



Big Hole Watershed Committee

Monthly Meeting Minutes

May 18th, 2022 – 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, Resident; Jim Hagenbarth, Rancher/BHWC; Paul Cleary, Resident/BHWC; Sandy Cleary, Resident; Randy Smith, Rancher/BHWC; Jim Dennehy, BSB Water/BHWC; Diane Hutton, Resident; John Reinhardt, Rancher/BHWC; Jarrett Payne, MFWP; Craig Fellin, Big Hole Lodge; Tyler Kamp, Resident; Steve Luebeck, Sportsman/BHWC; Paul Siddoway, Resident; Matt Jaeger, MFWP; Jim Olsen, MFWP; Clayton Elliot, MTU; Lance Trebesch, Resident; Roy Morris, GGTU/BHWC; Tim Fay, Resident; Brett Jordan, Gainey Foundation; Mike Wilkinson, Resident; and John Jackson, Beaverhead County Commission/BHWC.

Zoom: Matt Norberg, DNRC; Andy (no last name); Eric Thorson, Sunrise Fly Shop/BHWC; Lauren and Jayd (no last name); Peter Frick, Rancher/BHWC; Bill Kempf, BHWC; and Pat Clayton.

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/Snowpack Report as of May 18, 2022 – Matt Norberg, Montana Department of Natural Resources and Conservation

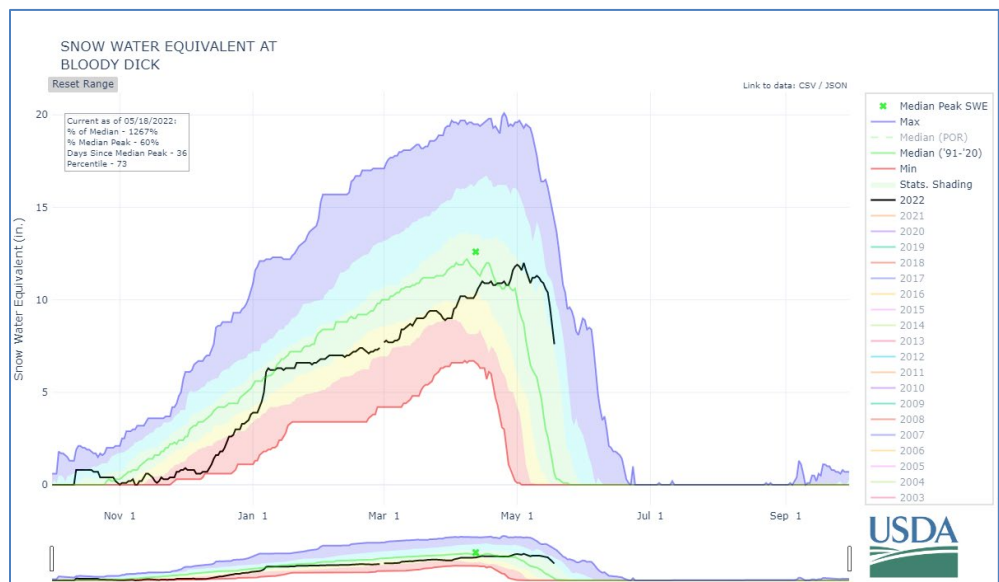
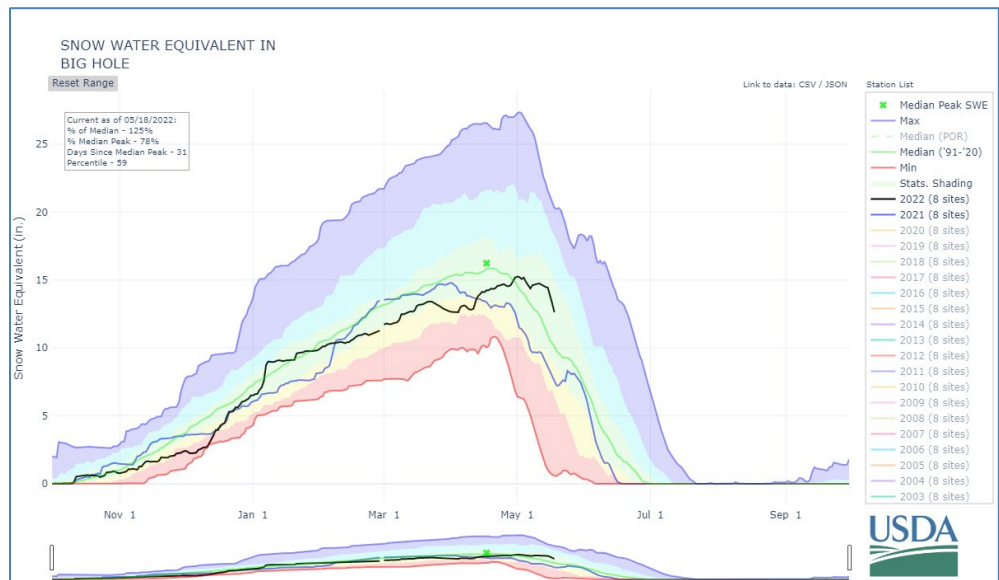
Station Number	Station name	Date/Time	Gage height, feet	Dis-charge, ft ³ /s	Long-term median flow 5/18	Temperature, water, deg C
■ UPPER MISSOURI RIVER BASIN						
06024450	Big Hole River bl Big Lake Cr at Wisdom MT	05/18 08:45 MDT	2.30	72.2	385	8.8
06024540	Big Hole River bl Mudd Cr nr Wisdom MT	05/18 08:30 MDT	3.50	728	1,750	--
06024580	Big Hole River near Wise River MT	05/18 08:45 MDT	--	--	---	Ssn
06025250	Big Hole River at Maiden Rock nr Divide MT	05/18 08:45 MDT	4.05	1,390	3,120	10.7
06025500	Big Hole River near Melrose MT	05/18 08:15 MDT	2.53	1,170	2,970	11.7
06026210	Big Hole River near Glen MT	05/18 08:30 MDT	3.06	1,100	2,750	--
		10/01 01:00 MDT	--	--	---	10.1
06026420	Big Hole R bl Hamilton Ditch nr Twin Bridges, MT	05/18 08:30 MDT	1.850	697	2,960	13.0

- **Streamflows:** Big Hole River stream flows are well below the long-term median values for this time of year. Cold air temperatures have dominated the region for most of April and May which has delayed snowpack runoff. Irrigation demands are also contributing to low flows prior to runoff. However, the warmer temperatures within the past couple of days coupled with precipitation have started melt and we are seeing an increase in stream flow. The May-July NRCS volumetric forecast indicates that the Big Hole has an 83% that we will meet the 50% exceedance probability. The 50% exceedance is typically indicative of normal streamflow volumes. 50% exceedance for Wisdom is 57,000 AF and Melrose is 345,000 AF.

Station Code	Station Name	Basin	Last Measured	Last Discharge ft ³ /s	Last Stage ft.	Last Temp °C
41D 01000	Big Hole River abv Jackson, MT	Upper Missouri Basin	5/18/2022, 8:45 AM	75.85	1.62	3.33
41D 02000	Big Hole River abv Spring Cr nr Jackson, MT	Upper Missouri Basin	5/18/2022, 8:45 AM	32.00	1.68	6.80
41D 05000	Big Hole River at Miner Creek nr Jackson, MT	Upper Missouri Basin	5/18/2022, 8:45 AM	171.22	1.72	7.06
41D 08000	Big Hole River near Wise River, MT	Upper Missouri Basin	5/18/2022, 8:45 AM	1144.38	3.74	9.10

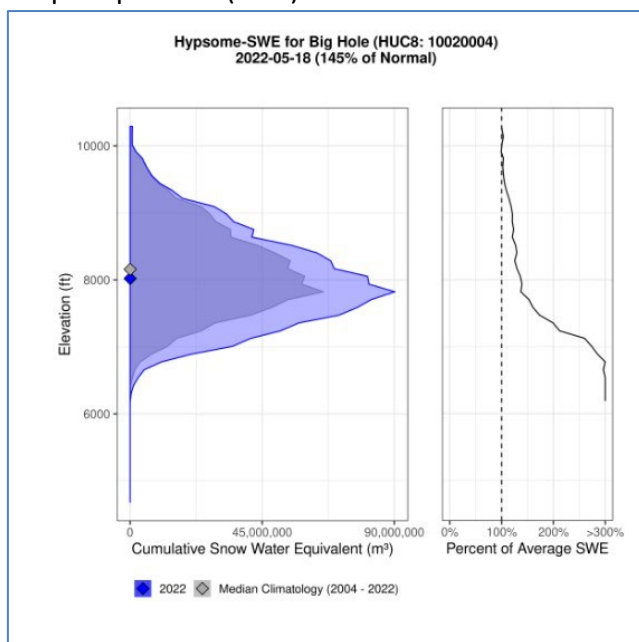
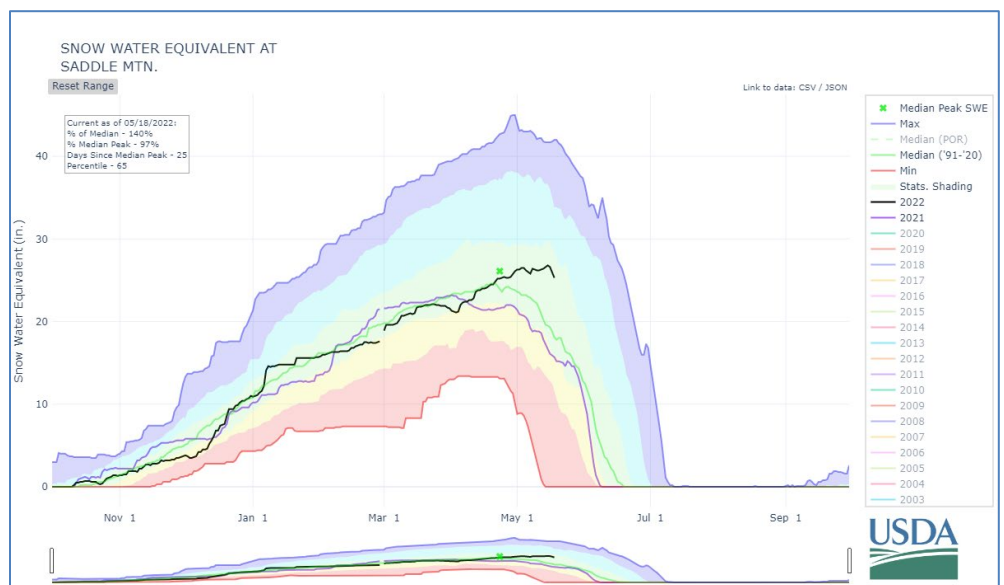
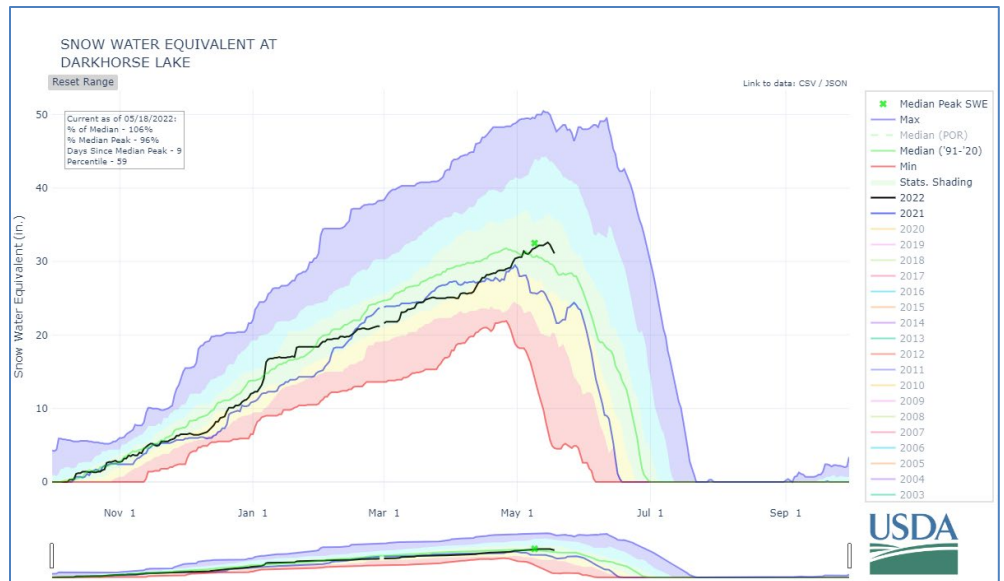
- **Precipitation/Snowpack:**

The NRCS is reporting that precipitation for the Big Hole basin is currently 125% of median conditions for this particular day. This number can be misleading this time of year, as the percentage refers to the current days SWE versus the average and not the percentage of peak snowpack. For example, the Bloody Dick SnoTel is currently reporting 7.6" SWE but the median value is 0.6" SWE so the % of median is 1,267%. Snowpack in the Big Hole watershed peaked on May 18, 2022 at 15.3" SWE (94% of peak) which is below the median peak at 16.2" SWE. The good news is with the cooler air temperatures the snowpack has started melting out later than the typical trend (1.5 weeks later). High elevation SnoTel sites benefited from the April and May storms. The Darkhorse SnoTel peaked at 32.6" SWE which is at the median value (32.5"), and the

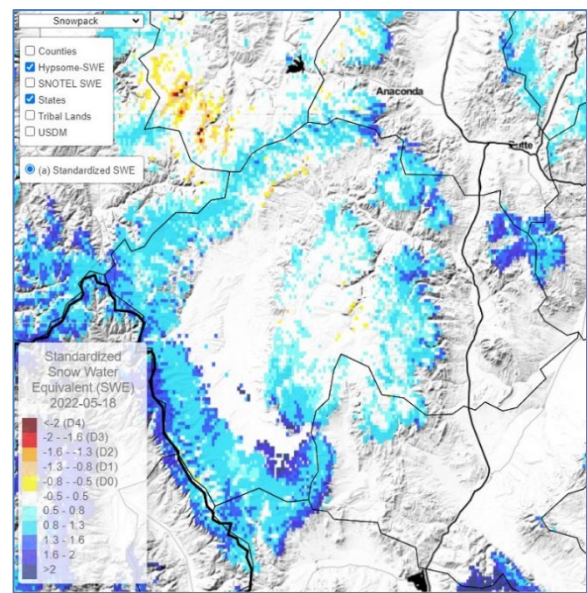


Saddle Mtn. site peaked above the median and approximately 3 weeks later than the peak. However, comparing the rate of melt over the last couple of days indicates the snowpack is melting at a faster rate than typical. Overall, in general there is more volume of snow to come out of the mountains compared to last year. How the snow comes out depends on precipitation and air temperatures. A normal to cool June will slowly melt out keeping river levels elevated longer and a warmer and drier June will melt out faster and bring baseflow conditions sooner to the Big Hole (see 3-month temp/precip forecast).

- *Precipitation:* Currently the Big Hole is tracking close to median precipitation (97%).

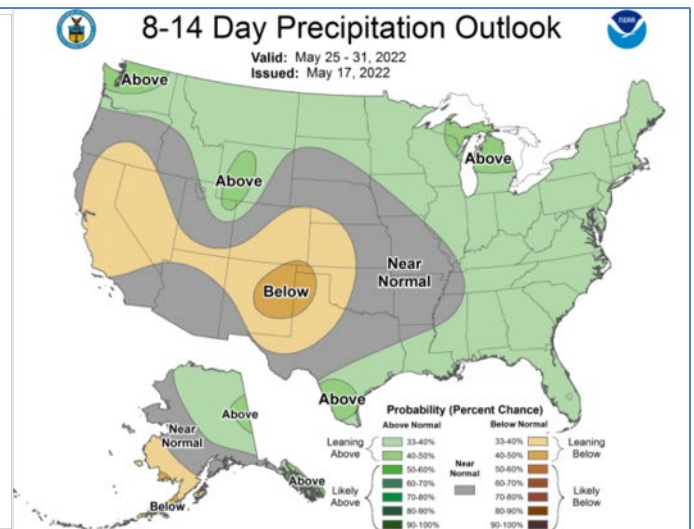
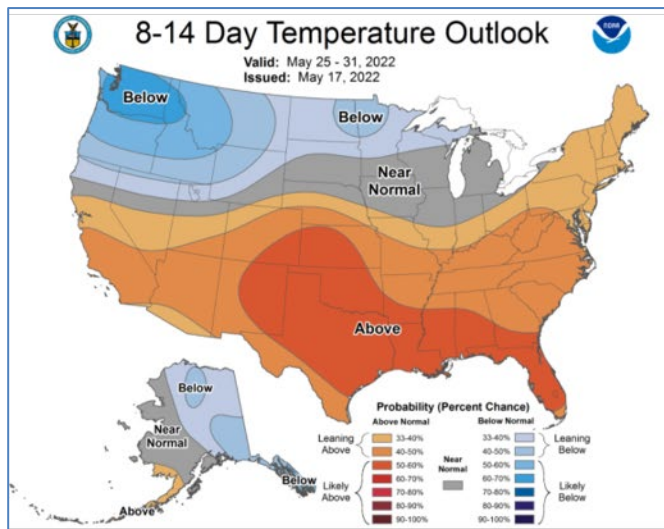
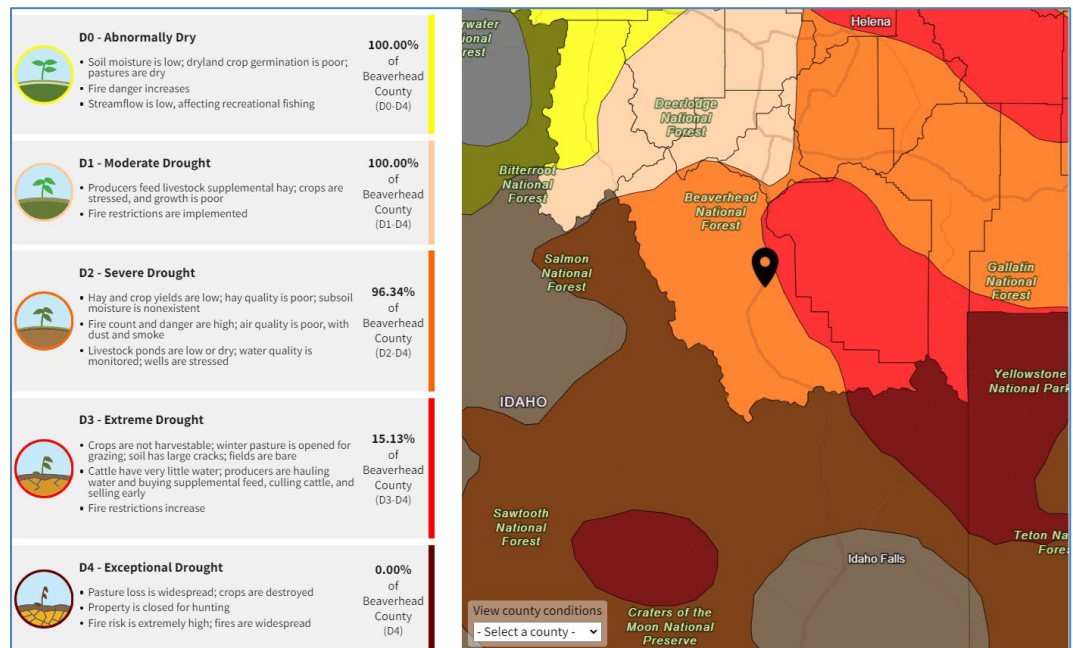
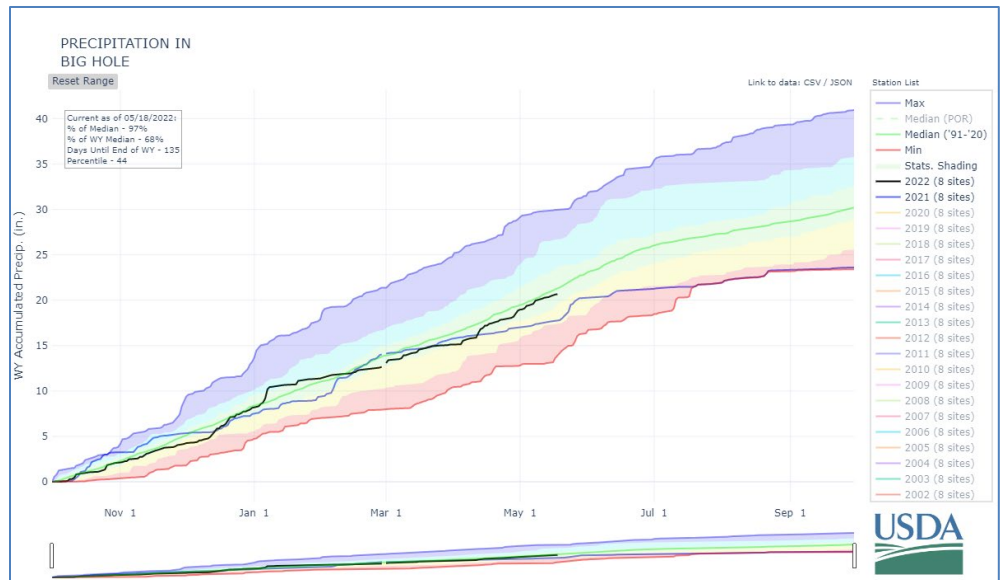


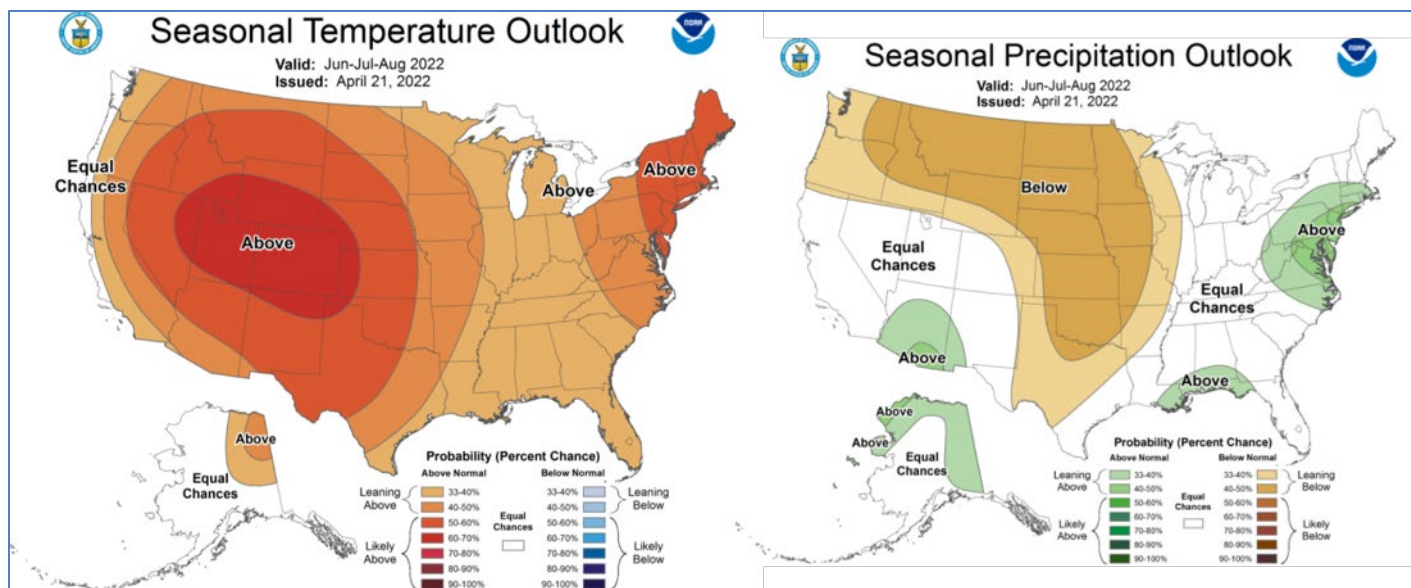
April and May storms tremendously benefited the Big



Hole, and we are ahead of where we were last year in terms of total precipitation. As we all know, late spring and summer precipitation can make or break river conditions and overall soil moisture.

- **Drought Status:** The Big Hole drought status ranges from D1 to D3, with the majority of the watershed in D2 status.
- **8-14-day Outlook:** The 8-14-day outlook predicts below average temperatures and near normal to slightly above precipitation.
- **Seasonal Outlook:** The June, July, and August outlook predicts a transition to above normal temperatures and below normal precipitation. The remaining summer months are predicted to become increasingly warmer and drier. Water users should





expect shortages during the late spring/summer months which is all dependent upon air temperatures and precipitation. While current conditions are trending in the right direction the prolonged forecast could mimic last year's hot/dry conditions. (From NOAA): ENSO Alert System Status: La Niña Advisory

- *Synopsis:* Though La Niña is favored to continue, the odds for La Niña decrease into the late Northern Hemisphere summer (58% chance in August-October 2022) before slightly increasing through the Northern Hemisphere fall and early winter 2022 (61% chance).

Director's Report – Pedro Marques, Executive Director

- Watershed Restoration Plan update
- 2022 Drought Management Plan distribution
- Business interest in Conservation Fund growing
- Working on 1% for the River table-top displays
- Water Storage – Honing in on funding for modeling effort
 - Suite of storage projects to deliver conservation targets at 5 gages
 - Sub-committee needed
- Fisheries Proposal
- Communications
 - June 1st, 6pm – Depot, Dillon, Premiere of full film!
 - 15-minute version of full film shown as part of International Wildlife Film Festival in Missoula on Monday, April 25th.
 - BHWC will have a table, Q&A session with some of the people represented in the film.
 - Hope to see as many of you as possible there.
 - Signage FAS
 - Director Worsech letter: Montana Outdoors



Steering Committee Report – Randy Smith, Chair; Jim Hagenbarth, Vice-Chair; Roy Morris, Secretary; Steve Luebeck, Treasurer

- Everything is going well. Pedro and the crew are doing a great job.

Wildlife Report – Tana Nulph, Associate Director

- Carcass Removal and Composting:
 - Carcass removal available through end of May
 - Livestock carcasses hauled to BHWC compost site, Wisdom
 - Goal: To prevent and/or reduce conflicts with wildlife by removing predator attractant from local ranches.
 - Service is free, donations accepted – Text “carcass” to 26989 for more info or to contribute
 - 2022 totals so far: 61 carcasses (28 cows, 32 calves, 1 horse)
- Range Rider study:
 - BHWC participating in Range Rider study:
 - Utah State University
 - Colorado State University
 - Funded by CIG grant
 - Western Landowners Alliance
 - Heart of the Rockies Initiative
 - Study Goals:
 - Describe how range riding impacts predator-livestock conflict, livestock management, and rangelands management.
 - Identify to what extent different intensities of riding (frequency, duration, time of day, location, and whether management is used) influence depredation rates and indirect impacts (reduced gain, empty cows, and illness).
 - Identify how predator and range rider activities influence stress (cortisol levels), and behavioral indicators of stress (reduced grazing, ruminating, and resting behavior) in livestock.
 - BHWC Range Rider Program:
 - July 1 – September 30
 - Livestock Loss Board funding

Livestock Carcass Removal & Composting

PICK-UP: 209-628-2225 INFO: 406-267-3421




REDUCE PREDATOR CONFLICT

COMPOST YOUR CARCASSES

Service free to Big Hole Valley Ranchers March-May; donations accepted.

More info: bhwc.org or text 'carcass' to 26989

Partners & Funders: Livestock Loss Board, MDT, NFWF, NRCS, WLA, People and Carnivores, USFWS, HoTR, MDEQ, Vital Ground Foundation, and local ranchers.

Restoration Report – Ben LaPorte, Program Manager

- Upper French Gulch Fish Passage
 - Bids closed-contractor chosen
 - Next: permitting
- Wise River Temp and Flow Monitoring
 - 8 temperature and flow sites
 - 5 temperature sites
- Anaconda Uplands
 - 2023 Scope of Work and new Task Order
- RRGL Application submitted for Pennington Bridge in partnership with Great West Engineering and Madison County

- MT Stormwater Conference – Pedro and Ben spoke

New Business

- “River Ranger” BHRF proposal – The Big Hole River Foundation (BHRF) has drafted a letter to MFWP recommending that they invest “... in a new seasonal staff position to travel FAS sites and conduct direct public outreach related to promoting best catch & release and fish handling practices, education on the impact of water temperature on trout, and general education about how anglers can reduce their impact on the resources they love.”
 - BHRF has asked BHWC to sign this letter or draft one of our own to MFWP.
 - The letter has been sent to BHWC board members via either email or U.S. mail.
 - Please send comments or suggestions to [Pedro](#) (406-552-2369) or [Tana](#) (406-267-3421).
- Initiative 191 – using initiative process to define and outstanding water resource (on the Madison from Ennis to Hebgen and the Gallatin from the Park to Spanish Creek). DEQ already has permitting processes for outstanding water resources, and if this initiative goes through it would have a huge impact on our ability to manage the resource, including values of conservation easements, ability of MDT to salt/sand roads, would stop all BHWC’s tributary restoration work. This is a very dangerous initiative and ties our hands. The public is very naïve about this issue, especially in urban areas. I would encourage people to not sign for this issue to get it on the ballot. The Cottonwood Environmental Law Center (check name).

Meeting Topic: Fishery Update + Proposed Changes to Fisheries Management Plans

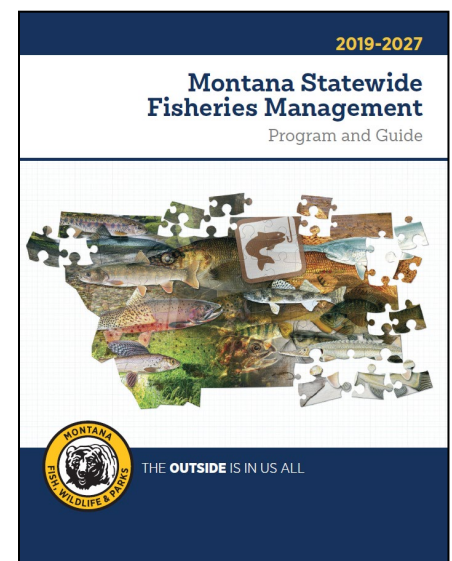
*Presented by: Jim Olsen, Big Hole River Fisheries Biologist;
and Matt Jaeger, Hydropower, Native Species & Beaverhead-Ruby Program Manager;
both with Montana Fish, Wildlife and Parks*

Note: Jim and Matt have presented this information to 14 groups, including BHWC

- The main feedback from across the board (e.g., fly fishermen, bait fishermen, lure fishermen, etc.) was the need for education and outreach regarding proper fish handling and effects of temperature on trout.

Big Hole, Beaverhead, and Ruby River Management Plans – Matt Jaeger

- Last year, MFWP noticed a decline in brown trout populations in some rivers/reaches
 - In response, desire to see regulations put into place
 - Convened group of diverse stakeholders related to angling in Region 3 to discuss potential regulations
 - In about 2 hours, reached consensus on what they wanted to see
 - Produced this menu of potential regulations for the Department Commission to choose from (below).
 - Set up in a way – with different regulations for different sections of different rivers – that we’d be able to learn from what we implemented (i.e., learn the biological response).



- But with what ended up getting passed (the current regs), MFWP biologists don't have that ability. All these things were combined, so they can't learn anything about them at all.
 - Also, some sections, like the upper Beaverhead, that were above average abundances, got restrictive regulations similar those that areas with low abundances were given.

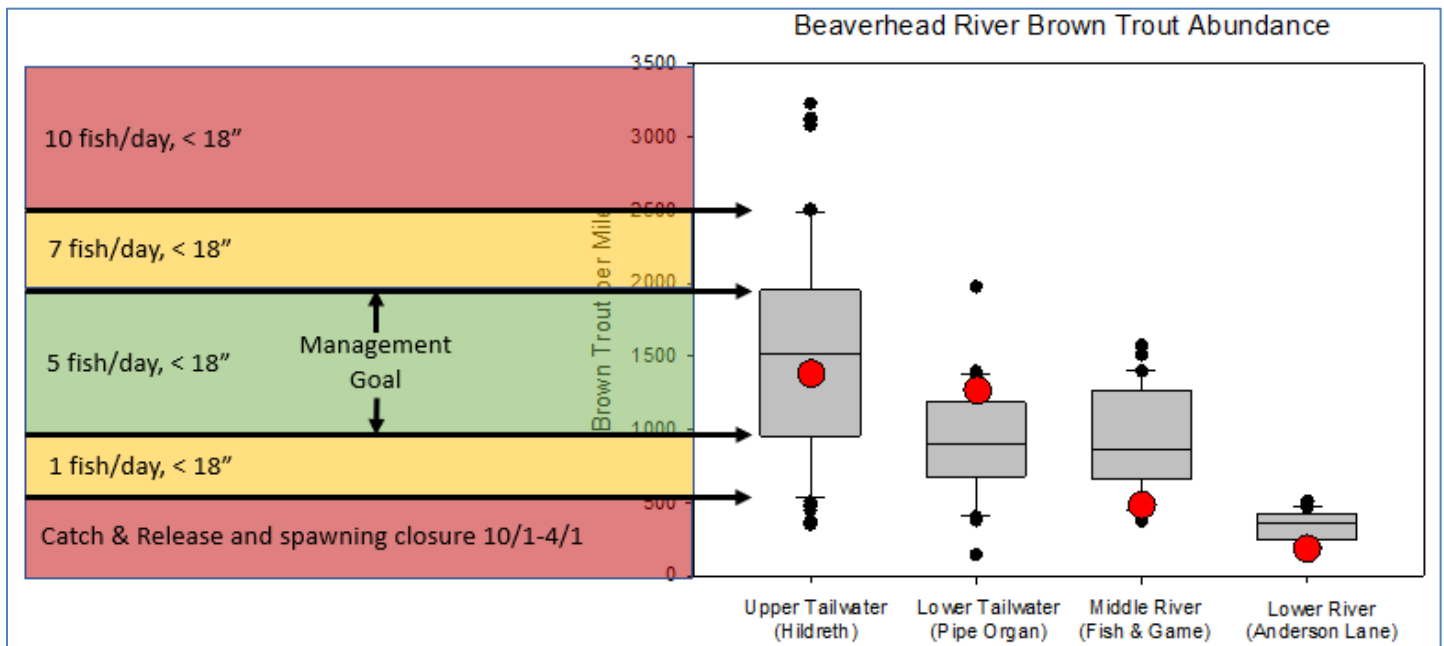
River	Regulation	Reach	River Mile start/end	FWP Monitoring section
Big Hole	Control (status quo)	Dickie Bridge to George Grant FAS	71.7 – 57.1	Jerry Creek
Big Hole	Spawning Closure	BLM Maiden Rock to Browns Bridge	47.5 – 32.3	Melrose
Big Hole	Catch & Release for Brown Trout	Browns Bridge to Tony Schoonen FAS	32.3 – 18	Hogback
Big Hole	Hoot Owl	Tony Schoonen FAS to mouth	18 – 0	Pennington
Beaverhead	Catch & Release for Rainbow Trout only	Clark Canyon Dam to mouth	75.5 – 0	Hildreth
Beaverhead	Spawning Closure*	Clark Canyon Dam to Pipe Organ Bridge	75.5 – 68.0	Hildreth
Beaverhead	Control (status quo)	Pipe Organ Bridge to Selway Park FAS	68.0 – 47.5	Half Pipe, Fish & Game
Beaverhead	Hoot Owl	Anderson Lane to mouth	38.5 – 0	Anderson Lane
Ruby	Spawning Closure	Ruby Dam to Passamari Diversion	45.2 – 42.6	Vigilante
Ruby	Control (status quo)	Passamari Diversion to Duncan District Road	42.6 – 13.9	Miller, Silver Springs
Ruby	Hoot Owl	Duncan District Road to Mouth	13.9 - 0	Hamilton
Madison	Spawning Closure	Beartrap Creek to Blacks Ford	23.8 – 34.4	Norris
Madison	Control (status quo)	Blacks Ford to mouth	34.4 – 0	Grey Cliff
Yellowstone	Control (status quo)	YNP Boundary to Emigrant FAS	558.8 – 525.1	Corwin Springs
Yellowstone	Catch and Release for Brown Trout	Emigrant FAS to Pine Creek Bridge FAS	525.1 – 507.8	Mill Creek Bridge

- So, as part of this Statewide Fisheries Management Plan, wanted to take a crack at setting up a framework that would help dictate when and how we put on regulations
 - Emphasize what's working and what isn't in terms of driving populations
 - Existing Management Plan is about 1,000 pages and reads more like an encyclopedia than a management plan. Legislature asked that MFWP update it more frequently – every 4 years rather than 8 – and make it more prescriptive by stream.
 - Timeline:
 - End of May: turn data into fisheries for internal assimilation and review
 - Late summer/early fall, the document will go out for public review
 - Calculating fish populations:

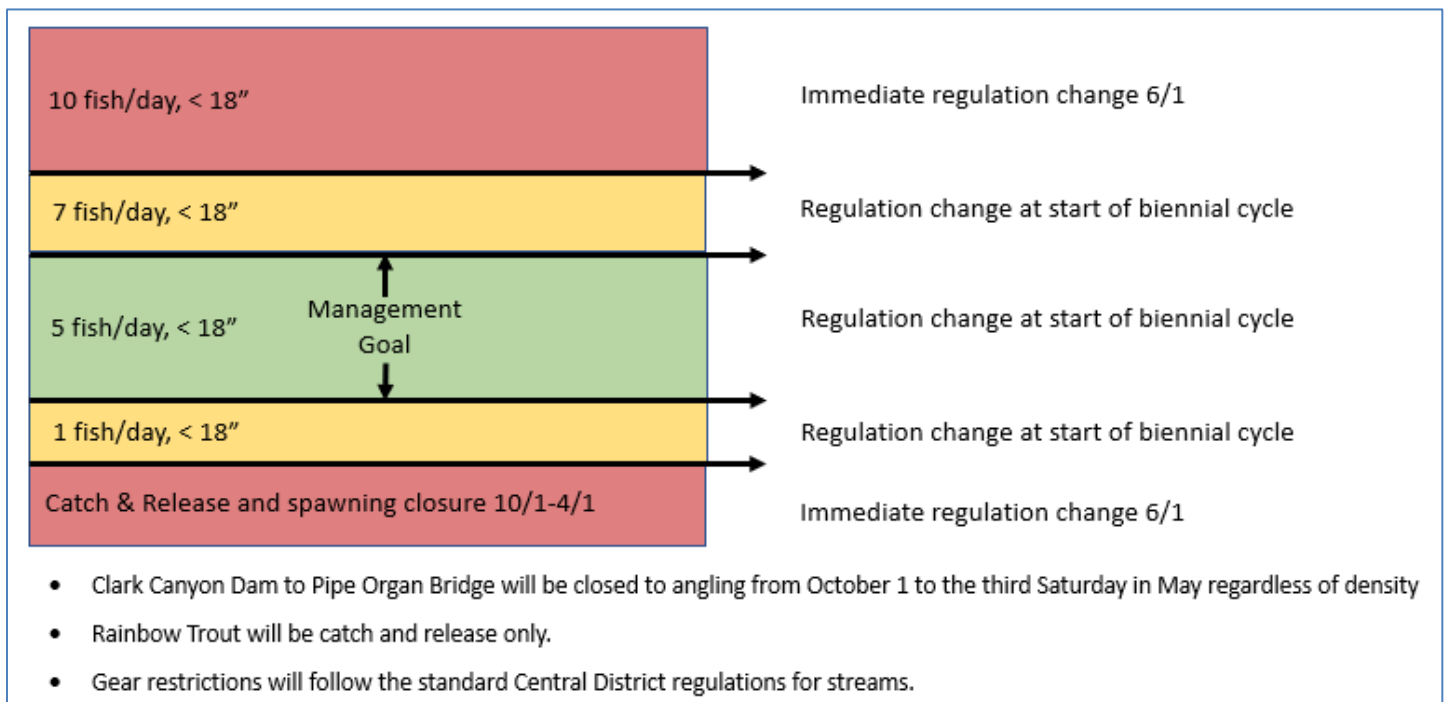
$$N_{t+1} = N_t S_t + (F_{t-2} \alpha_{t-2} \beta_{t-2} \gamma_{t-2} \delta_{t-2} \varepsilon_{t-1}) \theta_t$$

- Natural mortality – low flows, high densities of smaller fish that compete fiercely, habitat-related issues, predation
 - Angling mortality – part that MFWP can steer/effect
 - MFWP uses formula above to calculate how changes in fishing regulations can drive populations
 - If we have a good flow year, we can double the population in a year.
- What Jim and Matt are proposing:
 - **Beaverhead River** – broke into 2 sections (Dam to Barretts – 17 miles, Barretts to confluence)
 - Graph – inside the gray box is between the 25th and 75th percentile of all observations seen through time (~50 years of data)

- Currently, regulations aren't tied to this data, and Matt and Jim would like to change that
- Inside of the box = good quality fishery
 - Proposing management framework based on this data (keep XX fish/day, <18" – keep more when abundance is higher, keep fewer when abundance is lower



- Changes in regulation cycle implemented recently – moving from 4-year cycle to 2-year cycle (staggered with wildlife season setting)

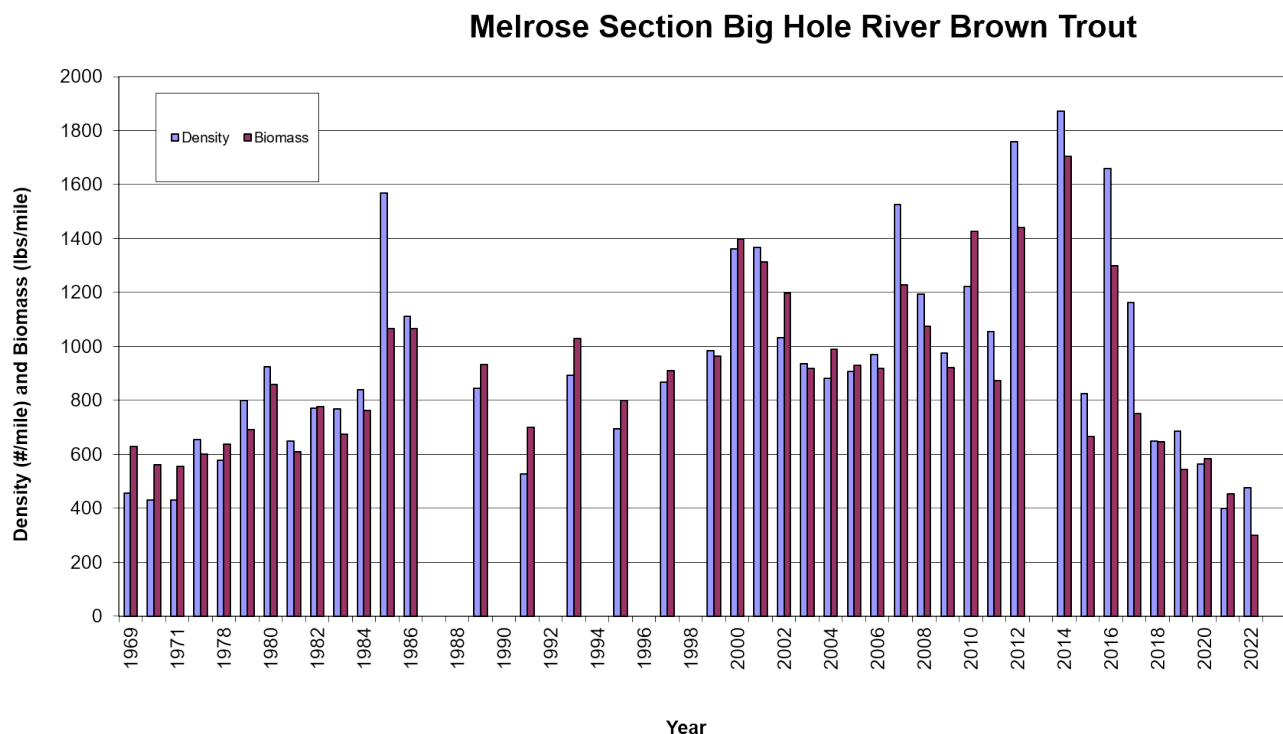


- This is a regulation year – will be wrapping up scoping soon and will have public comment this summer
- On the upper Beaverhead – above average abundance of brown trout (~19% over 18")

- For next cycle, will propose unlimited fly fishing take as opposed to catch and release. The population can sustain it.
- Lower Beaverhead – 46% of average abundance, huge fish (460% of average fish >18")
 - Catch and release
 - Spawning closure
- Ruby River:**
 - 2 sections (Dam to Alder, Alder to confluence)
 - Entire Ruby currently between 5th and 25th percentile
 - Recommendation is to 1 fish/day, <18"
 - Reservoirs:**
 - Most fish in the reservoirs are wild (75-79%).
 - Emphasize habitat enhancement and spawning closures for management.
 - Improve quality/survival of stocked fish, not increase numbers.
- MFWP Priorities:
 - Learning and research: Assessing how changing regulations can impact fish populations
 - Learn more about angling mortality by partitioning it into different types of mortality
 - Harvest
 - Catch and release – fly, bait, treble
 - Multiple catch and release
 - Catch and release – temperature, flow

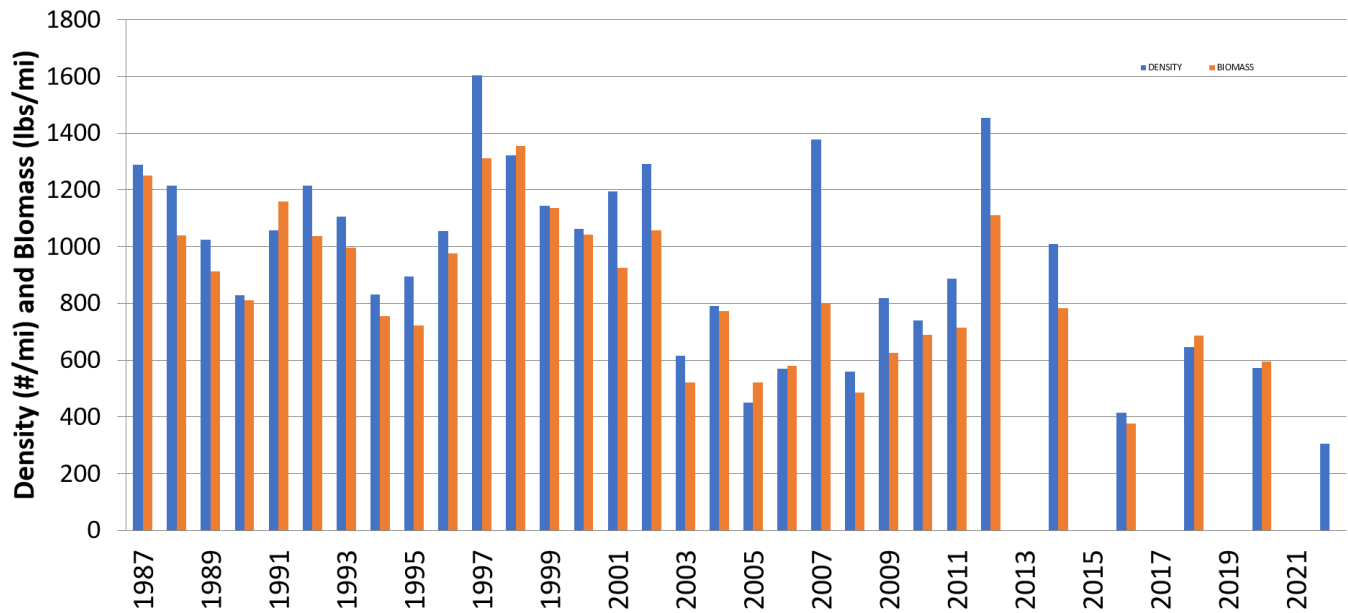
Big Hole River Fishery Update – Jim Olsen

- Brown trout:
 - Melrose section – 2022 estimate increased for the first time in 5-6 years. Still low relative to historical estimates. Increase was primarily Age-2 brown trout (8-12").



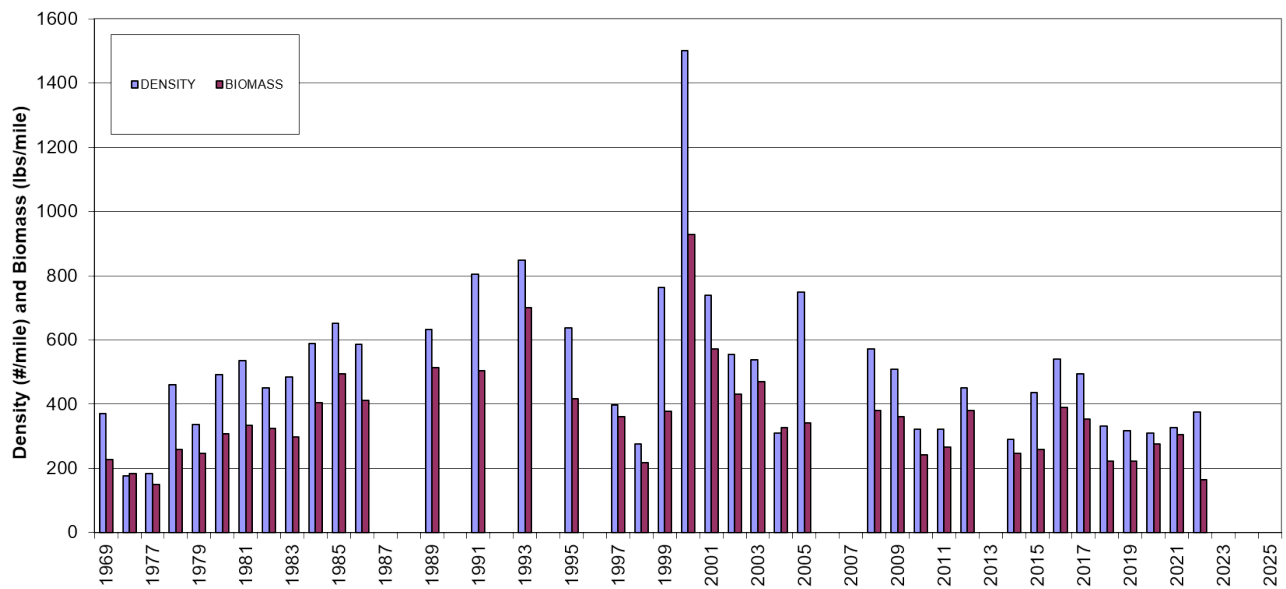
- Hogback section – sampled every other year. Low abundances in 2022.

Brown trout Hogback Section Big Hole River

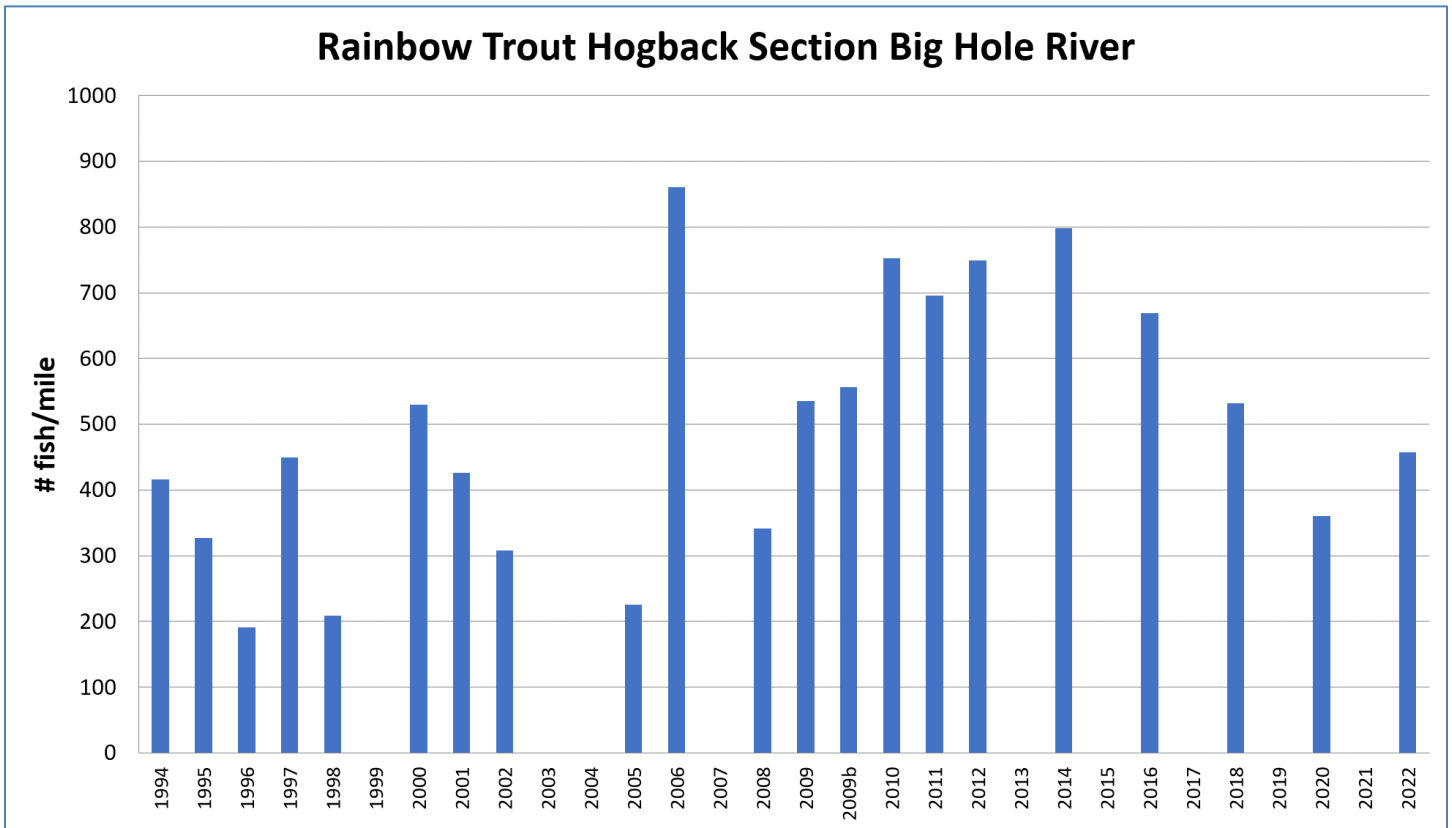


- Rainbow trout:

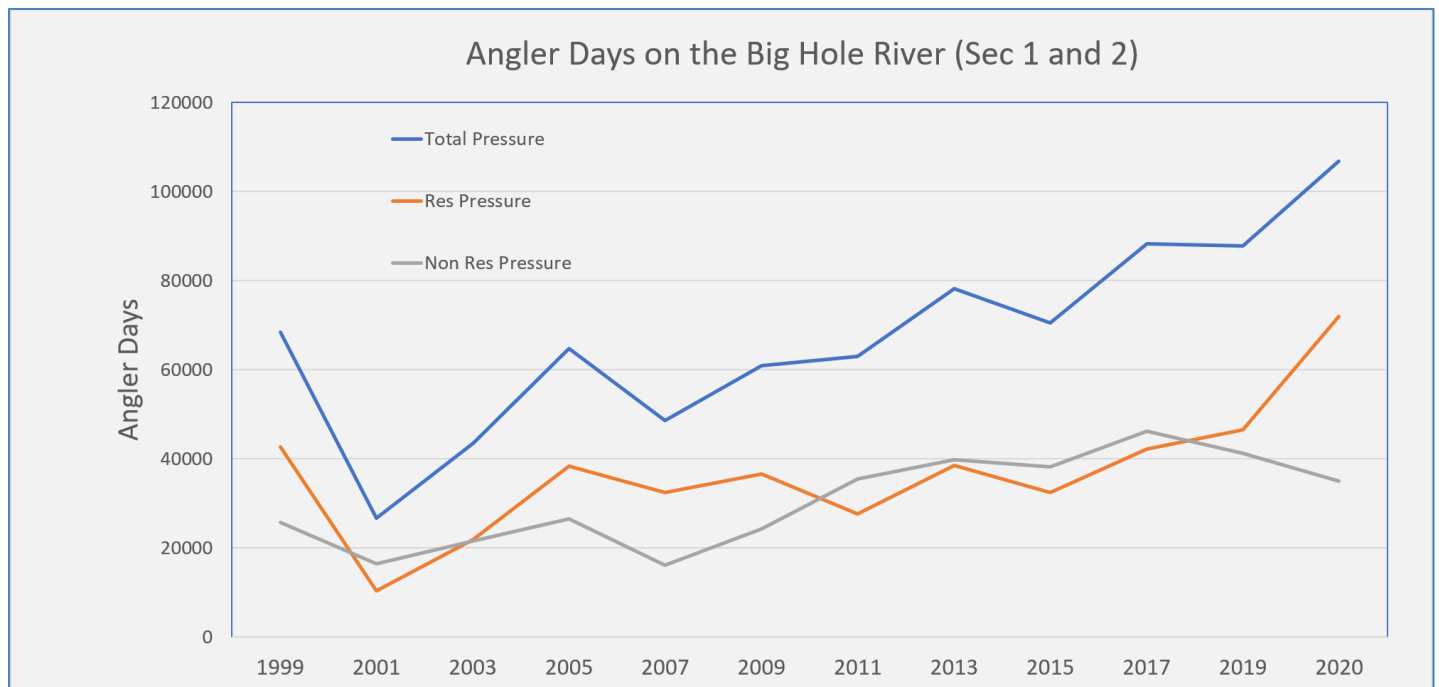
Melrose Section Rainbow Trout



- Melrose section – declined slightly but relatively stable over the last 5-6 years. Good recruitment class of smaller fish this year.
- Hogback section – slight increase

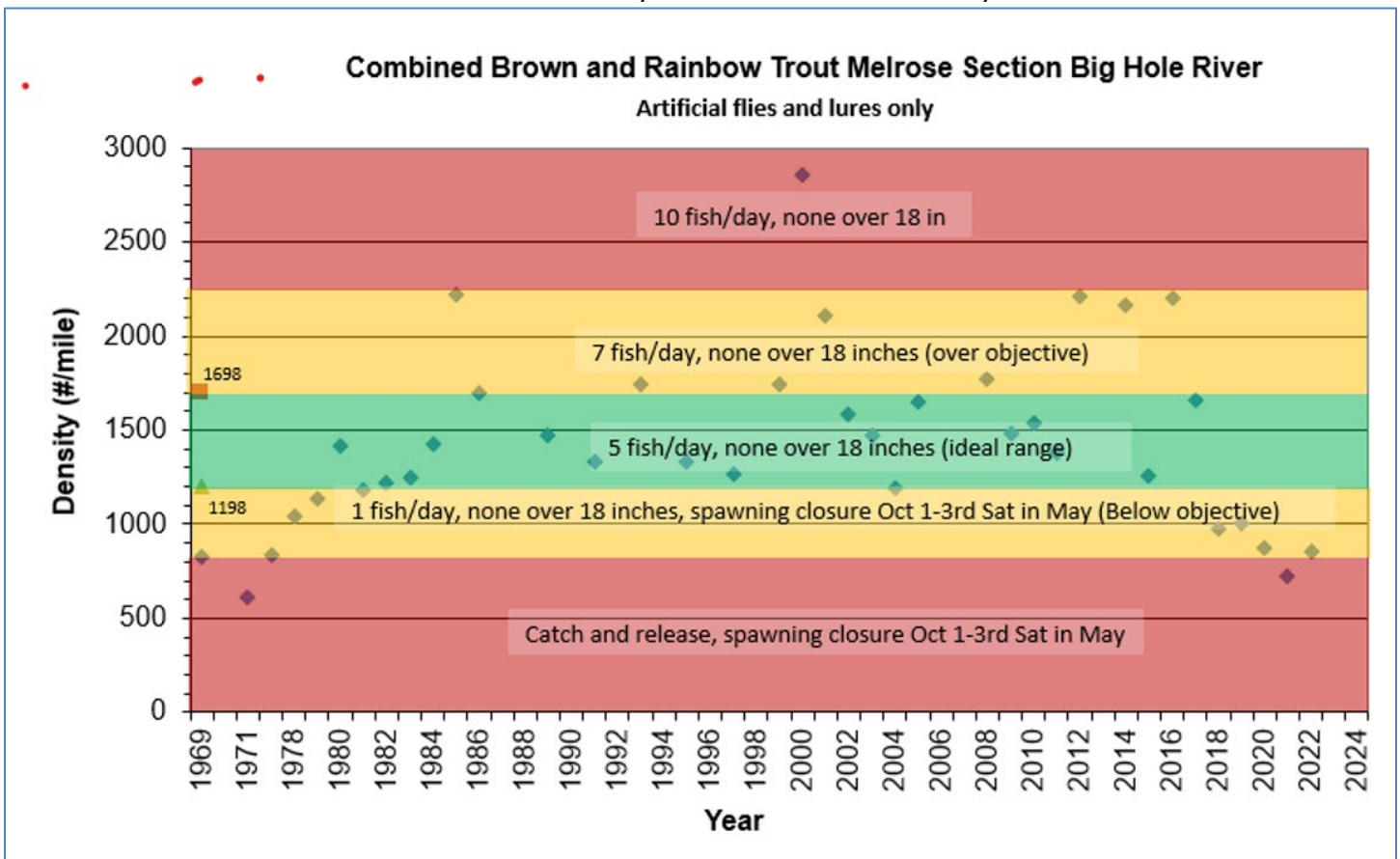


- Angling pressure:
 - Usually measured on odd years, but MFWP measured in 2020 because there were more people fishing than usual due to not working because of the COVID-19 pandemic.
 - 2020: almost 110,000 angler days (110,000 people fishing for one day on the river)
 - Big drop in non-resident days and increase in residents fishing due to pandemic.



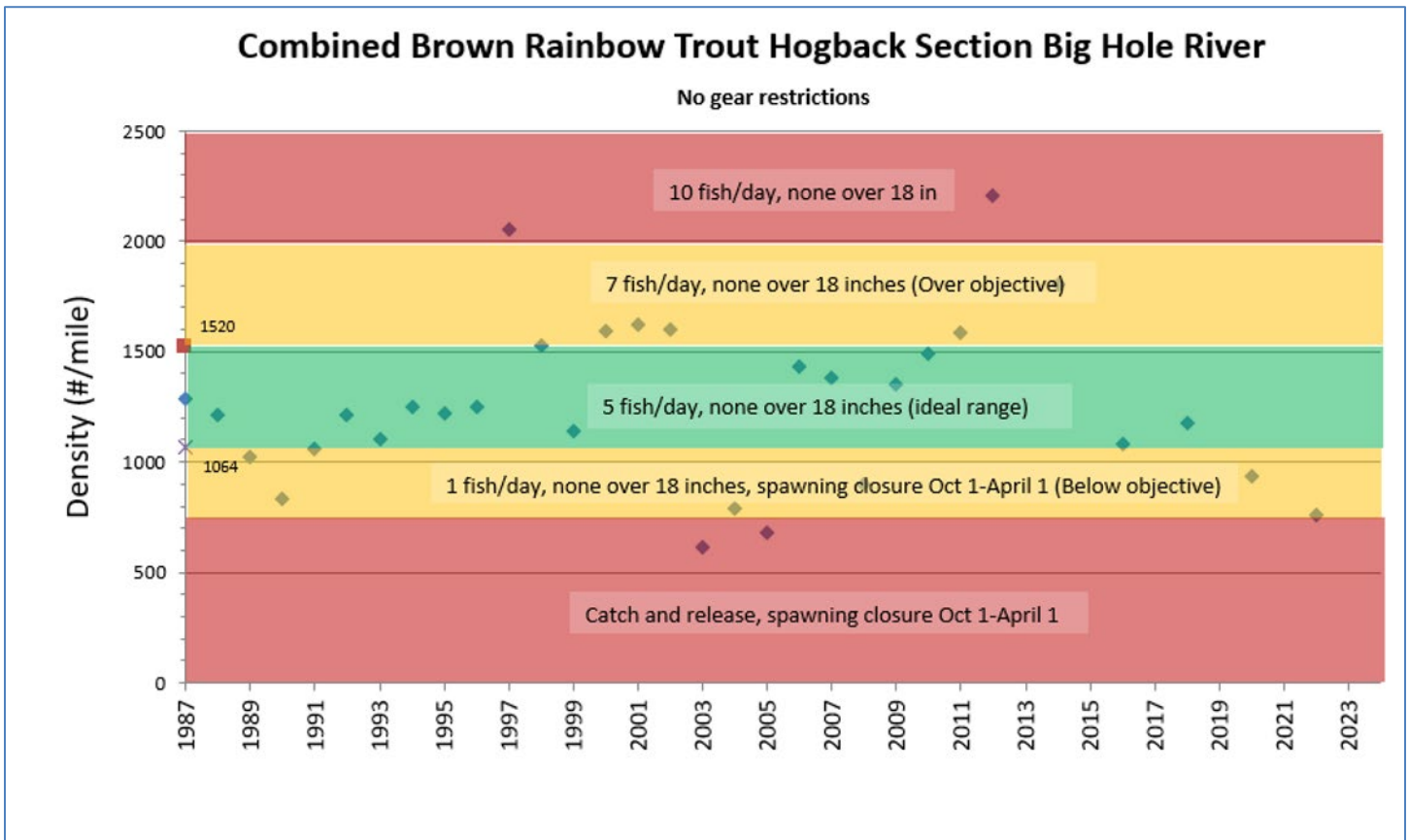
- **Big Hole River Fisheries Management Plan**

- No significant management changes on river since 1981 (slot limit, artificials only above Melrose)
- Develop population objectives:
 - Three management sections:
 1. Upper section: Upper River already defined to be managed to promote Arctic grayling – can keep 5 brown trout of any size, can keep 20 brook trout
 2. Middle section: Dickie Bridge to Brownes Bridge (habitat/flow change) – monitored annually
 3. Lower section: Brownes Bridge to mouth
 - Middle section – monitored at Melrose every spring:
 - Population estimates by May
 - Changes to fishing regs by June 1, if necessary
 - Date corroborated by biannual estimates in Jerry Creek section



- Lower section – monitored at Hogback section every spring:
 - Population estimates by May
 - Changes to fishing regs by June 1, if necessary

- Data corroborated by biannual estimates in Pennington section



- What Jim and Matt propose for regulations for the Big Hole:
 - Middle Reach:
 - Artificial flies and lures only
 - One combined trout limit (none > 18")
 - Closed to all angling from October 1 to third Saturday in May
 - Lower Reach:
 - No gear restrictions
 - One combined trout limit (none > 18")
 - Closed to all angling October 1 to April 1
 - Study on mortality
 - Regulation in place for 2 years, management plan for 4 years
- Other updates/projects:
 - French Creek:
 - Timeline:
 - Barrier constructed in 2019
 - Treated in 2020
 - Completed 2nd treatment in 2021
 - Next steps:
 - EDNA test stream in early July 2022
 - Results will determine course of action:
 - Retreat
 - Restock
 - Restocking plan

- Westslope: eggs collected from wild brood in Cherry and Granite lakes and reared in Washoe isolation facility
- Grayling: Big Hole brood source in Axolotl Lake
- Will stock for 3 consecutive years
- Restock native fish (likely just longnose dace)
- Ferguson Lake – fish regulation proposal
 - Cutthroat trout limit change from 5 to 2
 - Not able to get fish past age-3 (15-18 inches)
- *Discussion:*
 - *This is so nice to see – the idea of using biology to implement management plans and incorporated into regulations. This is really a breath of fresh air and so great to see – I don't know why it took so to do this. This is terrific, and I hope we can get as many people as we can to back this.*
 - *Yeah, and we want feedback too and that's why we're doing all these presentations. We've already adjusted some of our proposed regulations based on feedback.*

Upcoming Meetings

- June 15, 2022: **Beaverhead-Deerlodge National Forest Communications and Direction**
 - 7:00 pm at the Divide Grange/Zoom
- *BHWC does not have a monthly meeting in July*
- July 14, 2022: **Wildlife Speaker Series: Beavers**
 - 6:00 pm at the Divide Grange (dinner at 6:00 pm, presentation at 7:00 pm)

Adjourn

