

# **Big Hole Watershed Committee**

Virtual Monthly Meeting Minutes November 18<sup>th</sup>, 2020 via Zoom

### In Attendance

Pedro Marques, BHWC; Tana Nulph, BHWC; Ben LaPorte, BHWC; Matt Norberg, DNRC; Paul Cleary, Resident/BHWC; Sandy Cleary, Resident; Roy Morris, GGTU/BHWC; Jim Hagenbarth, Rancher/BHWC; Jim Olsen, MFWP; Eric Thorson, Sunrise Fly Shop/BHWC; Peter Frick, Rancher/BHWC; Arica Crootof, UMW; Sarah Bates, NWF; Shirley J. Johnson; Sierra Harris, TNC; Chris Edgington, MTU; Dean Peterson, Rancher/BHWC; Elissa Chott, Clark Cork Coalition; Jarrett Payne, MFWP; and the University of Montana Western's ENST 274: Sustaining Water Resources course: Aidan Vlasaty, Dylan Raihl, Hagen Webster, Garrett Turner, Joseph Lema, Kameron Rauser, Kenslee Jory, Luke Lutz, Mabry Shepard, Margaret Anderson, Mason Baseley, and Megan Tews.

### **Meeting Minutes**

Due to COVID-19, BHWC's monthly meetings have been held virtually (via Zoom) since August 2020. (Meetings were cancelled March through June 2020.) Meeting minutes and Zoom recordings are available on our website: <u>https://bhwc.org/monthly-meetings/</u> (scroll down for past months' meeting minutes). Contact Tana Nulph, BHWC Associate Director, at <u>tnulph@bhwc.org</u> or (406) 267-3421 to suggest additions or corrections to previous minutes or to this document.

### **Reports**

*Streamflow/Snowpack Report as of November 18, 2020 – Matt Norberg, Montana Department of Natural Resources and Conservation* 

Big Hole	e Stream Gages		Gago	Dis-	Long- term median	Temper- ature, water,
Station			height,			
Number	Station name	Date/Time	feet	ft3/s	4/16	deg C
UPPER MISSOURI RIVER BASIN						
06023500	Big Hole River near Jackson MT	11/18 07:15 MST	Ssn	Ssn	13.0	
06023800	Big Hole River ab Spring Creek nr Jackson MT	11/18 08:00 MST	<u>Ssn</u>	<u>Ssn</u>		
06024020	Big Hole River at Miner Creek nr Jackson MT	11/18 07:15 MST	<u>Ssn</u>	<u>Ssn</u>		
06024450	Big Hole River bl Big Lake Cr at Wisdom MT	11/18 07:45 MST	<u>Ssn</u>	<u>Ssn</u>		Ssn
06024540	Big Hole River bl Mudd Cr nr Wisdom MT	11/18 07:30 MST	<u>Ssn</u>	<u>Ssn</u>	383	
06024580	Big Hole River near Wise River MT	11/18 07:30 MST	<u>Ssn</u>	<u>Ssn</u>	273	0.3
06025250	Big Hole River at Maiden Rock nr Divide MT	11/18 07:45 MST	<u>Ssn</u>	<u>Ssn</u>		2.6
06025500	Big Hole River near Melrose MT	11/18 07:15 MST	1.93	639	455	Ssn
06026210	Big Hole River near Glen MT	11/18 07:30 MST	<u>Ssn</u>	<u>Ssn</u>	504	Ssn
06026420	Big Hole R bl Hamilton Ditch nr Twin Bridges, MT	11/18 07:30 MST	Ssn	Ssn		Ssn

- *Streamflows*: Stream gages are now into seasonal status except for the Melrose gage. These gages will not be reporting discharge data again until April.
- *Snowpack/Precipitation*: While it is still very early, the higher elevations have received some snow and we are off to a good start. Currently, snowpack for the Big Hole River based on representative SNOTEL sites is 129% of average. Precipitation across the watershed is currently at 120% of average.



- *Forecast*: (from NOAA)
  - ENSO Alert System Status: La Niña Advisory
  - Synopsis: La Niña is likely to continue through the Northern Hemisphere winter 2020-21 (~95% chance during January-March) and into spring 2021 (~65% chance during March- May). Conditions strengthened during October, as well below-average sea surface temperatures (SSTs) extending from the Date Line to the eastern Pacific Ocean were recorded.







• The 3-month outlook for November/December /January is for equal chances of average temperatures and ~ 40% chance of above precipitation.

Director's Report – Pedro Marques, Executive Director

- Finances:
  - Strong finish to year end 2020.
- Drought and Gages:
  - Drought committee meeting-Nov. 20th (Zoom).
- Securing Consistent & Reliable Funding:
  - <u>BoR planning grant</u>: Under Contract! 2-years capacity
    - Watershed Restoration Plan Update; Lower River Engagement; Pennington Bridge Design



- <u>Smelter Hills</u>: Transition to Operation and Maintenance Phase
- Land Use Planning: 2021 Beaverhead County Floodplain map adoption; Madison County- 2022
- I-190 Marijuana Legalization legislation:
  - Appropriation of funds to be legislated this session:
    - Grassroots groups and CDs for delivery of cost-effective conservation projects.
    - Agricultural interests: Wildlife depredation/brucellosis expenses.
    - Stream gages.

# Steering Committee – Jim Hagenbarth, Vice-Chairman and Roy Morris, Secretary

• Steering Committee is happy with the progress BHWC is making.

# Wildlife Report – Tana Nulph, Associate Director

- Loaner Toolkits: Livestock producers can borrow and/or test equipment.
  - Scare devices, temporary electric fencing, bear spray, resource guides, inert bear spray (practice), bear-resistant backpacking containers, safety equipment, bear-resistant garbage cans.
  - Contact Tana Nulph, BHWC Associate Director, for more information: <u>tnulph@bhwc.org</u> or (406) 267-3421.
- Heart of the Rockies Initiative received a grant for nearly \$1 million for wildlife conflict reduction:
  - Funding spread across 20 groups in 7 states and 2 tribal nations.
    - BHWC is one of those groups!

# Restoration Report – Ben LaPorte, Program Manager

• Grant Proposals and Future Projects!



☆ 2021 Projects 🖄 2020 Projects

- 1. Upper Oregon Creek Restoration:
  - Revegetation and sediment catchment.
- 2. 40 Bar Ranch Bank Stabilization:
  - 3 banks- 1,260 feet total.
- 3. Suenram "Phase 1":
  - Remove point bar to alleviate bank stress.
  - Plant existing rip-rapped bank.
- 4. Upper French Gulch Fish Passage:
  - Restore upstream passage connectivity-1.7 miles.
- 5. Bender Creek Restoration:
  - 1 mile of new headwater tributary
  - Mussigbrod Fire + cattle grazing + big spring = VERY incised and degraded
- 6. Anaconda Uplands (NRDP)
- **7.** Elkhorn Mine and Mill

### **New Business**

• Water Policy Interim Committee (WPIC) conducted a study, HJ40, on cloud seeding. Will submit a piece of Legislation in next Legislative session (2021). To be presented by Senator Gillespie to either the Natural Resources or Agriculture committee. Jim Hagenbarth urged BHWC to support this legislation and offered to provide an educational presentation to the group to discuss cloud seeding. BHWC staff is working with Jim to schedule webinar.

# Meeting Topic: Working with Beavers in the Big Hole Watershed

Presented by:

Sarah Bates, National Wildlife Federation, and Elissa Chott, Clark Fork Coalition

# Working with Beaver for Riparian Health – Sarah Bates, NWF

- Benefits of "getting in the way of water":
  - Reconnect floodplain
  - Recharge groundwater
  - Mitigate for drought, lost snowpack
  - Increase habitat complexity
  - o Inexpensive, effective restoration
- What is beaver restoration?
  - <u>Relocating</u> beavers into suitable habitat
  - o Restoring streams to facilitate natural <u>recolonization</u>
  - Managing beavers to <u>reduce conflicts</u>
  - <u>Mimicking</u> beavers through low-tech restoration methods (aka beaver dam analogs or BDAs)
- Montana Beaver Working Group:
  - Emerged from MT Wetlands Council
  - In-person gatherings in 2014, 2017, 2020
  - Diverse, broad network
  - To sign up for the Montana Beaver Working Group, email Sarah at <u>batess@nwf.org</u>.
- Montana Beaver Working Group 2020 Strategic Action Plan priorities:
  - Scale up beaver habitat restoration beyond isolated projects.
  - Expand beaver distribution in public lands headwaters.

- Provide outreach/education on benefits of beavers and methods for addressing nuisances.
- Remove legal/policy obstacles to beaver restoration.
- Key issues to address:
  - Social acceptance:
    - Nuisance mitigation
    - Education about benefits
  - Permitting and regulation
  - Hydrologic impacts:
    - Waters storage and flows
    - Water quality, including temperature
  - Biological Impacts:
    - Fish passage and community composition
    - Riparian habitat for other species

### **Beaver Conflict Resolution Pilot Project – Elissa Chott, CFC**

- Program partners:
  - Clark Fork Coalition
  - Defenders of Wildlife
    - National Wildlife Federation
- Why start a pilot project?
  - Conflicts with beaver barrier to restoration goals.
  - Variety of stakeholders
  - Developed pilot project to address concerns and find solutions.
- Goals:
  - Build more tolerance and understanding.
  - Reduce beaver conflicts viz nonlethal methods.
  - Help our partners reduce beaver-related conflicts.
- Beaver benefits:
  - Increased water retention and base flows
  - Decreased peak flows
  - Expansion of habitat area and complexity
  - Sediment retention
  - o Nutrient cycling
  - Contaminate filtration
  - Increased groundwater recharge
- Conflict types:
  - 1. Tree cutting
  - 2. Culvert plugging
  - 3. Free-standing dams
- Conflict solutions:
  - 1. Tree cutting: sturdy mesh fencing
  - 2. Culvert plugging: culvert exclusion fence
  - 3. Free-standing dams: pond leveler
- Activities for 2019:
  - o Assessment
  - Identify demonstration sites
  - Develop cost-share program to incentivize participation
  - Educate and train partners

- Activities for 2020:
  - Identify conflict areas
  - Install demonstration projects and train partners
  - Maintain structures from last year
  - Outreach/training with partners and stakeholders
- 2020 Conflicts and Projects:
  - 27 reported conflicts
  - 6 projects
  - +13 more reported conflicts than first year
- Designing and Permitting:
  - Pond leveler and culvert fence designs are site specific:
    - Our project helps with:
      - Site assessment
      - Device design (sturdy materials are a MUST!)
      - Permitting
      - Installation
      - Cost-share
  - **Permits**:
    - 310 (private land)
    - SPA 124 (public land/sponsored)
      - Exceptions are irrigation ditches, no permit needed
  - Maintenance
- Training and Partner Organizations: Collaboration is key!
  - Partners:
    - FWP: game wardens, biologist, park managers
    - Big Hole Watershed Committee
    - Blackfoot Challenge
    - Five Valleys Land Trust
    - MT Rail Link
    - Anaconda Deer Lodge County Roads
    - MDT
    - Lewis and Clark County Roads
    - Missoula County Roads
- Summary:
  - Conflict resolution resources needed for restoration success
  - Solutions are site specific
  - Work with landowners to build tolerance and understanding:
    - What are the landowner needs?
    - Cost-sharing
  - Ultimately: coexistence to promote healthy watersheds.
- Questions? Ask:
  - o Elissa Chott, Clark Fork Coalition: elissa@clarkfork.org
  - Sarah Bates, National Wildlife Federation: <u>batess@nwf.org</u>
  - o Will McDowell, Clark Fork Coalition: will@clarkfork.org
  - Aaron Hall, Defenders of Wildlife: <u>ahall@defenders.org</u>

### **Upcoming Meetings**

• BHWC Virtual Monthly Meeting, February 17th, 2020 – 6pm via Zoom

### Adjourn

# La Niña Impacts and Outlook

# Missouri Basin Region October 2020

# Typical La Niña Winter Pattern



The image above shows the typical pattern in the winter during La Niña events. The polar jet stream tends to traverse right through the Missouri Basin, making it the dividing line between cold and warm air masses. This means that colder conditions could be in store for areas of the upper Basin, while the southern Plains could be warm and dry.

Image courtesy of the National Oceanic and Atmospheric Administration.

### Highlights for the Basin

A La Niña develops when sea surface temperatures in the eastern equatorial Pacific are consistently cooler than average for an extended period of time. These cool waters affect the location of jet streams, which causes impacts in North America. The most notable impacts occur in the winter, when the wind patterns in the atmosphere are strongest.

While no two La Niña events are alike, there are some general patterns that are predictable. For instance, the polar jet stream is typically farther south than usual during La Niña winters.

For the Missouri Basin states, the typical winter La Niña pattern leads to increased chances for below-normal temperatures across the upper Basin. The northern Rockies may also have increased chances for an above-normal snowpack.

# La Niña Outlook



As of mid-October, NOAA's Climate Prediction Center outlooks largely follow a typical La Niña pattern for the Missouri Basin states. Generally, the region has increased chances for cooler, wetter conditions across the north, and warmer, drier conditions across the south. Normal to below-normal temperatures are favored in North Dakota and portions of Montana, Wyoming, and South Dakota, while normal to above-normal temperatures are favored across much of Colorado and Kansas, along with southern areas of Wyoming. Normal to below-normal precipitation is favored across southern areas of Colorado and Kansas, while normal to above-normal precipitation is favored across Montana, North Dakota, northern Wyoming, and much of South Dakota.

### La Niña Probability Winter 2020-2021



La Niña conditions have continued this fall and forecasts indicate that this La Niña will strengthen, peaking as a moderate or even strong event in late fall or early winter. According to the Climate Prediction Center, there is a greater than 85% chance that these conditions will last through the winter and about a 60% chance that La Niña will continue into the early spring, as shown in the image above. A La Niña Advisory is currently in effect.



### **Potential Winter and Spring Impacts**

#### Agriculture



Fall harvest in full swing, photo courtesy Ken Dewey.

La Niña conditions can have worldwide impacts to the agricultural sector. In the Missouri Basin, widespread drought conditions have helped the fall harvest progress quickly. However, dry conditions could be an issue for winter wheat if timely rains do not materialize. Potential concerns for the winter include the overwintering of pests due to warm conditions in southern areas, and calving/lambing issues due to cold conditions in northern areas.



The Platte River, a tributary of the Missouri River, photo courtesy Ken Dewey.

According to the U.S. Army Corps of Engineers, after a near-record year in 2019, the 2020 runoff forecast for the upper Basin was 30.2 MAF, which is just above average. Widespread drought conditions have impacted streamflows and reservoir inflows in certain areas this summer and fall. Releases from Gavins Point will be adjusted upward, as needed, to help meet water intake and navigation needs downstream. Conditions will be monitored throughout the winter. Economy



Snowy scene in Colorado, photo courtesy Bill Sorensen.

Although losses occur regardless of ENSO phase, according to insurance data, La Niña events tend to result in the largest economic losses worldwide. For the Missouri Basin, impacts could be mixed. For instance, northern areas expecting a cold and snowy winter could have increased costs for heating and snow removal, in addition to travel difficulties. However, an increased snowpack in the northern Rockies could be welcomed by ski resorts and outdoor enthusiasts.

# **Comparisons and Limitations**

### Winter Conditions During Past La Niña Years





Maps courtesy of the Midwestern Regional Climate Center

The maps above show the winter conditions of the most recent La Niña event in 2017-18. Much of the Basin was cooler than average, and, although precipitation varied, the highest amounts occurred from Montana through central Nebraska. Because no two La Niña events are alike, it is important to note that there are limits to the predictability of impacts this winter and other factors should be considered.

While past La Niña events can help inform forecasters about certain conditions, there are limitations. For instance, in the Missouri Basin, La Niña is *not* known to impact: 1) first freeze in the fall, 2) last freeze in the spring, 3) potential for ice storms or blizzards, 4) track or intensity of any single weather system, or 5) potential for drought/flooding in the spring.

### Missouri Basin Partners

High Plains Regional Climate Center www.hprcc.unl.edu

National Drought Mitigation Center http://drought.unl.edu/

National Oceanic and Atmospheric Administration

https://www.noaa.gov/

National Integrated Drought Information System

https://www.drought.gov/

NOAA NCEI www.ncdc.noaa.gov

NOAA NWS- Central Region www.crh.noaa.gov/crh

NOAA NWS Climate Prediction Center www.cpc.ncep.noaa.gov

NOAA NWS Missouri Basin River Forecast Center

www.crh.noaa.gov/mbrfc

American Association of State Climatologists https://www.stateclimate.org/

U.S. Army Corps of Engineers www.usace.army.mil

USDA Northern Plains Climate Hub www.climatehubs.oce.usda.gov

