



Big Hole Watershed Committee

Committee Report & Updates

May 2020

May Meeting Cancelled due to Coronavirus

In an abundance of caution and in response to the COVID-19 restrictions on public gatherings, the Big Hole Watershed Committee cancelled its scheduled public meetings in March, April, May, and June 2020. In lieu of meeting minutes, please enjoy this committee report with information on BHWC's programs, projects, and partner activities.

April Committee Report

Our April 2020 Committee Report is available here: <https://bhwc.org/about/monthly-meetings/> (scroll down for past meeting minutes). Please contact us at info@bhwc.org if you would like to suggest additions or corrections to either the April 2020 Report or this document.

Reports

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

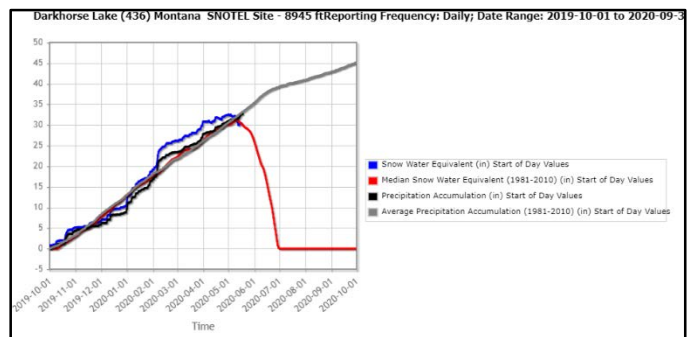
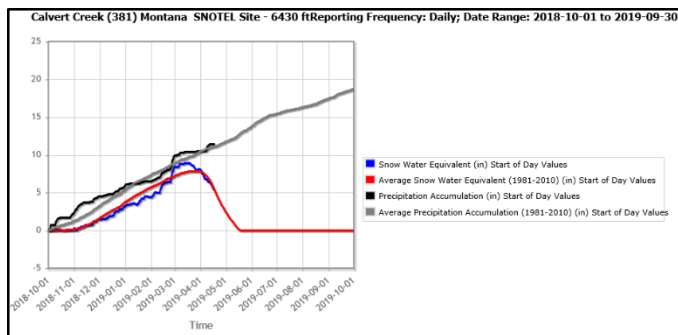
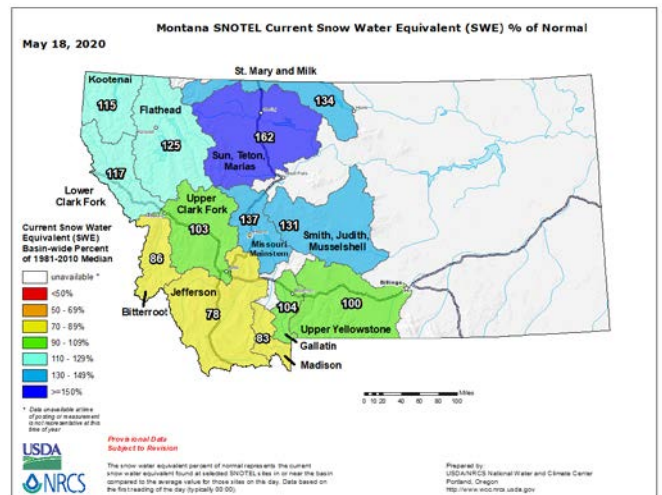
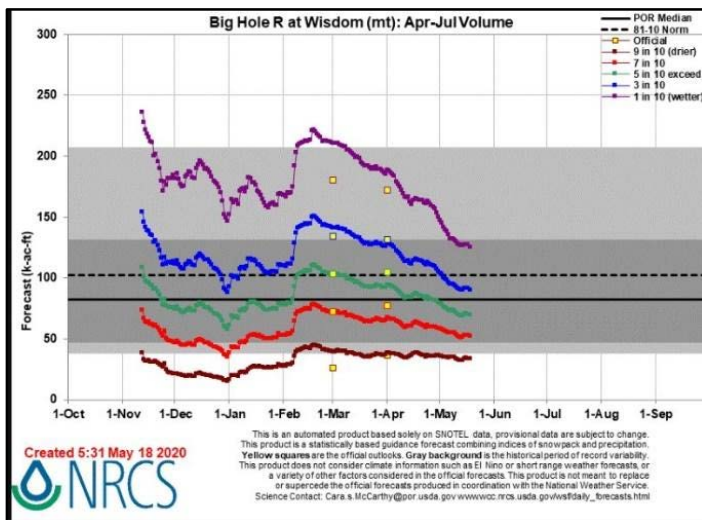
- **Streamflows:** Streamgages on the Big Hole River are currently reporting below-average flows for this time of year. The mid- to low-elevation snowpack began melting in mid-April and into the beginning of May. A strong storm is forecasted across Western and Central Montana this week, so we can expect to see streamflows rise with this precipitation event. Streamflow forecasts for the April 1st – July 31st period are now forecasted to be below-average for the Big Hole River, so please keep an eye on forecasts and be ready for potential shortages if summer precipitation is sparse.

Station		Date/Time	Gage height, feet	Dis-charge, ft ³ /s	Long-term median flow 4/16	Temperature, deg C
Number	Station name					
UPPER MISSOURI RIVER BASIN						
06023500	Big Hole River near Jackson MT	05/18 10:15 MDT	1.71	116	139	--
06023800	Big Hole River ab Spring Creek nr Jackson MT	05/18 10:00 MDT	2.15	89.6	167	--
06024020	Big Hole River at Miner Creek nr Jackson MT	05/18 10:15 MDT	2.27	364	585	--
06024450	Big Hole River bl Big Lake Cr at Wisdom MT	05/18 09:45 MDT	3.04	305	429	9.8
06024540	Big Hole River bl Mudd Cr nr Wisdom MT	05/18 09:30 MDT	4.10	1,580	1,890	--
06024580	Big Hole River near Wise River MT	05/18 09:30 MDT	4.46	2,090	2,970	Ssn
06025250	Big Hole River at Maiden Rock nr Divide MT	05/18 09:45 MDT	4.93	2,540	3,250	Ssn
06025500	Big Hole River near Melrose MT	05/18 09:15 MDT	3.54	2,510	2,990	10.2
06026210	Big Hole River near Glen MT	05/18 09:30 MDT	4.03	2,550	2,870	Ssn
06026420	Big Hole R bl Hamilton Ditch nr Twin Bridges, MT	05/18 09:30 MDT	3.130	1,990	3,670	10.8

- **Snowpack:** At this time, the Big Hole Basin is at 87% of average in terms of snowpack. The Jefferson Basin in its entirety is at 78% of average. The Big Hole had an average to slightly

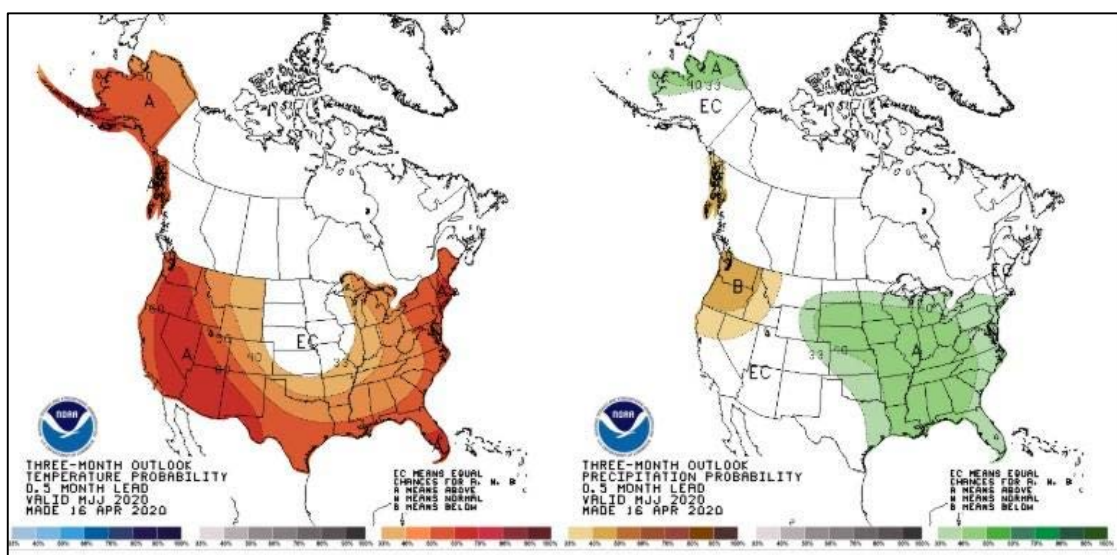
above-average snowpack up until May. The low to mid-elevation snowpack melted off beginning in April and this continued through the first part of May. High elevation snowpack is hovering around average, however a strong storm is forecasted for this week with valley-wide precipitation and possible snow at higher elevations. With an average snowpack this year, our streamflow and irrigation will most likely rely on precipitation later this season, and we'll be watching runoff timing closely this year. With the long-range forecast indicating warmer temperatures over the next few months, we may see that high elevation snowpack come off more quickly than we would like.

Big Hole River Representative SNOTEL Sites		18-May-19	18-May-20	1981-2010	WY 2020
Station	elevation	WY 2019	WY 2020	median	% avg
Barker Lakes	8250	13.7	15	14.3	105%
Basin Creek	7180	0.5	0	6.6	0%
Bloody Dick	7600	0	0.7	1.2	58%
Calvert Creek	6430	0	0	0	NA
Darkhorse Lake	8600	24.1	30	30	100%
Moose Creek	6200	0	0	0	NA
Mule Creek	8300	12.2	11	14.2	77%
Saddle Mtn.	7940	17.8	17.8	19.8	90%
TOTAL		68.3	74.5	86.1	
BASIN AVERAGE %		79	87		



- Forecast: from NOAA as of May 14, 2020
 - El Niño/Southern Oscillation (ENSO) Alert System Status: Not Active

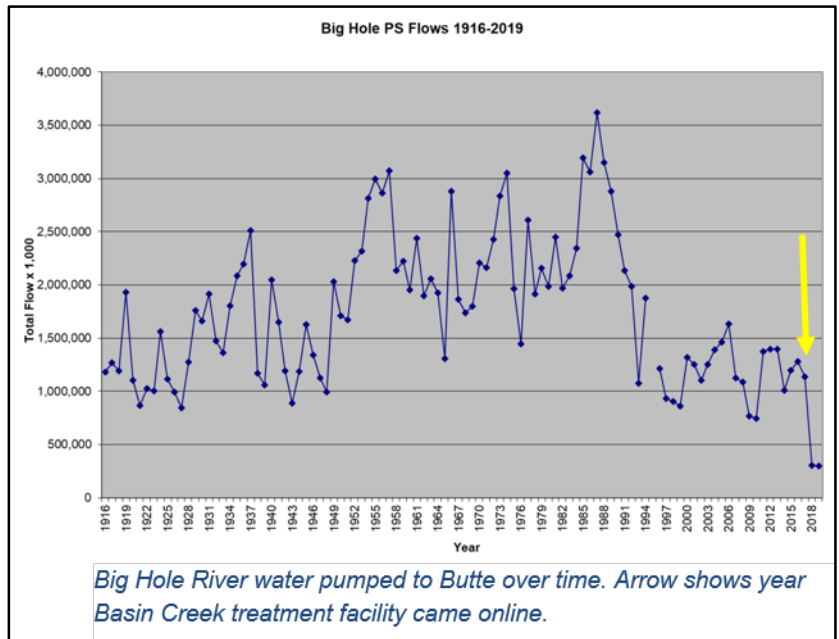
- There is a ~65% chance of ENSO-neutral during Northern Hemisphere summer 2020, with chances decreasing through the autumn (to 45-50%).
- During April 2020, positive sea surface temperature (SST) anomalies weakened and were near zero by the end of the month [Fig. 1]. All of the Niño indices decreased during the month, with the latest weekly Niño index values near +0.2°C [Fig. 2]. Equatorial subsurface temperatures (averaged across 180°-100°W) declined further and were below average [Fig. 3], due to the eastward expansion of below-average subsurface temperatures into the eastern Pacific [Fig. 4]. Also during the month, low-level wind anomalies were easterly across the central and east-central Pacific, while upper-level wind anomalies were westerly over the central and eastern portions of the basin. Tropical convection was near average around Indonesia and suppressed over the Date Line [Fig. 5]. Overall, the combined oceanic and atmospheric system remained consistent with ENSO-neutral.
- The majority of models in the IRI/CPC plume [Fig. 6] favor ENSO-neutral (Nino-3.4 index between -0.5°C and +0.5°C) through the Northern Hemisphere autumn, though considerable spread is evident at longer lead times. Nino 3.4 index values are expected to decrease through the remainder of the Northern Hemisphere spring and into the summer; with the possibility of below-average temperatures becoming more established toward the latter half of the year. The consensus of forecasters favors ENSO-neutral conditions through the summer and fall, and slightly tilts toward La Niña at the end of the year (~45% chance). There is a ~10% chance of El Niño from the summer through the end the year. In summary, there is a ~65% chance of ENSO-neutral during Northern Hemisphere summer 2020, with chances decreasing through the autumn (45-50%; click CPC/IRI consensus forecast for the chance of each outcome for each 3-month period).
- This discussion is a consolidated effort of the National Oceanic and Atmospheric Administration (NOAA), NOAA's National Weather Service, and their funded institutions. Oceanic and atmospheric conditions are updated weekly on the Climate Prediction Center web site (El Niño/La Niña Current Conditions and Expert Discussions). Forecasts are also updated monthly in the Forecast Forum of CPCs Climate Diagnostics Bulletin. Additional perspectives and analysis are also available in an ENSO blog. The next ENSO Diagnostics Discussion is scheduled for 11 June 2020.
- NOAA 3-month outlook for April, May, and June is for average to slightly wetter than average and normal to above normal temperatures through June.



Director's Report – Pedro Marques, Executive Director

- Hoping these minutes find you all doing well! BHWC continues to operate at full capacity, in part thanks to a PPP loan. And we've got a lot going on as you'll read below.
- I've begun conversations with the Steering Committee about having public meetings again. I very much look forward to coming together as a committee again — it is one of the most important things we do as an organization. Creating space for dialogue and the search for common ground on important issues is the secret to BHWC's 25 years of success. But at this point, the risks and liability involved with public meetings outweigh our need to meet in person. If we were to meet, we'd have to restrict access, and nobody wants to have to decide who can be at a public meeting.
- The Governing Board and I have been able to come together on several fronts this month:
 - The CDC is currently proposing to remove *Brucella abortus* from the select agents list. This listing restricts our ability to expand research on the disease Brucellosis, which affects wildlife and producers. BHWC sent in a letter supporting this proposal to allow for improved testing, research and a cure for Brucellosis.

- Butte-Silver Bow County and the City of Butte are proposing a project to shore up the face of the dam at Basin Creek Reservoir, repairing the upper 11-feet of the dam and increase the basin's storage capacity. This work would reduce the amount of water the city draws from the Big Hole River. BHWC enthusiastically sent a letter of support for this project and we stand ready to support all efforts that keep Big Hole water in the watershed.



- I had several calls with the Bureau of Reclamation this month as we line up a contract (\$100,000) for watershed planning under their WaterSMART program. The grant will support BHWC to:
 - Engage lower river stakeholders (below Notch) to discuss and prioritize conservation measures that mitigate for low flows and high stream temperatures.
 - Evaluate options and design a solution for Pennington Bridge bank failure.
 - Update our Middle-Lower BHR Watershed Restoration Plan.
- The [Cinnabar Foundation](#) has awarded BHWC a \$5,000 general support grant.
- We finally finished edits on an upcoming 10-minute film about our natural water storage work called Hold Back the Snowpack. You'll see it soon!
- Our website is getting an upgrade and will be going live soon. We're making the new site more informative about our work and easier to use and find.
- Our work managing restoration and remediation activities along the Continental Divide reached an important milestone! The EPA formally adopted the alternative remedial approach that BHWC and Watershed Consulting has been developing over 9 years in the Anaconda Uplands portion of the Superfund site. [This letter](#) acknowledges the Request for Change, and this [technical review by KC Harvey](#) justifies the more-ecological approach we've pioneered.

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

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

Wildlife Report – Tana Nulph, Associate Director

- Carcass removal services were offered free-of-charge to Big Hole Valley rancher March-May 2020. 53 carcasses were picked up from 9 participants. Carcasses are hauled to our livestock carcass compost site near Wisdom. Removing carcass attractant from local ranches can help prevent conflict with predators like bears and wolves.
- Bear-resistant garbage cans are available, free to Big Hole Valley residents. They can be picked up in Wise River; contact BHWC to make arrangements.
- Livestock Loss Prevention Loaner Toolkit for Ranchers: BHWC recently purchased supplies for a loaner toolkit. Producers are welcome to borrow any or all of the supplies, which include: CritterGitter motion-activated alarms, FoxLight motion-activated spotlights, airhorns, game cameras, temporary electric fencing, resource guides RE: tracking, Livestock Guard Dogs, etc., and more. Contact BHWC for more information.
- BHWC is participating in the Western Landowner Alliance’s Livestock-Carnivore Prevention & Compensation Work Group.

Restoration Report – Ben LaPorte, Program Manager

- A few weeks ago, I had the pleasure of helping FWP harvest and plant willow stakes and whips on two of their river bank restoration projects outside of Wisdom. I was able to use the willow stinger jet pump that Peter Frick donated to the BHWC a few years ago. It worked amazingly well! We were able to get the willows 3-4 feet into the ground. What a great tool! Thanks to FWP for the opportunity and the Big Hole River Foundation for the volunteer effort and back breaking work of sticking the willows in deep!
- Pedro and I got a first look at our Oregon Creek and Lower French Creek projects after the first winter and the start of the spring run-off. Things are looking really good at both sites! Oregon Creek is functioning perfectly and as designed. All of the new floodplain is activated and soaked! Our detention berms are holding nice. There are no nick points or strong overland flow anywhere. There is really even distribution of water across the new floodplain. All of the plantings are looking healthy and starting to shoot buds out. Awesome!

RIGHT: Looking downstream at the head of our Oregon Creek Project, completed in 2019. This photo was taken on 5/15/2020 and shows the new, constructed floodplain completely activated and distributing water even across. *Note one of the constructed “detention berms” in the foreground, holding back and storing water. We are very happy with the way things are responding so far!



- Lower French is looking good too! When we were there (5/15) there was no floodplain activation yet. Water was still confined to the channel. A few of the constructed “depressional wetlands” were activated and holding water. This project is also functioning as designed and holding up very nice! I look forward to seeing how these projects respond with the continued spring flows. I plan on getting more drone flights and “after” photos of both projects in late May/June.



LEFT: First look at our Lower French Creek project, completed last December! *Note the water in depressional wetlands (lower right). Looking good!

- The 2020 work plan for our Mount Haggin uplands remedy and restoration is coming together. I have been helping NRDP and Pioneer Technical Services finalize the bid package that will go out to bid soon. I have been working with Watershed Consulting and Montana Conservation Corps to develop our hand labor work plan. Hand crews are slated to start work in June. The larger, earth moving project will begin late summer/fall. The larger project consists of construction of one large check dam, three spreader dikes and the restoration of an abandoned beaver dam.
- Grant proposals and funding strategies for upcoming restoration projects are ongoing.

New Business

- None

Special Topics:

- **STREAMGAGE USERS:** Please complete the Montana Stream Gage Survey here, today: <https://www.surveymonkey.com/r/95JZPPC>.
 - Montana is home to 264 gages funded and maintained by state, federal, and local governments; private companies; and nonprofits. Each organization has its own goals and needs for the gage data. The data for most of the gages is publicly available through apps and websites.
 - We know that gage data sites are being visited much more over the last 5 years, but we don't know who is checking on the data and for what reasons. Public funding for the gage's maintenance has remained flat or decreasing over the last decade.
 - The Streamgage Data User's Survey was created by representatives from local nonprofits and state and federal agencies to help us understand how people and organization are using and accessing data.
 - Please be sure to pass this along to any friends or colleagues who may also be gage users!



Upcoming Meetings

The current COVID-19 situation has made things uncertain over the next few months. We will resume our regular monthly meeting schedule (the 3rd Wednesday of each month, except for July and December) when conditions allow and will make the necessary announcements when that time comes.

Adjourn