



Big Hole Watershed Committee

Monthly Meeting Minutes
 November 15, 2017 – 6:00pm
 Divide Grange – Divide, Montana

In Attendance

Jennifer Downing, BHWC; Tana Nulph, BHWC; Pedro Marques, BHWC; Roy Morris, BHWC/GGTU; Scott Marsh, Beaverhead County; Paul Cleary, BHWC; Tim Fry; Peter Frick, BHWC; Mark Raffety, BHWC/Rancher; Jim Hagenbarth, BHWC/Rancher; Randy Smith, BHWC/Rancher; Sarah Smith, Rancher; Jacob Smith, Rancher; Rob Macioroski, Beaverhead County Planner; Jacqueline Knutson, Montana FWP; Kim Snodgrass, Water and Environmental Technology; Andy Suenram, BHWC; Travis Horton, Montana FWP; Steve Luebeck, BHWC/Sportsman; Tony Thatcher, DTM Consulting, Inc.; Kirwan Webb; and Karin Boyd, Applied Geomorphology, Inc.

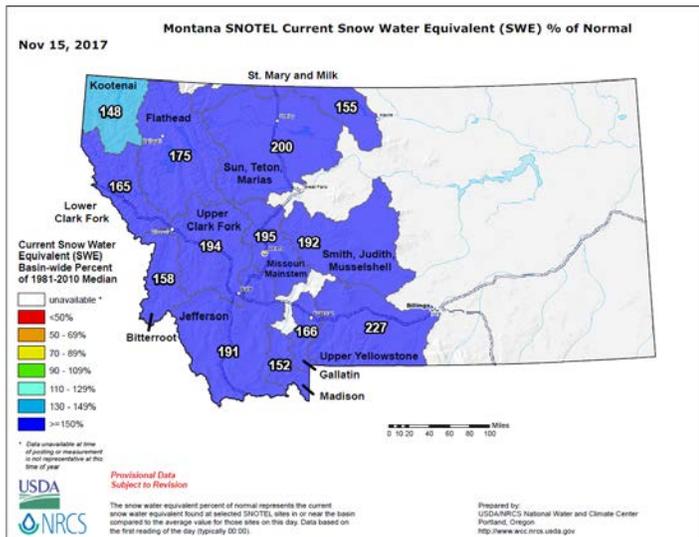
Introductions Attendees introduced themselves.

Meeting Minutes October 2017 meeting minutes were reviewed, no additions or corrections.

Reports

Streamflow/Snowpack Report – Jacqueline Knutson, MFWP

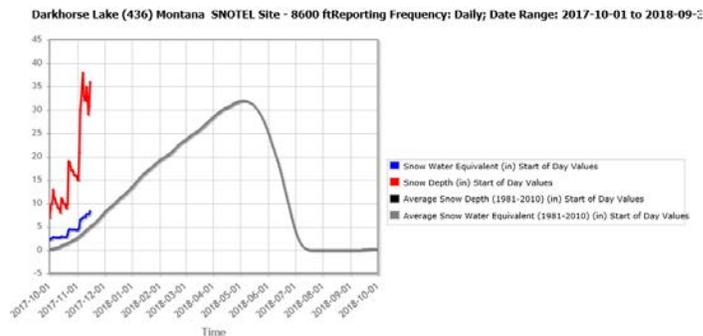
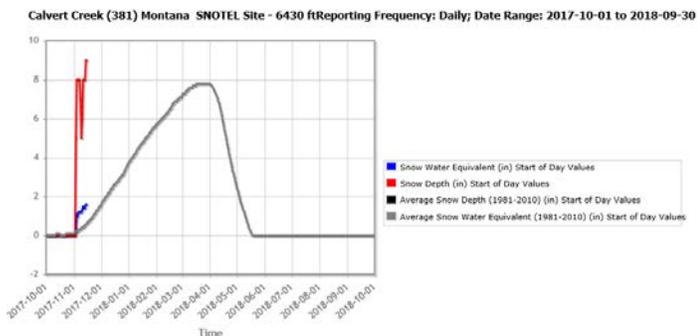
- Snowpack:** Winter came quickly this year and has given our snowpack a very strong start. October and early November snowfall has put the Jefferson basin at 191% of normal and the Big Hole Basin at 216% of normal for the water year which began on October 1st. These percentages can change quickly this early in the water year but so far things bode well for a good winter and solid snow totals for runoff if snow continues to accumulate this way as winter progresses. This time last year things were looking pretty abysmal with a very slow start to the snowpack as precipitation was coming in as rain; this is certainly not the case this year.



		15-Nov	15-Nov	1981-2010	
		2016	2017	median	2017
Station	elevation	inches	inches	inches	% avg
Barker Lakes	8250	0	7.2	2.7	267
Basin Creek	7180	0	3.4	1.5	227
Bloody Dick	7600	0	2.9	1.5	193
Calvert Creek	6430	0	1.6	0.4	400
Darkhorse Lake	8600	3.3	8.3	4.9	169
Moose Creek	6200	0	2.1	1.4	150
Mule Creek	8300	0.2	5.8	2.3	252
Saddle Mtn.	7940	0	6.5	2.8	232
TOTAL		3.5	37.8	17.5	
BASIN AVERAGE %		20	216		

- Streamflows:** Seasonal streamflow gages have stopped reporting flows. Several gages are still reporting flows but do not have calculated averages for this time of year.
- Forecast:** At the end of October ENSO forecasters were finally confident enough in conditions over the Pacific Ocean to issue an official La Nina advisory for the winter of 2017/2018. La Nina conditions have started in the last two weeks and are expected to continue throughout the Northern Hemisphere winter

(65-75% chance). La Nina events are characterized by cooler than normal temperatures and greater than normal precipitation.



- *The three-month outlook:* The most updated three month forecasts (based on the La Nina advisory) aren't being released until tomorrow. If you're interested this link will have the updated maps: http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead01/off01_temp.gif and http://www.cpc.ncep.noaa.gov/products/predictions/long_range/lead01/off01_prpcp.gif. The current forecast for the next three months predicts that we can expect average temperatures and higher than normal precipitation.

Drought Management Plan – Jennifer Downing, Executive Director

- Scheduled annual drought committee/2017 drought review meeting for December 12th.

Director's Report - Jennifer Downing, Executive Director

- This is our last meeting of the year – we won't meet again publicly until February (although we'll have our annual business meeting – for board members only – in January).
- Fall newsletter is at the printers – expect to see it in your mailbox soon.
- This is the time of the year we do our annual appeal – a big push for donations to help us through 2018. Please consider donating to BHWC.
- Secured Brainerd Foundation grant for general support funds for another year. This is huge – they keep threatening to cut our funding but still continue to fund us, which shows how great BHWC is.
- Secured DEQ 319 funds to continue restoration on the Mount Haggin WMA.

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

- The steering committee is happy with the progress BHWC is making.

Wildlife Report – Jim Hagenbarth, Vice-Chairman and Tana Nulph, Conservation Programs Coordinator

- Upper Big Hole Range Rider program recently wrapped up its 7th season.
- Compost site is winterized and awaiting addition of carcasses in the spring.
- Currently focusing on end-of-year reporting, grant-seeking, etc.
- BLM looking at amendments to sage grouse plan. Get ahold of Montana FWP or BLM to get ahold of the amendments and offer comments (to BLM) by November 27th.

People/Land Use Planning Report – Jennifer Downing, Executive Director

- Pintler Face Environmental Assessment is out – public comment period is open until December 11th.

Restoration Project Report – Pedro Marques, Restoration Programs Manager

- Really close to submitting 5 year conceptual plan to NRDP – State will have a legally binding obligation to restore uplands on Mount Haggin.

- French Gulch is going strong – we had some remaining funding from the grants we’ve received, so we were able to hire R.S. Johnson out of Anaconda to remove extra placer piles. Plan to have the project completed by the end of the year.
- French Gulch road needs some work – dips that were put in were made a little too deep and will have to be fixed, likely in the spring. Be careful if you decide to drive up there.
- Big Hole River Incentive Program: Morrison-Maierle, Inc. came out last week to obtain survey data on the frozen Big Hole River – this was really helpful and will assist with the permitting process.

New Business

- None

Special Update/Q&A Session by Travis Horton, Montana FWP

Background: Travis attended BHWC’s November monthly meeting to provide an update and answer questions about the CCAA and replacing Emma Cayer. He read our meeting minutes from October and apologized for causing any concern.

- CCAA/Emma:
 - BHWC expressed gratitude toward FWP and the CCAA program.
 - Travis explained that FWP hasn’t replaced Emma yet because of a lot of conflicting things going on, but they have now started the hiring process. There will be some changes to the job description – it will likely be focused more on riparian/range management but will have the same general approach of working with landowners in the Big Hole, working with broodstock, etc. Also will be working in the Centennial more, as there will be a new CCAA there. We expect to have someone in that position by the first of the year (2018).
 - *Discussion:*
 - *Where are we with the streamside incubators?*
 - *Did Rock Creek, Governor Creek, Trail Creek, Wise River, and some in the Madison.*
 - *Coming up on the 4th year of SSIs. Will do this for 5 years – after that, it’s up to the fish.*
 - *It’s hard to evaluate the success because the fish sometimes swim far away from the SSIs.*
 - *Temperature can also be an issue – if eggs take too long to hatch, they can grow a fungus which decreases survival.*
 - *Poor egg takes out of broodstock sources in some cases – Axolotl Lakes near Ennis. Occasionally miss the spawning because it happens so fast – sometimes in as little as a day.*
 - *Working on some SSIs above Hebgen Reservoir and in Yellowstone National Park.*
 - *Should know soon whether these will be successful or not.*
 - *In the past, the core CCAA team consisted of Jim Magee, USFWS; Mike Roberts, DNRC; Emma Cayer, MFWP; and Kyle Tackett, NRCS. Now Mike is stepping back and we’re wondering if DNRC will still be involved? Or if NRCS will?*
 - *We’re not sure yet. There are some obligations that need to be resolved. NRCS is really wanting to tap into riparian grazing/rangeland work, and they’re excited about FWP’s focus on those topics.*
 - *Are we going to be able to maintain our statistics up there so that when Western Watersheds, etc. come after us we’ll have some data to back up our work and progress?*
 - *Yes, we’ll still have the fish data and the flow data.*
 - *Were you able to get any population work done in the fall?*

- *Yes, we did some sampling. In the past we did a lot of catch per unit effort monitoring but now we're switching over to focus more on genetic monitoring – have about 10 years' worth of data. The 2016 number for genetic diversity is down from where it was previously. It was difficult in 2016 to actually find the fish we took genetic samples on, whereas it's been a lot easier in 2017. However, our geneticist has been having some health problems so there is a backlog on the data. Other employees are helping out with that and we're working on getting caught up.*
 - *How do you track the fish throughout the years?*
 - *We don't necessarily follow individual fish. We do have tagged fish, but tag retention is not great. We're more interested in the general population than the individual fish.*
 - *Austin McCullough just successfully defended his Master's thesis Tuesday – it was an analysis of the 30 years of data we have for grayling. Two things that came out of his research: temperature and flow are critical drivers of grayling populations and there is an inverse relation between brown trout and grayling (grayling do better in the absence of brown trout). It's not clear why this is the case – could have more to do with habitat than native vs. nonnative competition.*
 - *Is there litigation going on right now in regards to grayling?*
 - *The case is in the 9th circuit right now – arguments have been laid out and FWP has responded.*
 - *Will the new data from Austin's thesis be helpful for this case?*
 - *Unfortunately it probably won't, because the case has to be evaluated on the same data on which the 2014 decision was based.*
 - *FWP will continue to evaluate the influence of non-native fish on Arctic Grayling, and also will determine strategies to manage non-natives. Habitat conservation will continue to be a focus of the grayling conservation program.*
- **French Creek Fish Barrier update:**
 - **Funding:** bids came in and were much higher than expected. Jim Olsen is seeking additional funding for the project.
 - **Landowner concerns:** FWP is working to address questions and concerns raised at the meeting held in Wise River 8/31/17.
 - **If there was a breach in the structure, it would likely be a small breach – a complete blowout or flood is very unlikely. FWP is working to model different scenarios in order to respond to landowner concerns. Even in the event of a 150-year flood event, water would likely just flow over the barrier rather than washing it out.**
- **Cuts to stream gauge funding:**
 - **Huge budget cuts may result in changes to stream gauge funding.**
 - **FWP has been putting \$200,000 toward stream gauges annually – this has been zeroed out in the 2019 budget.**
 - **Mike McLane, FWP, is working on finding additional funding for stream gauges.**
 - **FWP will do everything it can to help BHWC keep our gauges online.**
 - **The gauges in question are: Wisdom, Maidenrock, Melrose, Notch Bottom, and Hamilton. In terms of the Drought Management Plan, these are very significant gauges. CCAA gauges are safe – supported by BHWC and DNRC. BLM pays for the Mudd Creek gauge. DNRC pays for a portion of the Melrose gauge.**
 - **BHWC plans to take this issue to the 2019 Legislature.**
 - **It's good to know that these cuts are on the radar so we can plan and prioritize.**
 - **Discussion:**
 - **How much money are we talking about?**
 - **Good question. Mike is working on sending us a number so we'll have a ballpark idea of how much this costs. Cost depends on what's being**

measured, time of year monitored, etc. Travis estimates \$5,000-\$6,000 per gauge, although amounts are variable.

- *This is charged by USGS, correct?*
 - *Yes, it's a cost-share with USGS. Their expenses are likely higher than FWP's.*
 - *We already have the gauges, so all we're paying for is the transmission of the data. It sounds like racket.*
 - *It also pays to manage the data, put it online, etc. It sounds like a lot of money but there is a data management side to it.*
 - *When do we think we'll know something on the gauges?*
 - *Jen has been talking it through with Mike McLane and gathering more information each day.*
 - *The implications to the drought plan are huge. Maidenrock is on the chopping block and everything in the drought plan looks at that gauge. What are we going to do in absence of data next year? We almost have to have 2 drought plans ready for next year – one like the existing drought plan and one in the case that we only have 2 gauges. Think about the implications – we used to only have 2 gauges – Wisdom and Melrose – much larger sections of the river will close if we have to depend only on those 2 gauges. The entire river could be closed by August 10th. The guides will be howling then.*
 - *This conversation happens every year, and yet only 2 guides contributed to the stream gauges last year.*
 - *Worst case scenario for temperature – FWP can put in temperature gauges with data updated manually. We could go back to that if necessary, but it would cost a lot more for FWP to have Jim Olsen constantly checking those gauges.*
 - *It will be interesting to see what guides and outfitters will say about this – they depend on these gauges and look at them 10 times a day.*
 - *BHWC will discuss the issue of stream gauge funding changes in more detail at the drought committee meeting in December.*
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Meeting Topic: Big Hole River Channel Migration Zone Update

Presented by Tony Thatcher, DTM Consulting, Inc. and Karin Boyd, Applied Geomorphology, Inc.

Background: Tony and Karin will present results of a recent update to the Big Hole River Channel Migration Zone Maps. Presentations will include information regarding how the maps were made and how they can be used.

- It's good to be back in the Big Hole – Tony's last presentation here was probably about 10 years ago!
- The Big Hole River CMZ update is a follow-up to the 2012 Ruby River CMZ study. Ruby Valley landowners found the CMZ mapping very useful.
 - 2012 DNRC RDGP application
 - Approved by 2013 Legislative session
 - Contracting in July 2015
 - Scheduled completion spring 2017
 - Added Big Hole remap spring 2017
- May 2005: CMZ study for Big Hole River – didn't have a lot of data. Methodology and level of mapping has advanced greatly in the last 12 years.
- Complete CMA mapping (~425 miles)
 - Madison
 - Beaverhead
 - Jefferson
 - Big Hole
 - East Gallatin

- Gallatin
- What is Channel Migration Zone mapping?
 - CMZ: Will the river move into your home/field/etc.?
 - Floodplain mapping:
- Driver – land use is changing and populations are growing rapidly in the High Divide Ecosystem.
 - Gallatin County (2015):
 - 100,739 people
 - 3,500 person increase from 2014
 - 3.6% growth rate up from 2.8% the previous year
 - 24th in the nation
- Bank armor expansion is directly correlated with urban development.
- So what? Why armor river banks?
 - Capital investments
 - Land use
 - Private property rights
- *“BHWC was the first watershed group in the State to say, ‘We’re small and rural but we want to get ahead of things like floodplain mapping and planning for the future’ – and you really set the stage for that kind of thinking. So good for you!” – Karin Boyd*
- Channel Migration 101:
 - River migration: the lateral movement of a stream or river due to processes of erosion and deposition.
 - Migration: “marching” of a river across its floodplain.
 - Avulsion: river jumps into/carves out a new channel.
 - Example: in 2011, the Musselshell River had a 180 year flood event – a 25 year event for 3 straight weeks – and there was so much avulsion (meander cuts) that the river shortened by about 10%.
 - Failed avulsions are also common.
 - Rate of river movement varies with materials.
 - What are the risks?
 - Human safety/structures
 - Transportation infrastructure
 - Pipelines
 - Recreational properties
 - Diversion structures
 - Abandoned pump sites
 - Bank armor failure/flanking (river gets behind armor – washes it into the river)
 - Loss of productive land
 - Channel migration is a hazard, but it’s also critical for Montana’s rivers to maintain their health and stability.
 - Recruitment of wood/fish habitat
 - Migration creates open bars that are colonized by streamside vegetation.
 - There are about 630,000 acres of riparian land in Montana, 0.7% of the total land (Montana Audubon Society).
 - A river that can migrate can adjust to changing inputs.
 - Deformability (the degree to which applying a force can make a particle or solid change shape) is a common design goal.
 - Rivers can be managed as either channels (little change) or as corridors (multiple channels, changeable).
 - Managing rivers as corridors:
 - Address risk to property and human safety
 - Allow for dynamic river system
- Mapping CMZs: The CMZ defines an area of channel occupation over a given time frame.
- Washington State Department of Ecology Shoreline Mapping Program – a lot of the methodology used in Montana is borrowed from this program.

- CMZ Mapping Concepts:
 - Non-regulatory in Montana
 - Uses past channel movement to define and area of future occupation
 - Based on reach-based analysis of migration rates
 - Science-based
 - Cost-effective
 - Used as a decision making tool for land managers.
- CMZ Mapping Process:
 - Photos taken 3 different years (1955, 1972, 2015) used to show the Historic Migration Zone (HMZ).
 - Migration measurements (1,165 measurements at 236 sites).
 - Establish Erosion Buffer Distance (EBD).
 - Apply to most recent channel to find Erosion Hazard Area (EHA)
 - Look at areas that might be prone to avulsion to find Avulsion Hazard Zone (AHZ)
 - Map Restricted Migration Area – areas in which movement is limited. Still considered part of the CMA because migration is still possibly, just not very likely (RMA)
 - All of these things add up to the composite CMZ
- Beyond the report: this is a report that tends to sit on a shelf and doesn't get pulled down much, but it comes with maps and all of the data that went into the mapping, which can be very useful tools.
- All of this information will be available through the Montana State Library. It will also be available on a map viewer for those who don't have access to GIS.
- Hydrology: highly variable flood peaks
- Looking at old channels to find potential for natural water storage:
 - Intersections of channels, scour holes, etc. can be difficult to manage from a land use perspective but great for fish habitat.
- Applications:
 - Outreach: Buyer beware, education, developers
 - Planning: landowners, agencies, structure placement, infrastructure planning and management, land use management corridors. Historic impact assessments, floodplain reconnection/resiliency, restoration/migration, outreach and education.
 - Projects: restoration projects, channel migration easements – sell right to armor banks, let river move as it will. Landowners don't have to change land practices.
 - 2011 oil spill on the Yellowstone River = 63,000 gallons of crude oil spilled from pipeline rupture at Laurel. Oiled wood removed resulted in environmental impacts caused by the loss of wood in the river. Major environmental impact as identified by NRDP. CMZ easements were implemented to allow cottonwoods to fall and create more woody debris in the river.
- *Discussion:*
 - *Has this been used to regulate activities on private land?*
 - *Not in Montana, but there have been attempts at the Legislature for setbacks. However it makes more sense to do it locally because there's no cookie-cutter, one-size-fits-all cutback.*
 - *In the Glen area, after high water, fallen cottonwoods collect sediment and cause the river to move. Landowners can get permits to take them out and it can help save the land.*
 - *Yeah, one large tree can make a huge difference.*
 - *The GIS data will be available after the 1st?*
 - *Yes, Ruby Valley Conservation District is the manager of the data and will get it into the hands of the people. We are also happy to answer any questions and hear feedback, though. – Karin Boyd*
 - *All these issues with migration and avulsion can raise hell at the courthouse. There's an argument when two channels form from avulsion, which channel takes precedence and who owns any islands that are created?*
 - *This is really complicated – we've been trying to map these things as they change. There are different regulations for who owns islands based on when they were formed.*

- *How is land valued in CMZ easements?*
 - *It's based on Market Value – it depends on where you are though. On average, about \$2,500 per acre.*

Upcoming Meetings

- January 17, 2018, 11am – 4pm @ Fairmont Hot Springs Resort. Annual BHWC Business Meeting. *For staff and board members only.*
- February 21, 2018, 6pm @ the Divide Grange – Divide, MT. BHWC Monthly Meeting. Topic: Big Hole River Channel Migration Zone Map Update.

Adjourn



File Code: 1950
Date: November 7, 2017

Dear Interested Public:

An Environmental Assessment (EA) for the Pintler Face Project has been prepared and is available upon request at the Supervisor's Office at 420 Barrett St. Dillon, Montana 59725 as well as the Beaverhead-Deerlodge National Forest (BDNF) website: [Forest Website](https://www.fs.usda.gov/project/?project=49404)
<https://www.fs.usda.gov/project/?project=49404>.

Additional information regarding this project can be obtained from Molly Ryan, Wisdom District Ranger, at 406-689-3243 or e-mail mollymryan@fs.fed.us.

The Pintler Face Project is subject to the objection process pursuant to 36 CFR 218, subparts A and B. Pursuant to 36 CFR 218.25, comments on this proposed project will be accepted for 30 days beginning on the first day after the date of publication of the legal notice in the paper of record on November 10, 2017 (Butte, Montana's *Montana Standard*). The comment period ends on a Sunday; comments will be accepted until the end of the next Federal working day, which is **December 11, 2017**.

Submit comments to the Responsible Official who is Melany Glossa, BDNF Forest Supervisor, by one of the following methods; mail: 420 Barrett Street, Dillon, MT 59725-3572, facsimile: 406-683-3855, or email: comments-northern-beaverhead-deerlodge@fs.fed.us (please type "**Pintler Face Project**" in the subject line) in order to be considered when making the final decision. Office hours, for those who wish to hand deliver their comments, are 7:30 a.m. to 4:30 p.m., Monday – Friday (except Federal holidays). Acceptable formats for electronic comments are text or html e-mail, Adobe portable document format, and formats compatible with Microsoft Office applications.

Sincerely,

MELANY GLOSSA
Forest Supervisor

