley, MFWP; “Salmo”; Ryan Barba, Sunrise Fly Shop; Mike Gurnett; Daniel Harrington; Randy Smith, Rancher/BHWC; and Lia Jones, Great Divide Outfitters.

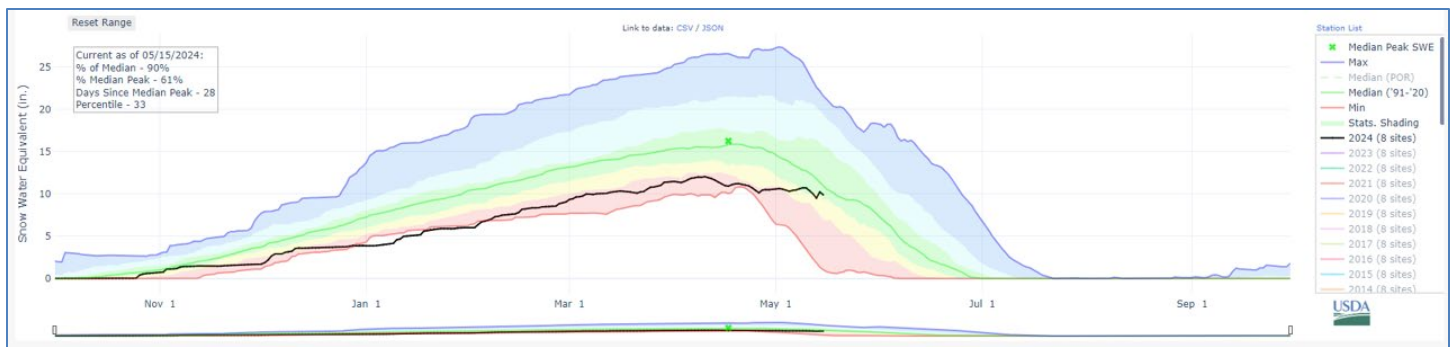
Meeting Minutes

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 Lynch, BHWC Associate Director, at tlynch@bhwc.org or (406) 267-3421 to suggest additions or corrections.

Reports

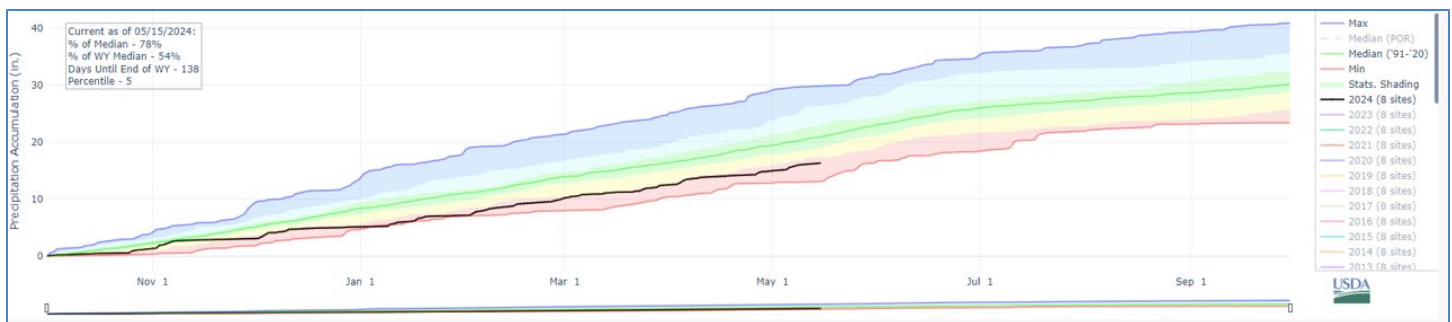
Streamflow and Snowpack Report – Kaitlin Boren, Department of Natural Resources and Conservation

- *Streamflows: (May 15th)*
 - Wisdom (06024450): 214 cfs
 - Mudd Creek (06024540): 1,170 cfs
 - Maiden Rock (06025250): 1,920 cfs
 - Melrose (06025500): 1,830 cfs
 - Glen (06026210): 1,750 cfs
 - Hamilton Ditch (06026420): 1,430 cfs
 - Stream And Gage Explorer (StAGE): <https://gis.dnrc.mt.gov/apps/stage/>
- *Snow Water Equivalent (SWE): 79% of median*
Hypsom-SWE for Big Hole (Huc8: 10020004): 93% of normal



- Hypsime-SWE is a way to evaluate snowpack distribution on a watershed scale level. It evaluates the relationship between the cumulative snow water equivalent in m^3 and elevations through a comparison of a particular day's median values to the SNODAS period of record (2004-present).

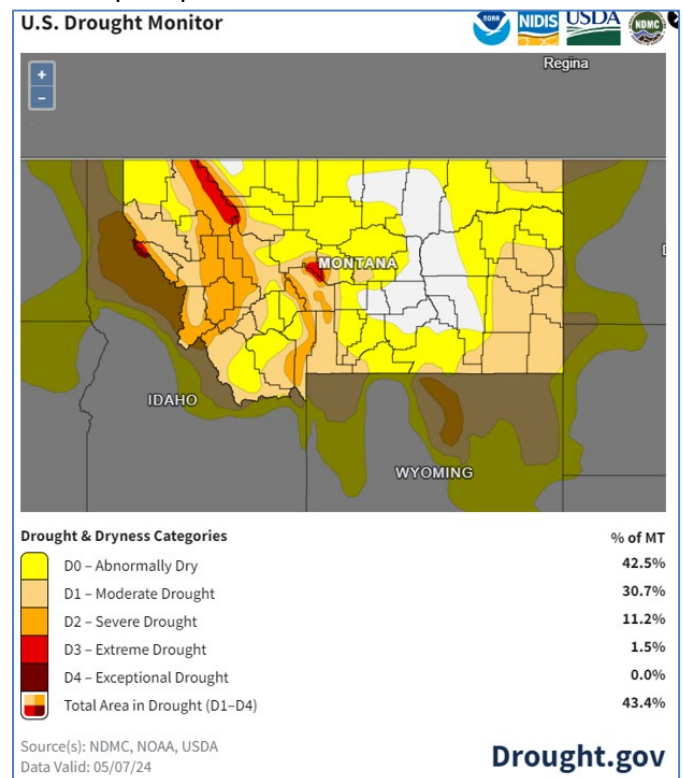
- **Precipitation:** Currently 79% of median.



- **Outlook:** The 8-14 day outlook predicts below normal temperatures and slightly above normal precipitation.
- **Seasonal Outlook:** The three-month outlook (Apr-May-Jun) predicts slightly above normal temperatures and equal chances of above or below normal precipitation.
 - **ENSO Alert System Status (from NOAA):** El Niño Advisory / La Niña Watch
 - **Synopsis:** A transition from El Niño to ENSO-neutral is likely in the next month. La Niña may develop in June-August (49% chance) or July-September (69% chance).
- **U.S. Drought Monitor:** The Big Hole watershed is currently in moderate-severe drought.

Director's Report – Pedro Marques, Executive Director

- **Administration:**
 - NICRA (Update to our Indirect Cost Rate)
 - USFS Elkhorn Agreement Update
 - USFS E. Pioneers/Trail Cr.
- **Proposals Submitted:**
 - RRGL- Pennington Bridge
 - RDG- Elkhorn Mine and Mill
 - RRG Irrigation- Wise River
 - RRG Irrigation- Jerry Cr
 - RRGL Planning- High Meadow Storage



- Outreach:
 - Red Rock Lakes FONSI
 - Red Rock Lakes lawsuit

Steering Committee Report – Jim Hagenbarth, Chair; Dean Peterson, Vice-Chair; Steve Luebeck, Treasurer; and Roy Morris, Secretary

- The Steering Committee has considered a proposal by E.D. Pedro Marques to allow Pedro to work remotely from Brazil for one year starting this fall. This is a once in a lifetime opportunity for Pedro to raise his kids for a period of time in his and his wife's native country. The steering committee has approved the proposal and sent it to the full board for review.
 - The board has reviewed and approved the proposal.

Communications and Wildlife Report – Tana Lynch, Associate Director

- Communications:
 - Montana Folk Festival
 - July 12-14
 - BSB Water Utility
 - Wildlife Speaker Series
 - Grizzly Bears
 - July 17 @ Divide Grange
 - Elk burgers!
 - Potluck – bring sides/desserts
 - 6 pm
- Wildlife Program Update:
 - Carcass Removal and Composting – in progress
 - (March-May)
 - Big Hole and Sage Creek (CVA)
 - New driver, Justin Cottingham
 - 2024 (so far):
 - 39 carcasses
 - 12 producers
 - Upper Big Hole Range Rider – planned
 - July-September

Restoration Report – Ben LaPorte, Program Manager

- Elkhorn Ranch Revegetation and Fencing
 - Project=FULLY funded by DEQ!
 - Entire budget = \$221k
- Trail Creek Conifer Encroachment
 - \$35k added to USFS Participating Agreement
 - Units 1, 4, 6 = 232 acres
- Wise River Spring Creek Spawning and Rearing Project
 - Application Submitted
 - Spawning and rearing enhancements
- Big Hole Lodge Beaver Conflict Mitigation Project

*The Wildlife Speaker Series
of Southwest Montana
Presents*

GRIZZLY BEARS

*What: Join us for a free and informative presentation on GRIZZLY BEARS!
Who: Biologist Cecily Costello, PhD, MT Fish, Wildlife & Parks will present.
The presentation will be preceded by a potluck meal, with the main dish of elk burgers provided by BHWC. Please bring a side dish, salad, or dessert!
When: Wednesday, July 17, 2024
Dinner at 6:00 pm, Presentation at 7:00 pm
Where: Divide Grange Hall - Divide, MT
Sponsored by: Big Hole Watershed Committee*

BIG HOLE WATERSHED COMMITTEE
Conservation Through Cooperation

MONTANA WILDLIFE & PARKS

info@bhwc.org 406-960-4855

- Tree protection = wrapped 7 trees
- Other Happenings
 - Smith Sage Springs first look and maintenance
 - Upper Oregon Creek Final Report and grant close-out
 - NRDP/Anaconda Uplands project planning
 - YEP continued work on Trapper Creek conifer encroachment unit

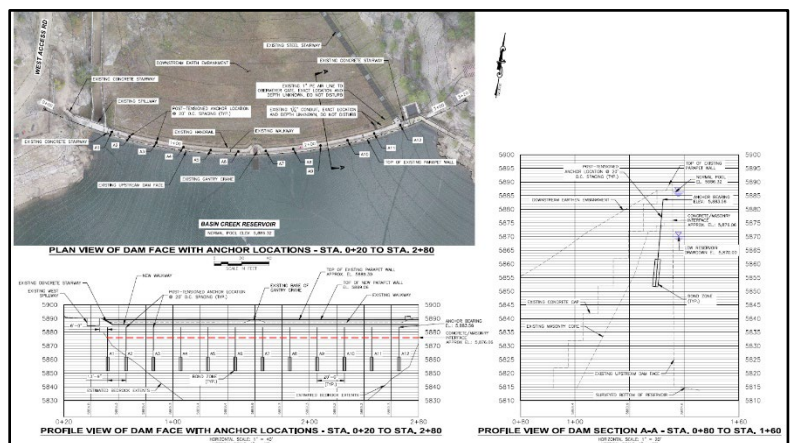
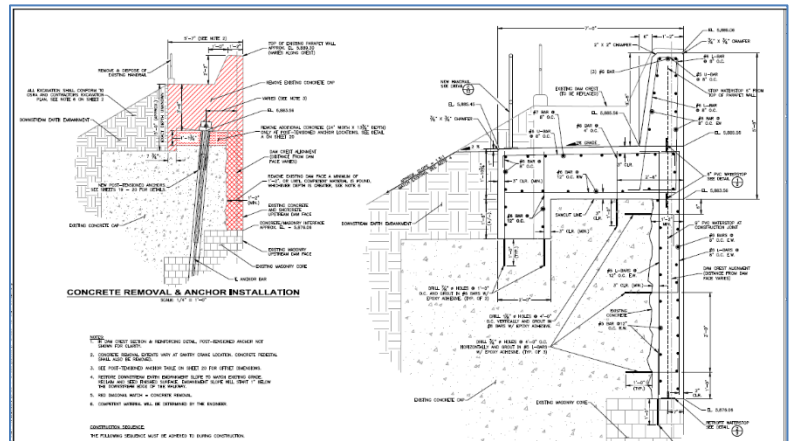
New Business

- *Butte-Silver Bow County Water Utility Current & Upcoming Projects – Jim Keenan, BSB County Water Treatment Supervisor*
 - Early System (1890):
 - Pumping Station on South Montana Street (wells)→Small Reservoir on Main Street
 - Flume from Basin Creek—11 Miles south of Butte
 - 20 miles of mains (2-12 inch)
 - Butte had about 30,000 people—less than half served by the water plant
 - 1800s:
 - As early as the 1860's water shortages threatened the viability of fledgling town
 - Mining properties were large consumers of water
 - Underground fires required an enormous quantity of water quickly
 - Local surface waters were contaminated – unfit for consumption
 - By 1891 Butte stood at a crossroads – needed reliable water supply
 - Butte Water Company:
 - A.S. Bigelow organized the Butte City Water Company in 1891
 - May 1891 – City council granted exclusive contract to Butte City Water to deliver water to the mining properties and the City's inhabitants
 - Butte City Water promised to spend \$2M to develop new water sources
 - Basin Creek Source:
 - Basin Creek Dam No. 1 Started in the Spring of 1892
 - Located at the junction of Basin Creek and Bear Creek south of the city
 - Curved Masonry Structure made from Granite quarried near site
 - Originally constructed to a height of 60-feet above foundation
 - Raised 13-feet with mass concrete added in 1913
 - Basin Creek Watershed System:
 - Water captured at high elevation intakes on the North Fork and South Fork of Mammoth Creek and transferred by gravity over Continental Divide via pipeline into the Basin Creek Watershed
 - Big Hole Source (Big Hole River):
 - On the Atlantic side of the Continental Divide
 - Transferred water 27 miles across the divide
 - Only system at the time in the US to move water from Atlantic to Pacific Drainage



- Involved construction of South Fork Reservoir (13.4 MG Cap), Westside Reservoir, and High Service Reservoir
- By 1902, Big Hole/SF system provided an additional 4 MGD to Butte
- Moulton Source:
 - Moulton Dam Completed in 1907
 - Serves Highest Elevation Pressure Zones by Gravity
 - Storage Capacity 224 Million Gallons
- Municipal Watersheds:
 - Big Hole River
 - SF Divide Creek
 - Basin Creek
 - Mammoth Creek
 - Moulton
 - With new Basin Creek WTP, majority of Butte's drinking water now comes from the Basin Creek Supply—up to nearly 60% in good snowpack/water years.
- Basin Creek Dam – Need for Project:
 - Dam is classified as High Hazard by the State of Montana (MT DNRC Dam Safety Program)

- BSB is required to have the dam inspected by a Professional Engineer every 5-years
- 2019 inspection described numerous cracks, spalling, and signs of severe deterioration of the concrete on the upstream face of the dam



- Concrete issues identified in previous reports

(2009 & 2014); however, rate of deterioration had increased considerably since previous inspections

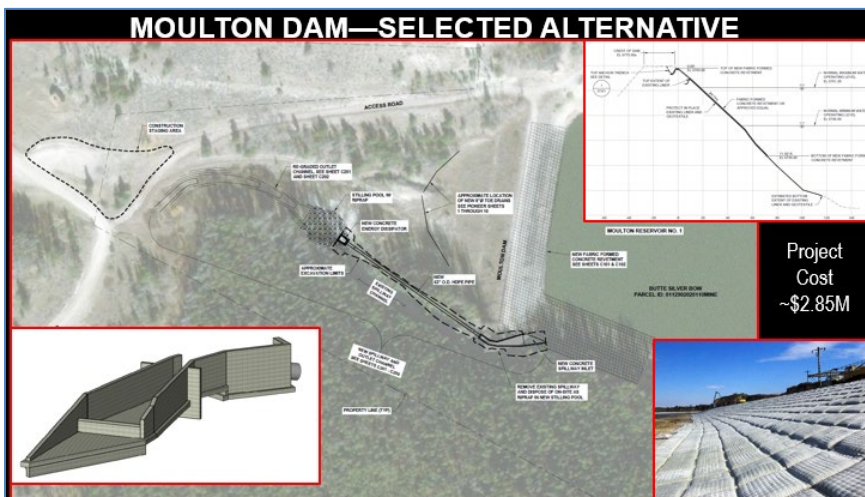
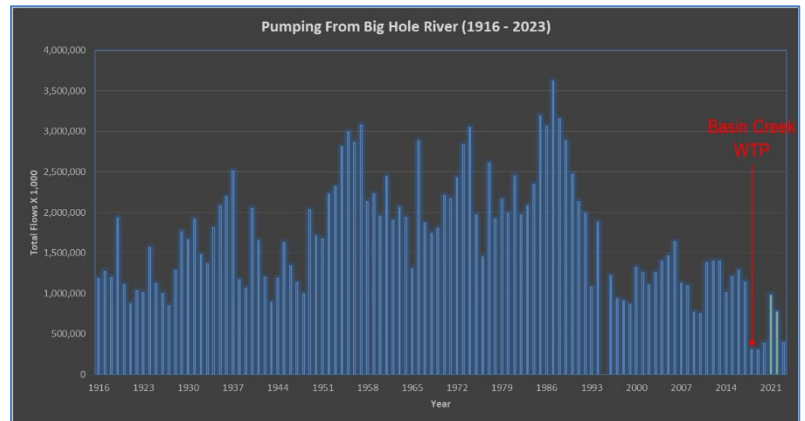
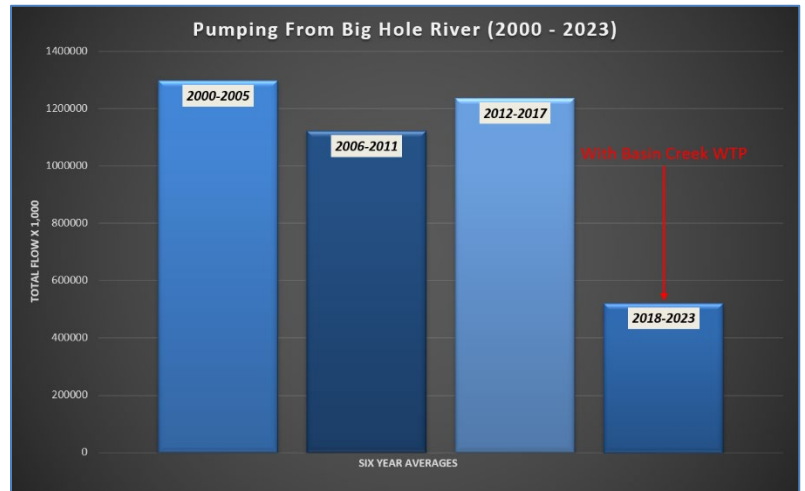
- Montana DNRC comments on the 2019 inspection report expressed concerns that the concrete deterioration could impact the ability of the dam to withstand an overtopping event and the top section of the dam could fail in an extreme storm event

- DNRC made concrete investigation/stability analysis a condition of permit renewal
- Alternative of action by BSB was reservoir level restriction
- DNRC suggested BSB pursue RRGL Planning Grant Funding to help with concrete investigation costs
- BSB

received
\$8K
Planning
Grant to
assist with
cost of
study

■ Concrete Investigation:

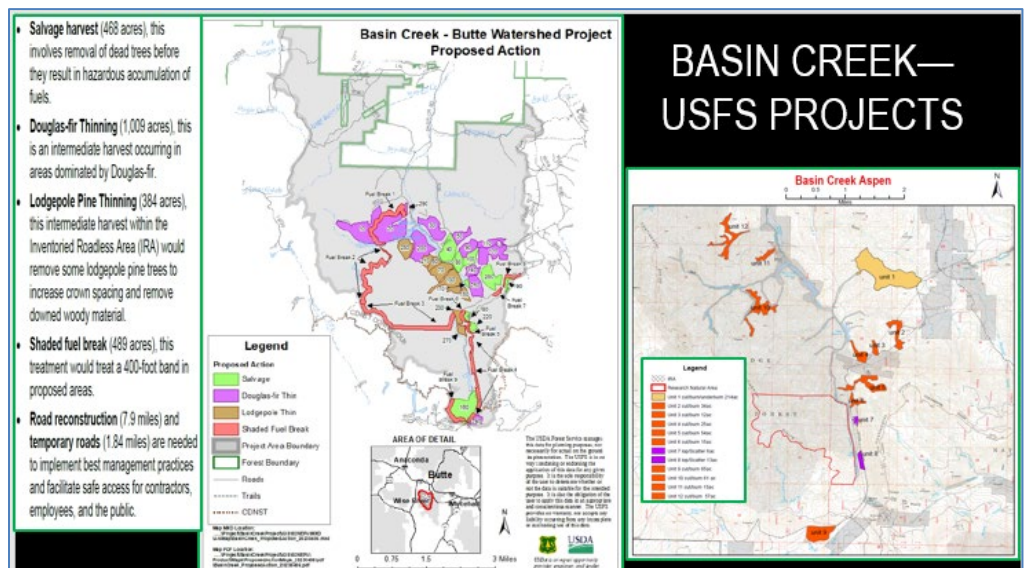
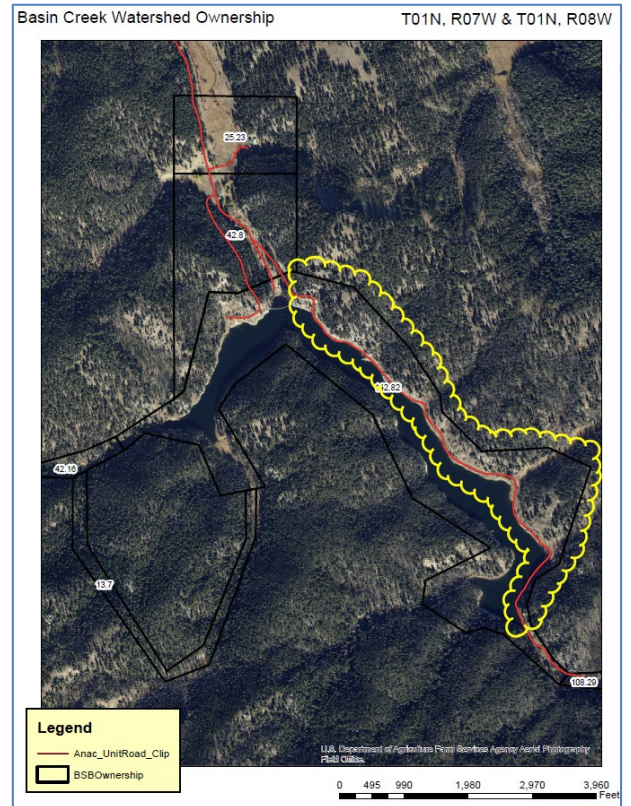
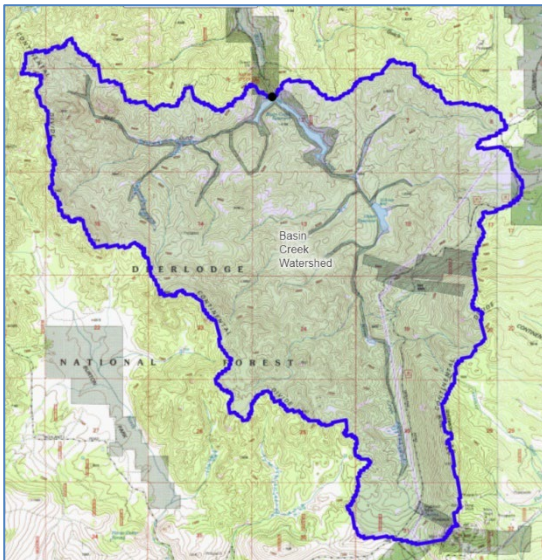
- Conducted in November of 2019
- Report Completed January 2020
 - Report Concluded the mass concrete section does not satisfy rotational stability or sliding stability requirements for the PMF and that “stability calculations indicate there is an urgency to repair the mass concrete portion of the dam”
 - Report recommended three repair alternatives



- Moulton Dam – Need for Project
 - Dam classified as High Hazard by the State of Montana (MT DNRC Dam Safety Program) on August 28, 2019
 - BSB required to have the dam inspected by a Professional Engineer (Fall 2019/Spring 2020)

- Significant structural issues with concrete spillway and condition of earthen spillway channel
- Poor upstream embankment condition
- Riprap rounded and undersized—geotextile liner in poor to fair condition
- Downstream embankment seepage issues
- Lack of filter diaphragm around outlet conduit

- Basin Creek Watershed Fuels Reduction:
 - Fuels Reduction Video – watch here: https://youtu.be/BQLFCV_92k
 - Projects completed with MT DNRC Hazardous Fuels Reduction grants



Meeting Topic: Big Hole River Fishery Update

Presented by:

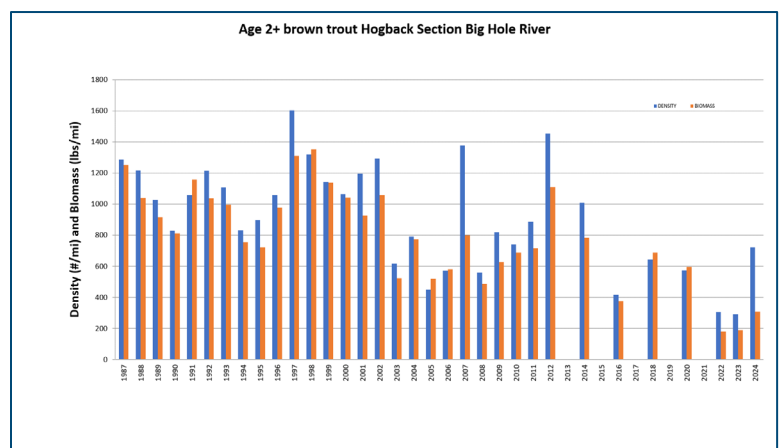
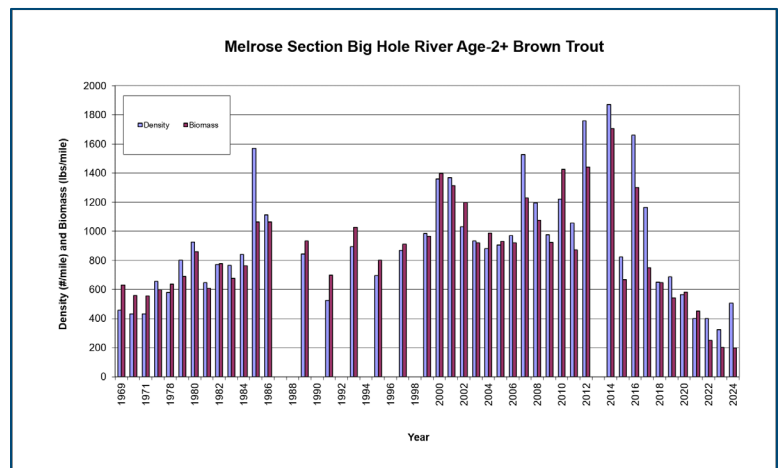
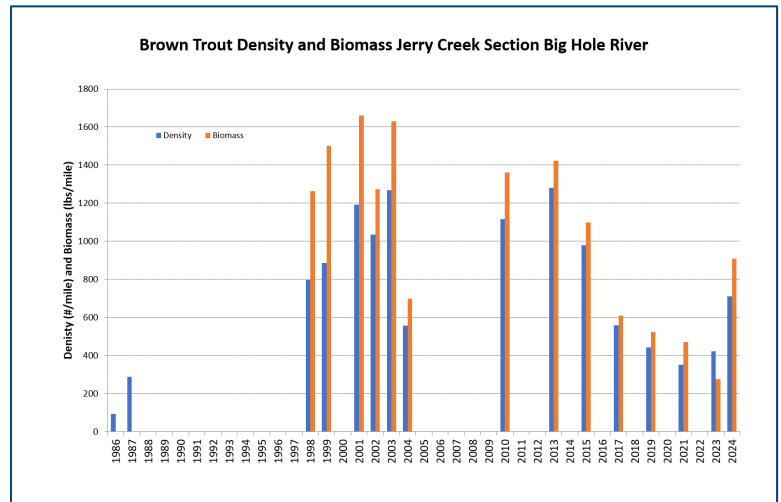
Jim Olsen, Montana Fish, Wildlife and Parks

Population Monitoring Sites

- Jerry Creek section
- Melrose section
- Hogback section
- Pennington section

Research Overview

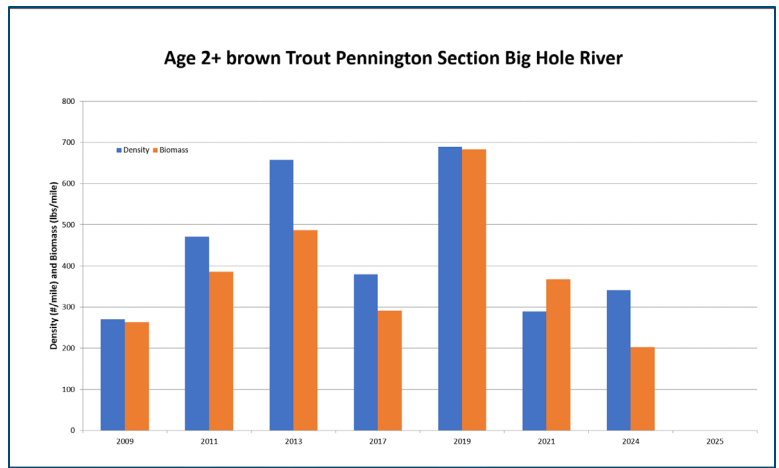
- Mortality
 - Estimate mortality via monitoring
 - Individual tags in every fish
 - PIT-tags
 - Histories for individual fish
- Estimate potential angling-induced mortality via angler returns
 - External tags
- FWP needs your help!
 - Blue tag – raffle prize
 - Yellow tag - \$100 cash reward
 - If you catch a fish with a blue or yellow tag, clip the tag off and call the number on it to report:
 - Tag number
 - Date
 - Location
 - Gear used
 - Released/harvested
 - Condition of the fish
 - Report tagged fish
 - Clip tag
 - Call
 - Visit website
 - Creek clerks
 - Report sick fish
 - Call dedicated staff
 - Visit website:
fwp.mt.gov/sickfish



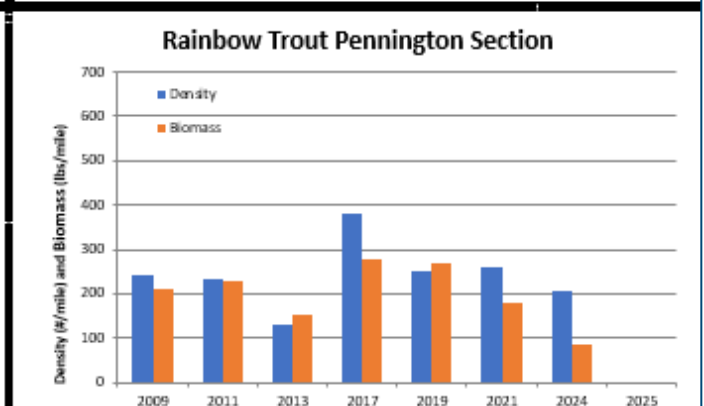
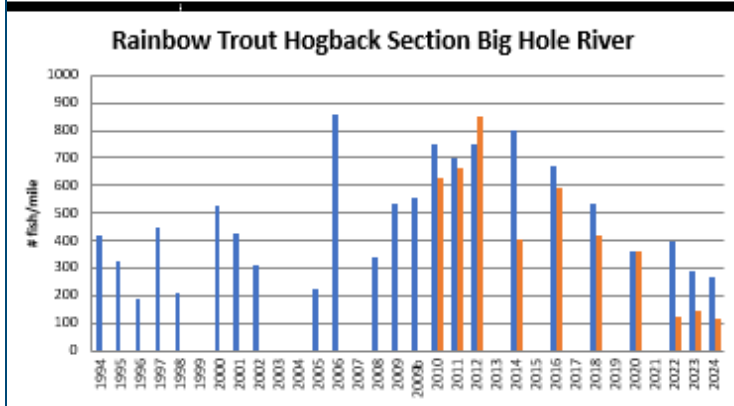
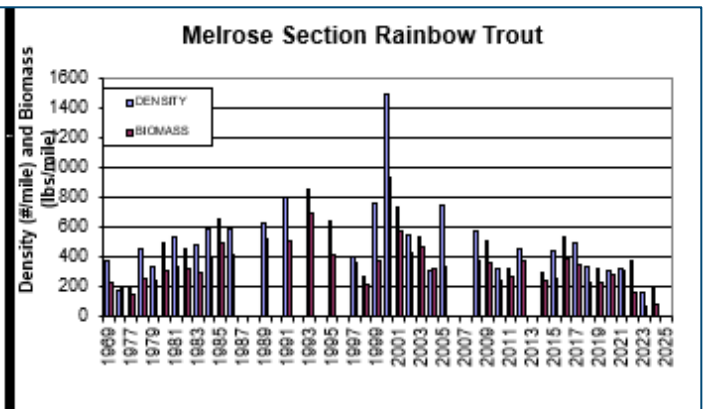
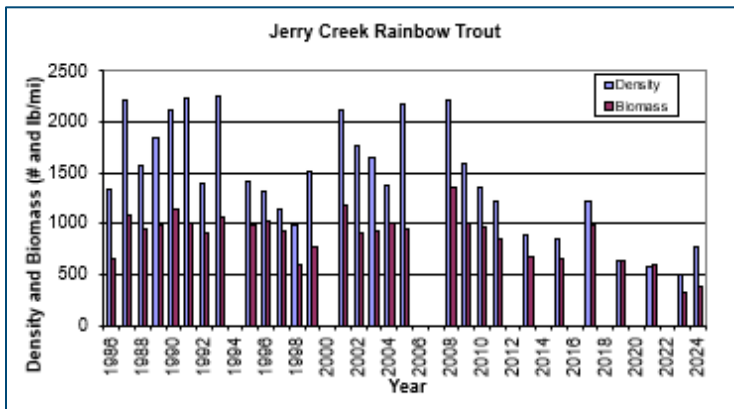
- Anthony Zenga: 406-596-5175
- [Mtcfru.org/msutag](https://mtcfru.org/msutag)
- 406-994-2384

Big Hole River Projects

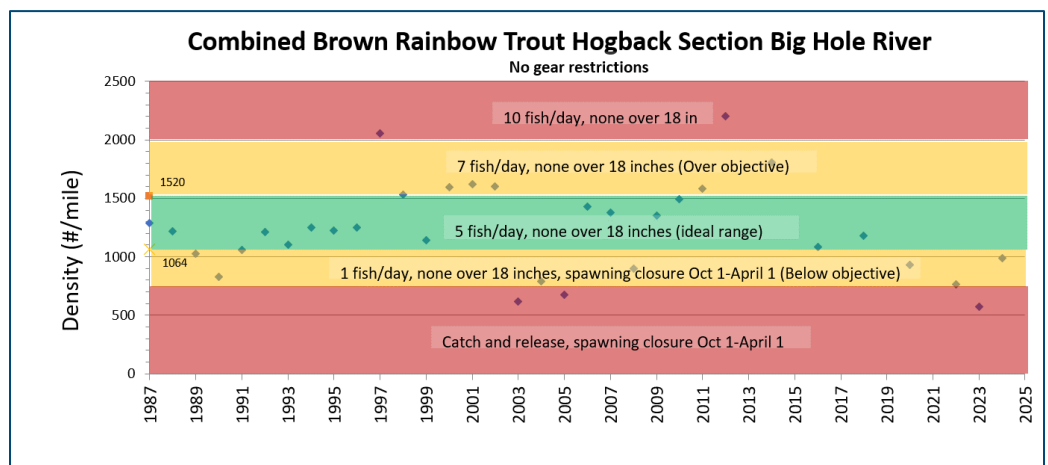
- Research to guide restoration work
- We do know that water is most important driver
- Project focus:
 - Getting more water in the river
 - Getting cold water to Big Hole
 - Improving spawning



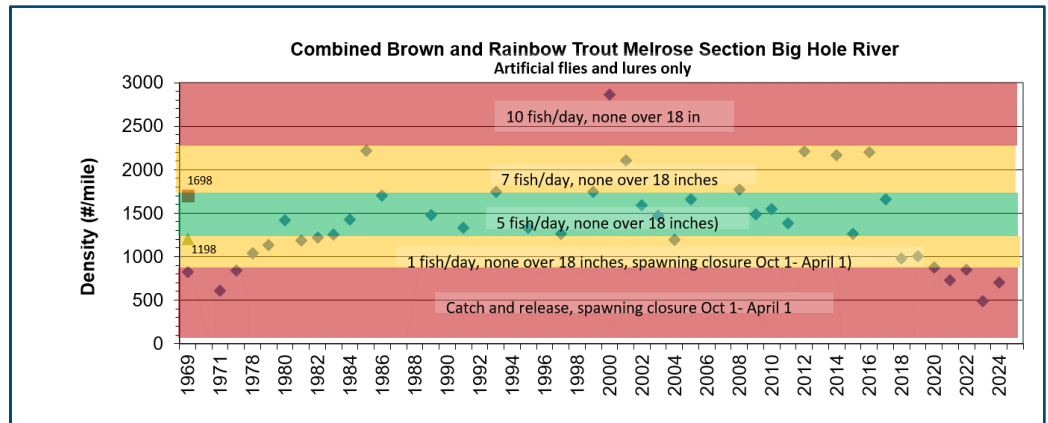
River



- Wise River
- Spring Creek
- Spawning
- Enchantments
- Alder and Johnson Creek reconnects
 - Reconnection of tributaries
 - Allow cold water to reach Big Hole



- Swap for warmer river water
- Wise River drought plan infrastructure
- Project goals:
 - 3,500 ft of channel
 - Currently 180 ft of suitable spawning habitat
 - Goal: Create 1,670 ft of spawning habitat
 - Narrow channel
 - Add appropriately size spawning gravel
 - Enhance 720 ft of pool habitat with mature willows to improve rearing habitat
- Project Monitoring:
 - Redd counts:
 - 2022: 2 redds total (beaver dams blocking access)
 - 2024: 28 redds
 - Jerry Creek long-term monitoring site just downstream
- Native Fish Projects
 - WCT Conservation Strategy
 - Prioritize conservation
 - Based on genetics 99% WCT
 - Locations:
 - French Creek
 - Treated in 2021, 2022
 - Early July 2022 eDNA collected
 - 354 eDNA samples collected in 3 days
 - eDNA indicated drainage was free of non-native fish in 2023
 - Bryant Creek
 - Doolittle Creek
 - Schultz Creek
 - Restocking:
 - 2022: 12,350 grayling (350 age-1), 22,000 age-0 WCT from Big Hole brood
 - 2023: 4,408 grayling (age-0 and age-1), 65,000 age-0 WCT and 2,500 age-1 WCT
 - Restock for 2 or 3 more years



TAG, YOU'RE IT!

Clip any tag found near the dorsal fin

ATTENTION ANGLERS

on the Big Hole, Beaverhead, Ruby and Madison rivers.

Trout in these four rivers have been **tagged** as part of a research effort to study trout population declines and health issues. Blue tags will be entered into a raffle for gear and fishing trips while each yellow tag will receive \$100. You can submit a report by scanning the QR code below, calling 406-994-2384, or visiting mtcfu.org/msutag.

If you catch a tagged fish, please **clip the tag off** the fish and submit a report with the following information:

- Tag number
- Date
- Location
- Condition of the fish
- Gear type used
- Whether you released or harvested the fish

SCAN TO REPORT
YOUR TAGGED FISH

MONTANA
FISH & WILDLIFE
COMMISSION

MONTANA
STATE UNIVERSITY

Upcoming Meetings

- June 19, 2024: **BHWC Monthly Meeting: MBMG Groundwater Investigation Program Study near Glen**
 - 7:00 PM at the Divide Grange Hall
- July 17, 2024: **Annual Wildlife Speaker Series event: Grizzly Bears**
 - 6:00 PM at the Divide Grange Hall

Adjourn