Big Hole Watershed Committee

Monthly Meeting Minutes

April 16, 2025 – 7:00 pm at the Divide Grange

Zoom option also provided

In Attendance

In-person: Tana Lynch, BHWC; John Reinhardt, Rancher/BHWC; Tom Bowler, Butte Resident; Betty Bowler, Butte Resident; Dean Peterson, Rancher/BHWC; Garrett Vasa, NRCS; Katelin Killoy, MFWP; Luke Lutz, MFWP; Randy Smith, Rancher/BHWC; Cass Kohler, TNC; Stephen Begley, MFWP; Cole Denver, MBMG; Stan Struzic, Wise River Resident; Ryan Kreiner, MFWP; Jim Olsen, MFWP; Pete Kamperschroer, Wise River Resident; Dave Duffy, Wise River Resident; Duncan Adams, Montana Standard; Mark Kambich, Rancher/BHWC; Mike Wilkinson, Wise River Resident; Ron Wilkinson, Bozeman Resident; Peter Frick, Rancher/BHWC; and John Dillon, Dillon Resident.

Zoom: Pedro Marques, BHWC; Paul Siddoway, Butte Resident; Andy Bobst, MBMG; Brian Wheeler, BHRF/BHWC; Jack Curren, Representative Zinke's office; Basin; Danika Holmes, DNRC.

Meeting Minutes

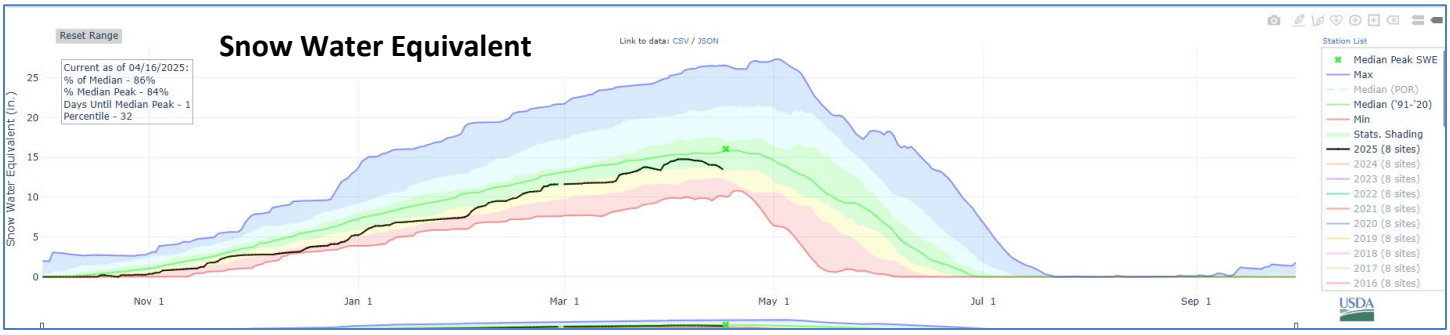
BHWC monthly meetings are held at the Divide Grange with a virtual (Zoom) option provided thanks to Southern Montana Telephone Company, who donated the internet service. Meeting minutes and recordings are available at https://bhwc.org/monthly-meetings/ (scroll down for meeting minutes archive). Printed 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

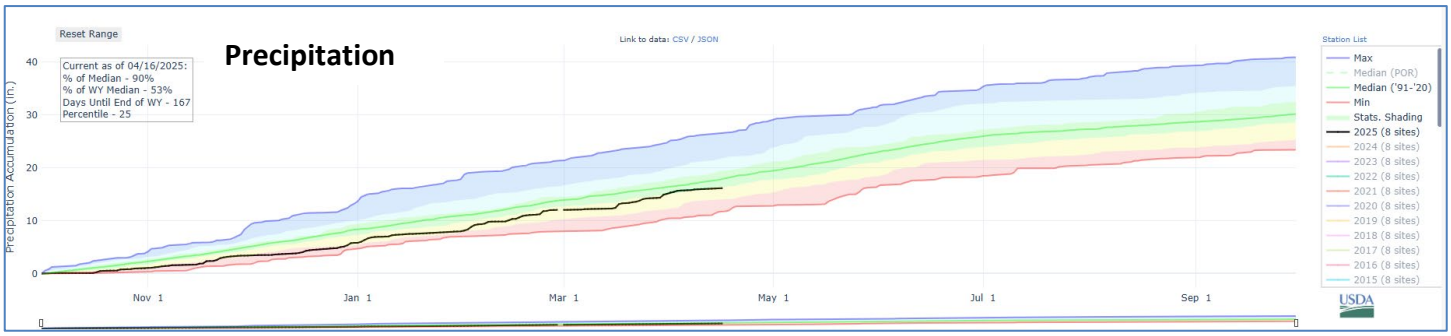
Streamflow and Snowpack Report – Luke Lutz, Montana Fish, Wildlife and Parks

- *Streamflows: (April 15th, 2025)*
  - Wisdom (06024450): 210 cfs
  - Big Hole River near Wise River (41D 08000): 1,222 cfs
  - Maiden Rock (06025250): 1,260 cfs
  - Melrose (06025500): 1,130 cfs
  - Glen (06026210): 1,130 cfs
  - Stream And Gage Explorer (StAGE): https://gis.dnrc.mt.gov/apps/stage/
- *Snow Water Equivalent: 86 % of median (1991-2020)*
- *Hypsome-SWE (HUC8: 10020004): 97% of Normal*

Station	Network	Elev. (ft.)	Obs	NRCS Median	% NRCS Median
Barker Lakes	SNOTEL	8,250	14.4	15.1	95%
Basin Creek	SNOTEL	7,120	9.4	8.4	112%
Bloody Dick	SNOTEL	7,570	11.3	11.8	96%
Calvert Creek	SNOTEL	6,410	0	5.5	0%
Darkhorse Lake	SNOTEL	8,930	28.1	30.4	92%
Moose Creek	SNOTEL	6,170	10.1	14.2	71%
Mule Creek	SNOTEL	8,300	13.8	15.9	87%
Saddle Mtn.	SNOTEL	7,890	21.2	24.2	88%
Slagamelt Lakes	SNOTEL	8,600	27.5		
Basin Index					86%



- *Precipitation:* 86% of median (1991-2020)



- *Climate Outlook (NOAA)*:
  - *Outlook*: The 8-14 day outlook predicts near normal temperatures and slightly above normal precipitation.
  - *Seasonal Outlook*: The seasonal outlooks predicts equal chances of above or below normal temperatures and equal chances of above or below normal precipitation.
  - *Final La Niña Advisory*: La Niña conditions have ended. ENSO-neutral is favored during the Northern Hemisphere summer, with a greater than 50% chance through August-October 2025.
- *U.S. Drought Monitor:* The Big Hole watershed is currently under moderate drought.

Director's Report – Pedro Marques, Executive Director

- Federal funding still thawing: '
  - Funds impacted:
    - Forest Service: Elkhorn Partnership Agreement '24
    - BLM: E. Pioneers Conifer (IRA Funding)
    - USFWS/TNC: Smith Springs Design (BIL funding)
  - What we're doing:
    - In touch with with Katie Devlin, aide for Senator Daines in DC
    - Outreach to more reps and request through the Forest
    - Engaged with group of landowner-led collaborative groups on common message to release funding
- Staffing:
  - THANK YOU KIM!!! For Communications Support
  - Hydro Technician Interview Monday
  - Opportunity Coming: Science Communicator/YouTube Content Creator
- Staying Solutions-Focused:
  - "Its really easy to be against things. It's a lot harder to be for things." – Lesli Allison, Western Landowners Alliance
  - The Big Why: What is 'conifer expansion' and how does it affect the water supply?
    - Montana Public Radio

        - Role of Expanding Tree Cover on Groundwater
    - Letters in Support of:
        - Montana Bureau of Mines Aquifer Recharge Tool
        - Butte-Silver Bow Water Treatment Plant Safety
        - National Fish and Wildlife Foundation Grayling Program
        - BLM Vegetation Management Environmental Assessment
    - More Outreach Opportunities:
        - Partnerscapes Newsletter
        - CVA Newsletter
        - MWCC social media
    - Legislation:
        - HB580- Water Rights Abandonment- Passed
        - Montana HB 256- Water Storage Fund- Missed Transmittal deadline
        - SB 473- weather modification- Killed in 2nd reading
        - HB 684- Deadline for Water Quality Review: 3rd reading in House, changed to 180 days
- Restoration project update:
    - Contracts underway:
        - High Meadow Storage Capacity
        - California Creek "
          demo area' design – W.E.T.
        - East Poineers Conifer Encroachment – Mule Deer and RMEF ($30k each)
    - Projects to be contracted:
        - Smith Springs ditch siphon design – Confluence Consulting
        - Beaverhead CD – Elkhorn RFP for project management
        - Rock Creek Fish Barrier – R.E. Miller
        - Elkhorn Preserve
        - Kamperschroer Riparian
    - East Pioneers Conifer Encroachment and Riparian Restoration Project
        - Completed 292 acres
            - River Corridor Units 3,4
            - Rock/Cherry Unit 1
        - Contracted 1045 acres more
            - Rock/Cherry Units 2,3
            - Cherry/Trapper Units 1-8
        - Contracting for Fish Barrier on Rock Creek
        - Thinning on private ground
        - Riparian treatments
    - California Creek: Basin restoration alternatives

Steering Committee Report – Dean Peterson, Vice-Chairman

- The steering committee met on March 31st and discussed:
    - Project funding and frozen federal funding
    - SB 473 (cloud seeding): bill killed
    - HB 684 (extending 90 days to 180 days for DEQ to review water quality data)
    - Aquifer storage project at Wisdom:

        - Dean met with 2 ranchers and 3 people from Montana Tech (Montana Bureau of Mines and Geology) and visited several sites, identifying 3 at which to potentially drill wells to determine the geology of the ground.
    - Range Rider program:
        - How to get a new 4 wheeler for the program

Communications and Wildlife Report – Tana Lynch, Associate Director

- Communications:
    - Upcoming events:
        - 2025 Montana Folk Festival
            - July 11-13
            - Butte
        - 2025 Wildlife Speaker Series
            - July
            - Trapper Creek Ranch, Melrose
    - Publications:
        - *River advocates seek 'impaired' designation for Big Hole River*
            - Montana Standard, April 10th
        - *What is 'conifer expansion' and how does it affect the water supply*
            - Montana Public Radio, March 13th
        - *Low flows, warm water combine to make fish parasite lethal, Montana Tech researcher finds*
            - Montana Standard, February 20th
        - *Ripples of Change: The Impactful Work of the Big Hole Watershed Committee*
            - International Business Times, May 2024
        - Spring Newsletter coming soon!
- Wildlife:
    - Carcass removal
        - Program in-progress
        - Benton Lake dump truck
    - Range Rider
        - Program expansion
    - Funding:
        - America the Beautiful Challenge grant secured ($194,000 over 3 years)
            - Administered by HRI through MFWP
        - LLB grant secured ($17,500)
        - LLB proposal in-progress
            - Due May 31st

New Business

- None

Break – 10 minutes

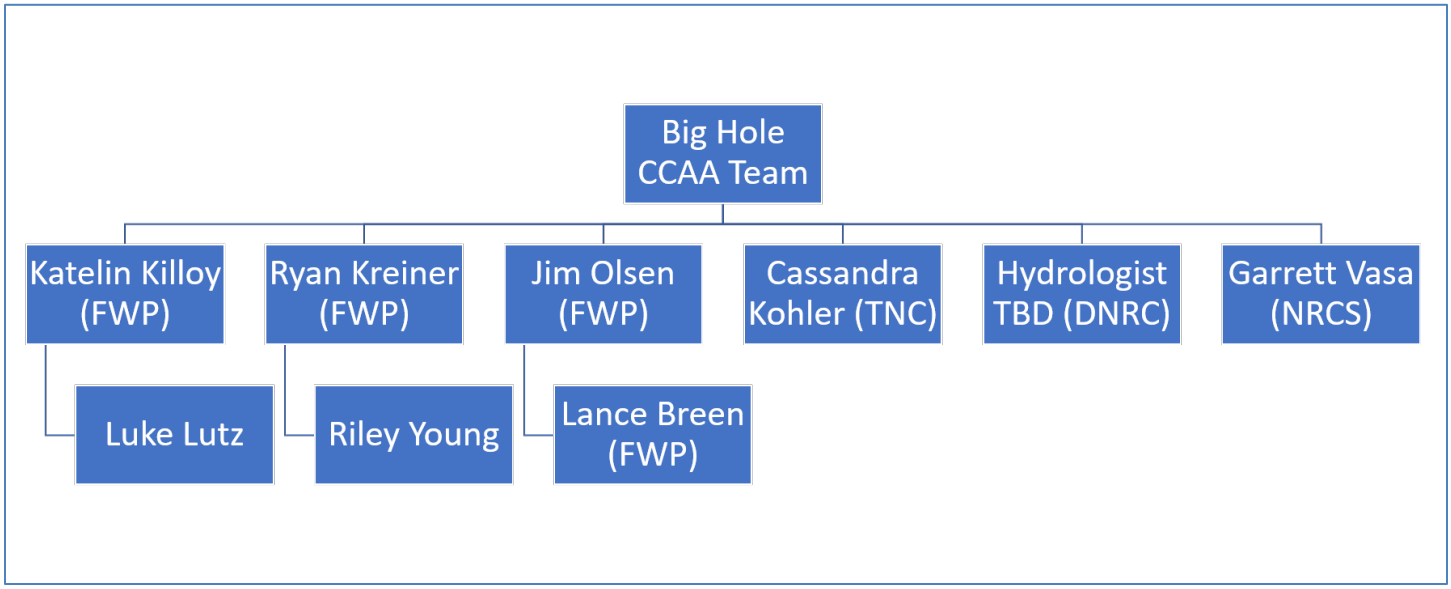
Meeting Topic:
Upper Big Hole Valley CCAA Program Update

Presented by:
Katelin Killoy, Grayling Habitat Biologist – Montana Fish, Wildlife and Parks
Ryan Kreiner, Native Fisheries Biologist (Region 3) – Montana Fish, Wildlife and Parks
Luke Lutz, CCAA Technician – Montana Fish, Wildlife and Parks
Garrett Vasa, District Conservationist – Natural Resources Conservation Service (NRCS)

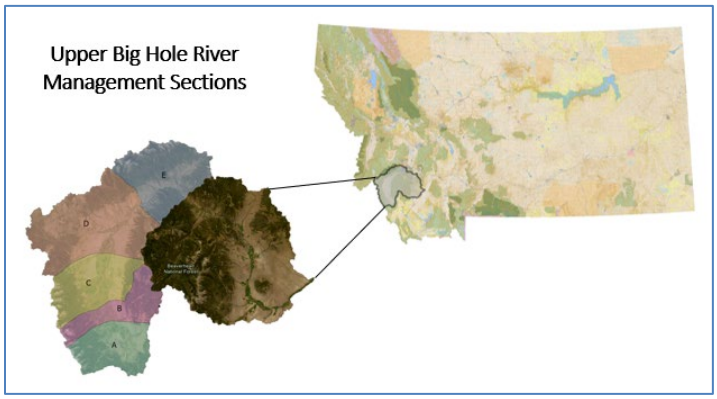
Background: In 2009, Montana FWP joined forces with the USFWS, Montana DNRC, and the NRCS to create the Upper Big Hole Arctic Grayling Candidate Conservation Agreement with Assurances (CCAA) program. The CCAA introduced a strategic plan for recovering the Big Hole River Arctic grayling as well as providing legal protections for landowners who enroll and participate in the CCAA. The CCAA is managed by a dedicated group of scientists that monitors river flow and temperature in the upper Big Hole and works with landowners to conserve water and habitat in accordance with site specific plans.

Candidate Conservation Agreement with Assurances (CCAA) for Fluvial Arctic Grayling in the Upper Big Hole River

- "The conservation goal of this Agreement (CCAA) is to secure and enhance a population of fluvial (river-dwelling) Arctic grayling (*Thymallus arcticus*) (grayling) within the upper reaches of their historic range in the Big Hole River drainage."



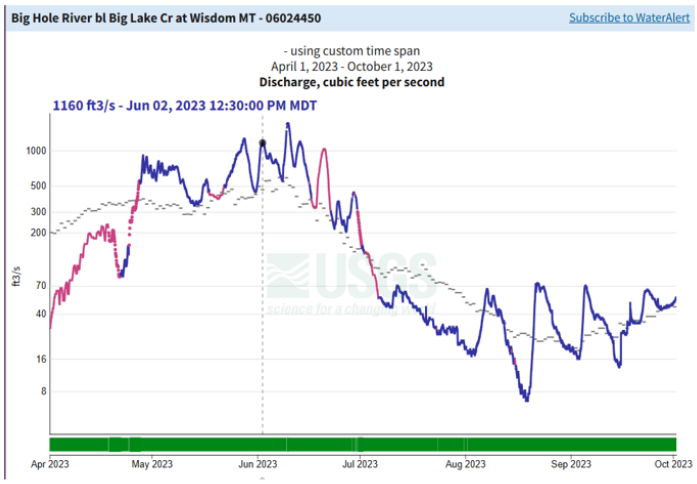
- Upper Big Hole River Management Sections →
- Current Big Hole Enrollment:
  - 31 landowners
    - Brand new enrollment
  - 170,248 acres
    - 164,562 private land acres
    - 5,686 DNRC leased lands
- Achieved through four conservation measures:
  - Improve streamflows



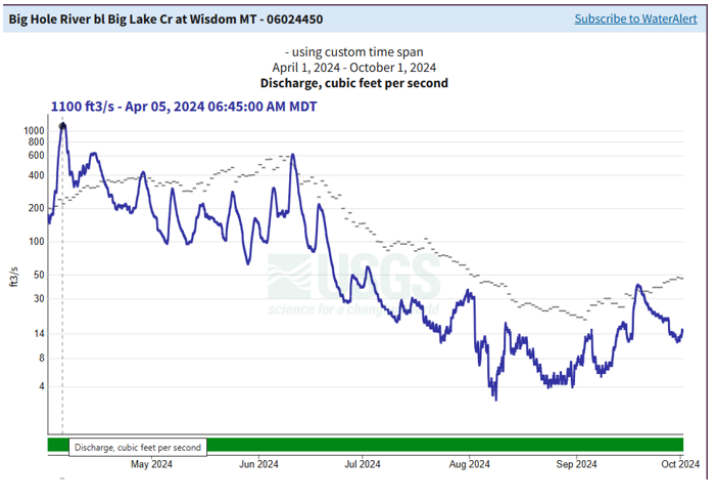
- Improve and protect the function of riparian habitats
- Identify and reduce or eliminate entrainment threats for grayling
- Remove barriers to grayling migration

- Conservation Measure #1 – Improved streamflows:
  - Flow targets are set for each management section for both the spring and summer
  - Flow targets met in 2024
    - 91% May 1-June 30 (A-C combined, 60 cfs target)
    - 54% May 1-Oct 31 (All reaches of CCAA)
    - 122 cfs in Landowner Streamflow Contributions
  - Irrigation infrastructure monitoring completed in May and Sept 2024
    - 29 landowners monitored
    - 100+ measuring devices monitored and in good working order
  - 5 DNRC real-time stream gage sites, 18 seasonal TruTrack sites
  - Drought Management Implementation 2024:
    - Criteria For Implementation
      - <80% SWE for the Water Year 74% on May 1
      - <80% Precipitation for the Water Year 77%
      - Peak Spring runoff starting earlier than May 1. Average peak is ~June 1 Early-Mid April
      - Climate forecast for May and June with less than average precipitation and above average temperature predictions
    - Combine Reaches A, B, and C with one flow target at Wisdom of 60 CFS
  - 2023 vs. 2024 hydrographs:

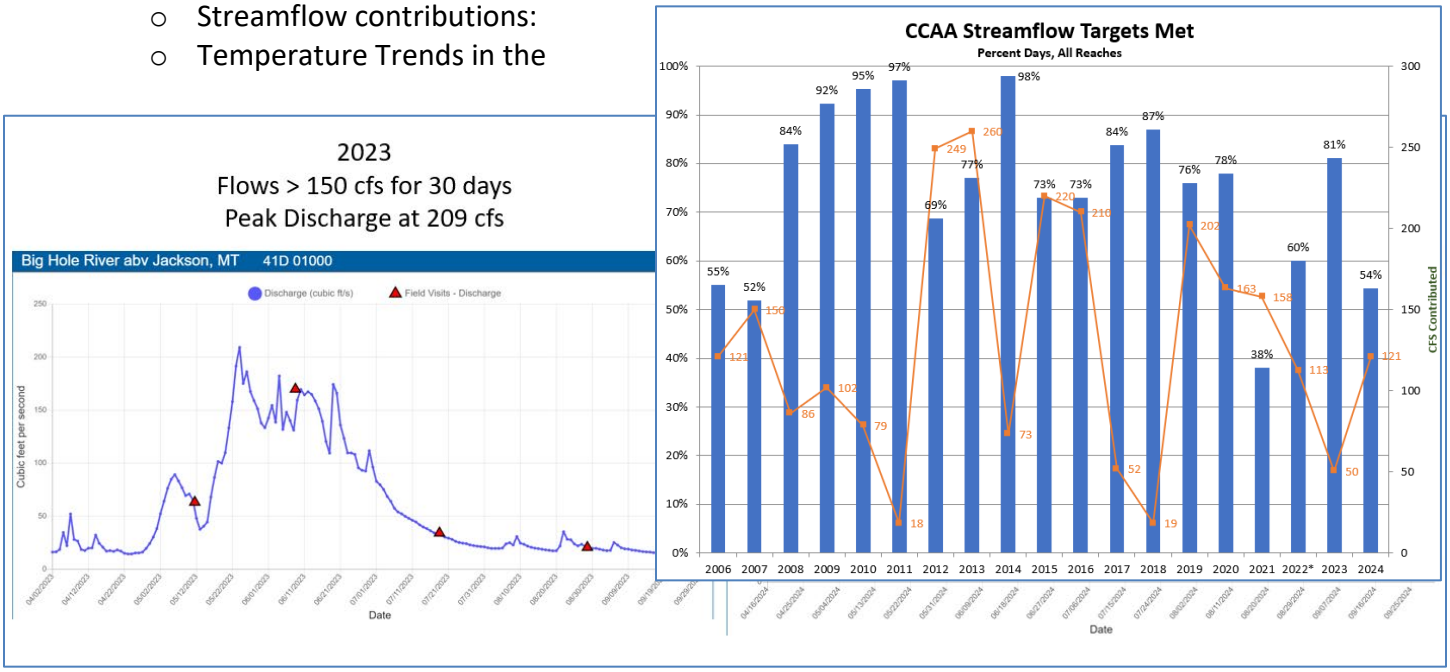
2023: Peak Discharge on June 9th (1700 cfs)



2024: Peak Discharge on April 5th (1100 cfs)



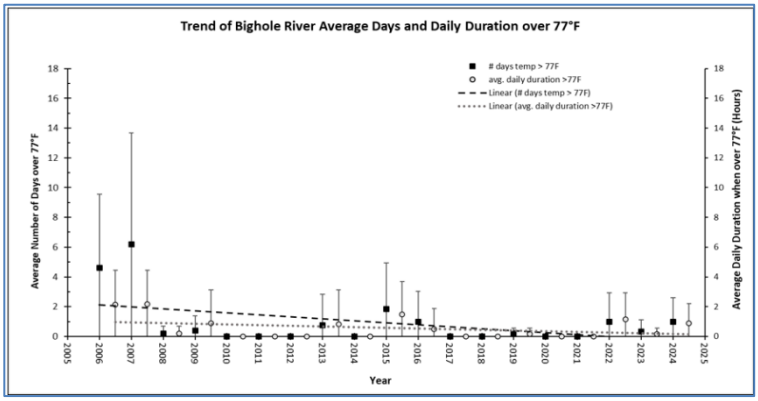
- Irrigation Infrastructure Monitoring 2024:
  - Number of irrigation monitoring runs: 13 days spring/9 days fall
  - Headgates checked during irrigation monitoring: 92 spring/81 fall
  - Headgates checked between irrigation monitoring spring/fall checks: 93 headgates over 22 different days
  - Total checks in 2024: 266 headgates
  - Flow measurements: 112 flow measurements in Big Hole River and tributaries
  - What do biannual irrigation monitoring runs provide?
    - Identify projects, non-functioning headgates or diversions, etc.
    - Identify contributions
    - "Where water is"
    - Documenting landowners are following agreed upon site plans
- Streamflow contributions:
- Temperature Trends in the Upper Big Hole



- Instream Flow Projects Completed in 2024
  - 10 headgates funded by FWP and USFWS
    - Warm Springs Complete: 1 headgate
    - Pintlar Creek: 5 headgates
    - Bull Creek: 4 headgates
      - Rocks piled up were fully blocking the stream in Diversion 1

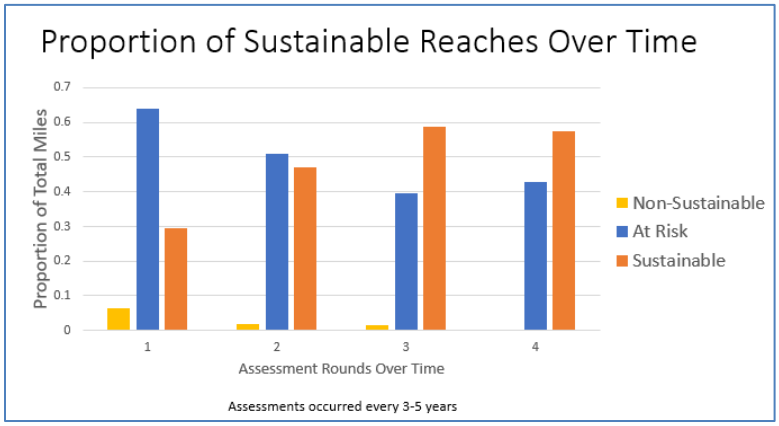
CCAA Management Reach	Spring Flow Targets (cfs)	Summer/Fall Flow Targets (cfs)
A	-	20
B	-	40
C	60	60
D	-	100
E	-	170

- Headgates on the ditches were not able to fully shut on all 3 diversions
- Now they all have functioning rock diversions in Bull Creek and pin and planks in the ditches
- Pin and planks will allow for better fine tune adjustments and to fully shut off the ditches

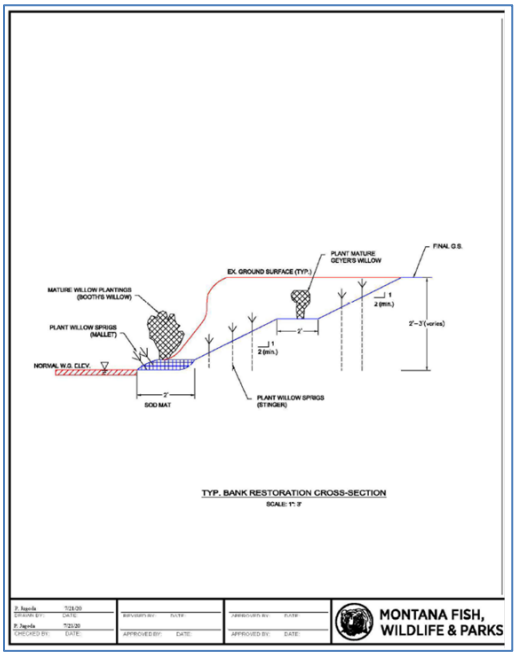


- Spring 2025 Instream Flow Project
  - Diversion on off Big Lake Creek
    - Repair existing pin & plank & reset fish ladder
    - Level Existing Flume
    - Clean 100 linear feet of ditch below headgate

- Conservation Measure #2 – Improve and protect the function of riparian habitats:
  - Riparian habitat is the floodplain along rivers and streams
  - Streams with healthy riparian habitat have
    - Lower stream temperatures from willow shading
    - Less turbidity from stable streambanks
    - Greater habitat complexity for grayling
      - Narrow channels with deep pools
  - NRCS Rapid Riparian Assessments
    - Scores streams across 10 categories focusing on:
    - Vegetation
    - Stream Morphology
    - Rating Score Ranges
      - 0-49 Non-Sustainable
      - 50-79 At Risk
      - 80-100 Sustainable
  - Improve and Protect the Function of Riparian Habitats
    - Current riparian average for the Big Hole on enrolled lands is 77.83% on 267 miles
    - Initial assessment average 69.6%
    - 34 miles completed in 2024
    - Grazing strategies and projects are working, but work remains



        - Projects are identified through riparian assessments and landowner input
        - New stream miles with our new enrollment
    - Methods to Improve Riparian Health
        - Fencing
        - Stock Water
        - Restoration
        - Willow Planting/Staking
        - Grazing Plans
    - Governor Creek Streambank Restoration
        - This project will repair 593’ of streambank by:
        - Sloping the banks to a minimum of 2:1
        - Transplanting willows every 25’
        - Willows will be staked 4 per foot
        - And transplanting wetland sod with 50% or more sedge species on the newly excavated sod bench.



    - Stock Water Systems
        - Provides a water source in upland pastures
        - In riparian pastures allows cattle to access water without needing to go to the stream
            - Reducing bank trampling
            - Reduces grazing on deep rooting species like willows or sedges
                - Reduces fine sediment input into the stream
                - Provides greater bank stability
                - Increases cover of willows
        - No longer need to leave the ditch on throughout the winter to water the cattle
        - Riparian Habitat Projects Completed in 2024
            - 17 Stock Water Projects funded by NRCS, FWP, and FWS
                - Repaired 4 Stock Water Systems
                - 4 Stock Water Systems from Spring Developments
                - 5 Stock Water Systems from Wells
                - 4 Wells for Stock Water Systems
    - U.S.D.A. Natural Resources Conservation Service
        - Partners in conservation
        - Part of the CCAA Management Team since 2006
            - Conservation Planning
            - Project Cost Share
                - Farm Bill Programs (EQIP, CSP, MFC)
            - Engineering and Design
            - Cultural Resource Inventory
            - Public Outreach and Education
        - Montana Focused Conservation
            - Targeted Implementation Programs (TIPs)
                - Phase 1 – Upper Big Hole Stock Water Development
                    - 2022 – 3 Participants
                        - $119,000

        - 2023 – 2 Participants
            - $64,000
        - Totaling $183,000
    - Phase 2 – Wisdom Reach Stock Water Development
        - 2023 – 3 Participants
            - $208,000
        - 2024 – 1 Participant
            - $50,000
        - Totaling $285,000
    - Phase 3 – Wisdom Extension Stock Water Development
        - 2025 – 2 Participants
            - About $300,000
        - 2026 – 1-3 Participants
            - $200 – $400,000
- For More information, visit Montana Focus Conservation: https://www.nrcs.usda.gov/conservation-basics/conservation-by-state/montana/montana-focused-conservation or Google "Montana Focus Conservation"

- Conservation Measure #3 – Identify and reduce or eliminate entrainment threats for grayling
    - Fish entrainment is the loss of fish when they are trapped in ditches due to irrigation off of streams.
    - Entrainment:
        - Ditches Surveyed every 5 years
        - Problematic Ditches – annually
        - In 2023 a return channel project was done to address last major issue
        - Fish screens were installed on Rock Creek and LaMarche Creek
        - Not a major concern for the Big Hole CCAA program anymore
- Conservation Measure #4 – Barriers to fish Movement
    - Barriers:
        - Diversion Structures
        - Beaver Dams
    - Fish Passage
        - Stream miles (%) accessible to Grayling
            - Tier I- 99%; pre-CCAA=87%
            - Tier II- 68%; pre-CCAA=27%
            - Tier III- 23%: pre-CCAA=6%
        - Beaver Dam Notching
            - Beaver dams are notched right before grayling spawning to allow access to important spawning tributaries

Arctic Grayling Population Status

- Arctic Grayling Conservation Goals
    - Populations exhibit a stable or increasing genetic effective population size (Ne) over multiple generations that is sufficiently large to avoid inbreeding depression and maintain evolutionary potential.
    - Maintain or increase geographic distribution of extant UMR grayling populations.

    - Restore conservation populations of UMR grayling in historically occupied drainages.
- Big Hole River Population Monitoring
- Beaver Dam Notching:
    - 2021: Notched dams on Fishtrap Creek
    - 2022: Adult grayling moved into Fishtrap, low numbers in other tributaries
    - 2023: Notched 24 dams in six tributaries
    - 2024: Continue to maintain 10.5 miles of suitable accessible habitat
- French Creek:
    - Restocking:
        - 2022: 12,350 Arctic grayling (350 age-1)
        - 2023: 4,408 grayling (age-0 and age-1)
        - 2024: 1103 age-1, 105,289 eggs
    - Future stocking:
        - 2025 last year for WCT
        - AG continue through RSI's
- Big Hole Native Lake Populations:
    - Miner Lake
        - Stable Population
    - Mussigbrod Lake
        - Stable Population
    - Pintler Lake
        - Decreasing Population
        - Declining genetic diversity
- Other Grayling Work:
    - Over-winter Improvements (Upper Red Rock Lake)
    - Introduction Projects
    - Seven active projects (including French Creek)

Upcoming Meetings

- Wednesday, May 21, 2025: BHWC Monthly Meeting
    - 7:00 PM at the Divide Grange Hall- Topic: Big Hole River Fishery Update

Adjourn