



Big Hole Watershed Committee

Virtual Monthly Meeting Minutes

October 21st, 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; Peter Frick, Rancher/BHWC; Laura Lundquist; Paul Siddoway; Jim Olsen, MFWP; Vanna Boccadori, MFWP; Eric Thorson, Sunrise Fly Shop/BHWC; Steve Luebeck, Sportsman/BHWC; Rich Harris; Torie Bollinger, UMW; Rory Trimbo, MFWP; Eric Trum, MDEQ/MWCC; Jesse Newby, MFWP; and Dane Strother.

Meeting Minutes

BHWC's monthly meetings have been held virtually via Zoom due to COVID-19 since August 2020. (Meetings were cancelled March through June 2020.) Meeting minutes and Zoom recordings are available on our website: <https://bhwc.org/monthly-meetings/> (scroll down for past months' meeting minutes). Please contact BHWC at info@bhwc.org to suggest additions or corrections to previous minutes or to this document.

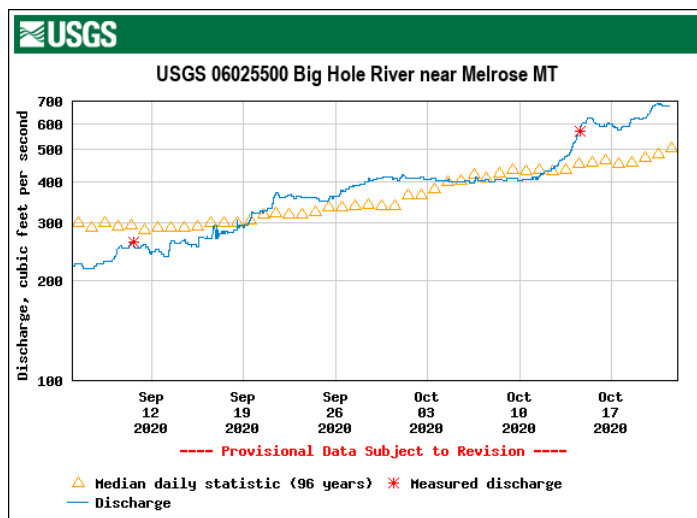
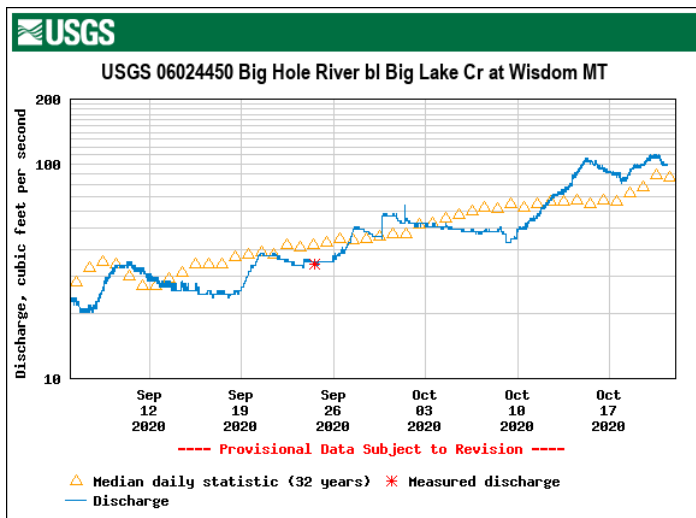
Reports

Streamflow/Snowpack Report as of October 21, 2020 – Matt Norberg, Montana Department of Natural Resources and Conservation

- Streamflows:** September and October streamflows on the Big Hole have generally been at or slightly below the long-term median values. Precipitation during September was below average and September temperatures were above average, lending to decreased water availability throughout the watershed during September and the beginning part of October. Return to seasonal fall temperatures coupled with seasonal precipitation events have brought streamflows back to normal conditions (or slightly above) within the past 2 weeks. Recent and

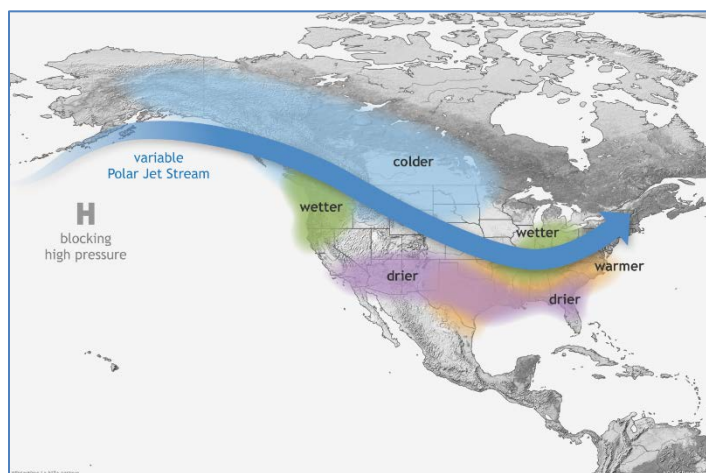
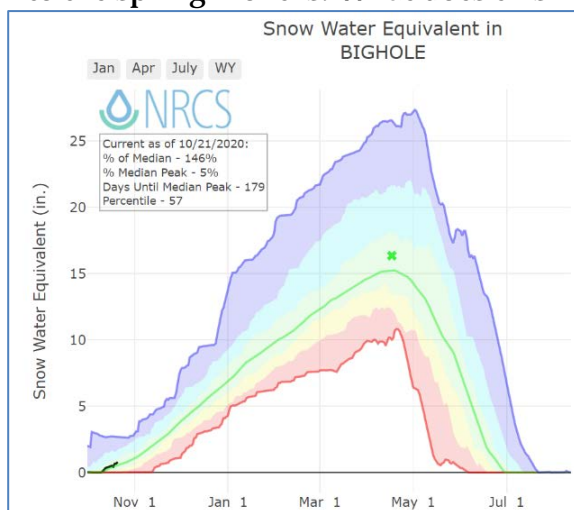
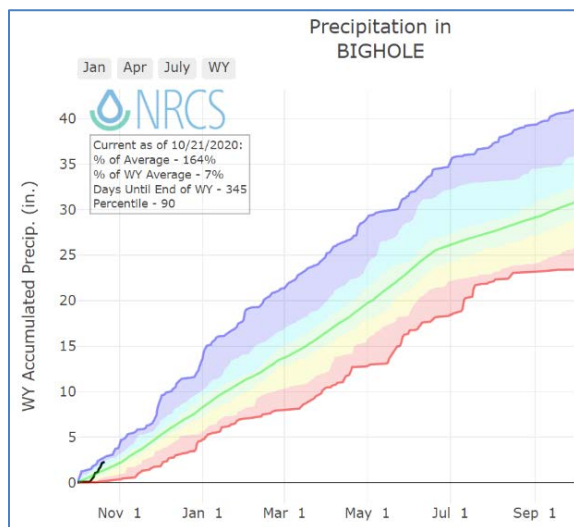
Big Hole Streamgages							
Station Number	Station name	Date/Time	Gage height, feet	Dis-charge, ft ³ /s	Long-term median flow 4/16	Temperature, deg C	
■ UPPER MISSOURI RIVER BASIN							
06023500	Big Hole River near Jackson MT	10/21 09:15 MDT	1.06	18.0	18.0	--	
06023800	Big Hole River ab Spring Creek nr Jackson MT	10/21 09:00 MDT	1.58	28.5	26.0	--	
06024020	Big Hole River at Miner Creek nr Jackson MT	10/21 09:15 MDT	1.10	59.1	78.0	--	
06024450	Big Hole River bl Big Lake Cr at Wisdom MT	10/21 08:45 MDT	2.19	98.3	86.0	5.3	
06024540	Big Hole River bl Mudd Cr nr Wisdom MT	10/21 09:30 MDT	2.71	176	217	--	
06024580	Big Hole River near Wise River MT	10/21 09:30 MDT	2.91	365	318	4.7	
06025250	Big Hole River at Maiden Rock nr Divide MT	10/21 08:45 MDT	3.22	543	458	6.3	
06025500	Big Hole River near Melrose MT	10/21 09:15 MDT	1.98	676	504	6.4	
06026210	Big Hole River near Glen MT	10/21 09:30 MDT	2.71	579	552	Ssn	
06026420	Big Hole R bl Hamilton Ditch nr Twin Bridges, MT	10/21 08:30 MDT	1.600	504	434	7.6	

forecasted precipitation across the watershed provides much needed soil moisture as we transition into the winter months.



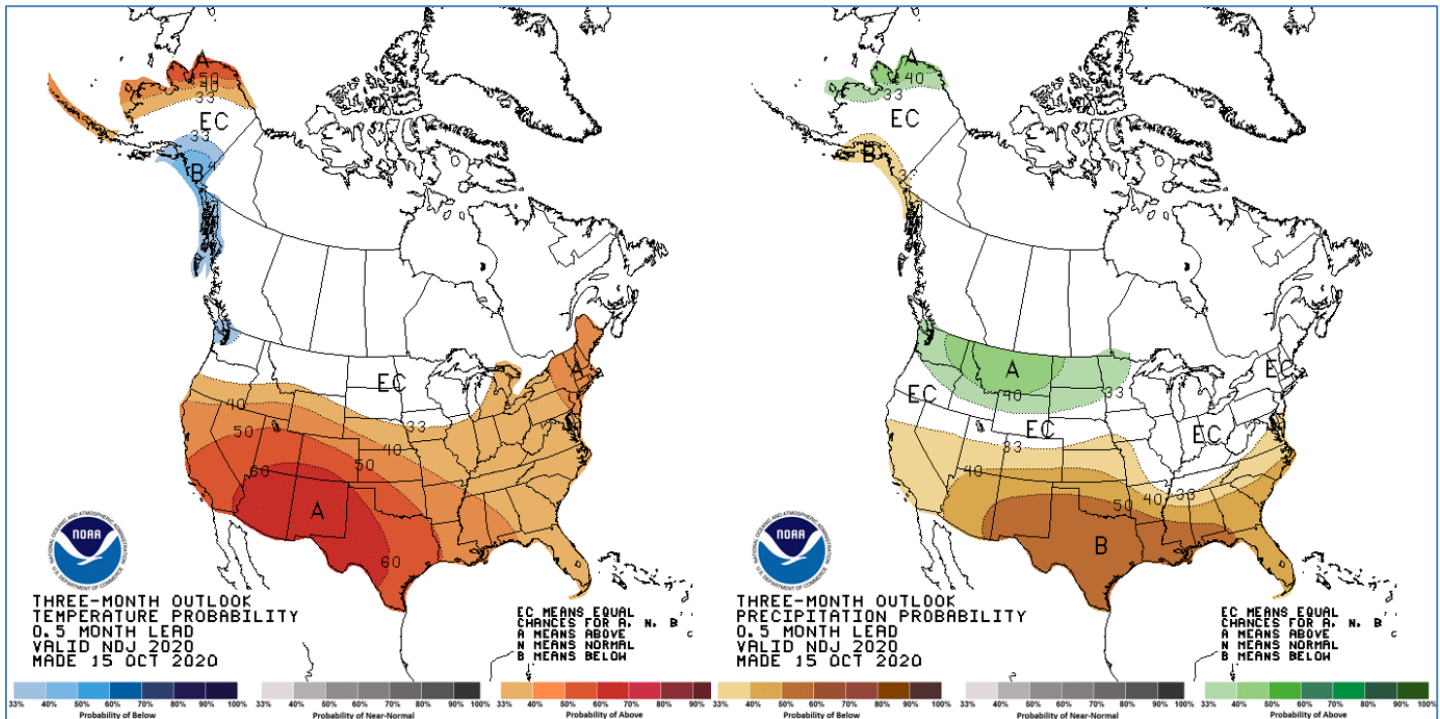
- **Snowpack/Precipitation:** Water Year 2021 has officially begun as of October 1, 2020. While it is still very early, the higher elevations have received some snow and we are off to a good start. Currently, snowpack for the Big Hole River based on representative SNOTEL sites is 146% of average. Precipitation across the watershed is currently at 164% of average. Another round of winter storms is forecasted for this week which should boost snowpack in the high elevations as well as contribute to soil moisture in the mid elevations and valleys.

- **Forecast:**
 - ENSO Alert System Status: La Niña Advisory
 - Synopsis: La Niña conditions are present and are likely to continue through the Northern Hemisphere winter (~85% chance) and persist into the spring months. What does this mean for Montana and the Big Hole specifically? "Generally," La Niña winters in the southern tier of the United States tend to be warmer and drier, while the northern tier



and Canada tend to be colder. These events tend to reach their maximum strength during October-February.

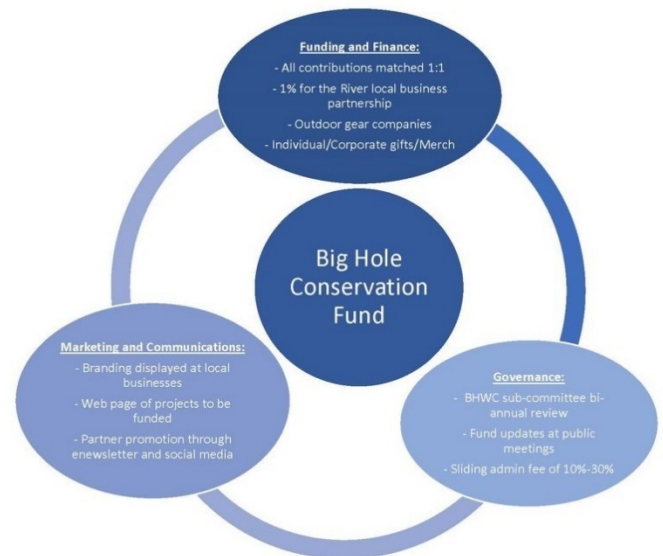
- The 3 month outlook for September/October/November is for equal chances of average temperatures and ~40% chance of above average precipitation. Last month's report forecasted above average temperatures and above average precipitation, but+ it appears that La Niña conditions are starting to settle in for Montana, transitioning into cooler/wetter conditions forecasted for the next 3 months.



Director's Report – Pedro Marques, Executive Director

- Drought and Gages:
 - Stream Gage Survey Results:
 - “Big Hole” and “Big Hole River” frequently mentioned by respondents in answer to a question about which gages they use the most.
 - Primary interests:
 - Personal/Recreational by far the most selected
 - Other, Emergency Management, Professional Guiding/Outfitting, Drought Information, Water Rights, and Agriculture also represented.
 - ~\$63% of respondents said stream gage annual cost (\$11,840-18,360) higher than they expected. 35% said it was about what they expected. Only 2% said lower than they expected.
- Projects/Partnerships:
 - BOR planning grant under contract!
 - 2 years capacity.
 - Restoration plan update, lower river engagement, Pennington Bridge design.
 - RCPP – 2021:
 - Irrigation infrastructure.
 - Research with UM-Western.
 - NRCS and IWJV.
 - Forestry Cooperative:
 - DNRC/NFWF \$ for mesic/riparian restoration on/near BLM lands.
 - Sage Grouse Partnership, TNC.
 - Land Use Planning: Reconnected with 4 county planners.

- Wildlife and Forestry Outreach: Beaverhead Deer-Lodge Working Group, Trout Unlimited, Heart of the Rockies Initiative.
- Grant proposal season.
- **Communications/marketing:**
 - Dillon Tribune.
 - Society for Ecological Restoration.
- **The Big Hole Conservation Fund:**
 - A locally managed fund for stream and ecosystem restoration projects in the Big Hole watershed.
 - A tangible way to engage local businesses in conservation and invite visitors to invest in Big Hole water resources for the long-term.
 - Addresses bottleneck of lacking non-federal matching dollars for projects.
 - Elevates BHWC status with our partners as a key source for project dollars (seat at the table).
 - **Justification:**
 - Local businesses are a critical part of the Big Hole's community and economy. We know that if not for the river, no one would ranch here, build homes here, and visitors wouldn't come from around the world to fish the Big Hole's waters. A healthy river system drives traffic to the Big Hole and to many local businesses.
 - BHWC has been in the business of improving the resource and the quality of the experience people have here for 25 years. This Conservation Fund and 1% for the River partnership will turn that value into an opportunity to invest in the future quality of the Big Hole River and watershed.



Steering Committee – 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

- **Upper Big Hole Range Rider Program:**
 - The 11th Upper Big Hole Range Rider season wrapped up September 30th.
 - Chet Robertson, Upper Big Hole Range Rider, photographed and tracked several wolves this year and found a new den site.
 - No confirmed depredations on enrolled allotments in 2020 as a result of Chet's monitoring.
- **Carcass Removal & Composting:**
 - Carcass removal was provided free of charge to Big Hole Valley ranchers during the spring calving season (March-May 2020) to remove predator attractant from area ranches.
 - Wildlife Program Technician, John Costa, picked up 53 carcasses from 9 ranches in 2020 and hauled them to our compost site next to the Wisdom MDT Maintenance Shop.

- BHWC also provided carcass removal services to Sage Creek ranchers on behalf of the Centennial Valley Association spring 2020. CVA reimbursed us for our cost.
- **Loaner Toolkits:**
 - **Livestock Loss Prevention:**
 - Producers can borrow/test.
 - Scare devices, temporary e-fencing, bear spray, resource guides, etc.
 - 2020 funding:
 - Livestock Loss Board.
 - Vital Ground Foundation.
 - **Bear Safety:**
 - Big Hole residents can borrow/test.
 - Scare devices, bear-resistant backpacking containers, resource guides, bear spray, inert practice bear spray, etc.
 - 2020 funding:
 - Vital Ground Foundation.
 - **Contact Tana for more information:**
 - tnulph@bhwc.org
 - 406-267-3421
- **Wildlife Conflict Reduction with Beavers:**
 - BHWC has added beaver conflict reduction to its wildlife programs.
 - Goal: To reduce human-beaver conflicts using non-lethal and habitat sustaining methods.
 - **Projects:**
 - **Sugar Loaf Lodge (private):**
 - Clark Fork Coalition, Defenders of Wildlife, National Wildlife Federation, Anaconda-Deer Lodge County, and landowners (Sugar Loaf Lodge)
 - October 5, 2020
 - Installed culvert fence to prevent beaver from building in culvert.
 - **Mule Ranch Cooperative Project (MFWP):**
 - BHWC, National Wildlife Federation, Clark Fork Coalition, Montana Fish, Wildlife and Parks (landowner)
 - October 9, 2020
 - Installed culvert fence to prevent beavers from building in culvert. Replaced existing vertical culvert-style beaver deterrent to allow more streamflow.
 - Featured: Montana Beaver Working Group newsletter!
 - **Potential Projects?**
 - Having problems with beavers? Get in touch! info@bhwc.org, 406-267-3421



Restoration Report – Ben LaPorte, Program Manager

- Elkhorn Ck. Electrofishing Survey with MFWP.
- Beaver Conflict Mitigation Projects: Mule Ranch & Sugar Loaf Lodge (see info above in wildlife report).

- Completed 2020 Anaconda Uplands Construction (photo right).
- East Fork Divide Creek 2.0 – installed additional beaver dam analogs.
- Working on several grant proposals.



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.

Meeting Topic: Big Hole Watershed Wildlife Updates

*Presented by: Vanna Boccadori (Butte) and Jesse Newby (Dillon)
Wildlife Biologist with Montana Fish, Wildlife and Parks*

Wildlife Updates along the Big Hole River by Vanna Boccadori

- Cooperative Beaverhead Mountain Goat Survey:
 - Idaho Fish and Game + Montana Fish, Wildlife and Parks
 - Beaverhead Mountain Range, both sides
 - Started March 2019
 - 86 total sheep counted: 10 kids, 5 yearlings, 71 adults
 - Reopen for 1 license EOY with Idaho?
- Upper Big Hole Sage Grouse Study:
 - Mission: Proactive, collaborative approach to sage grouse conservation in a sustainable working landscape.
 - Objectives:
 - Define seasonal habitat use.
 - Determine migratory status.
 - Identify migration corridors and stop=over locations.
 - Determine if Big Hole population contributes to genetic connectivity across SW MT and ID by migrating during the breeding season.
 - Characterize nesting habitats.
 - Partners:
 - USFWS + MFWP (main players)
 - Big Hole Watershed Committee
 - Big Hole Landowners
 - Vigilante Coop
 - BLM
 - USFS
 - DNRC
 - TNC
 - Results (so far):
 - Capture:

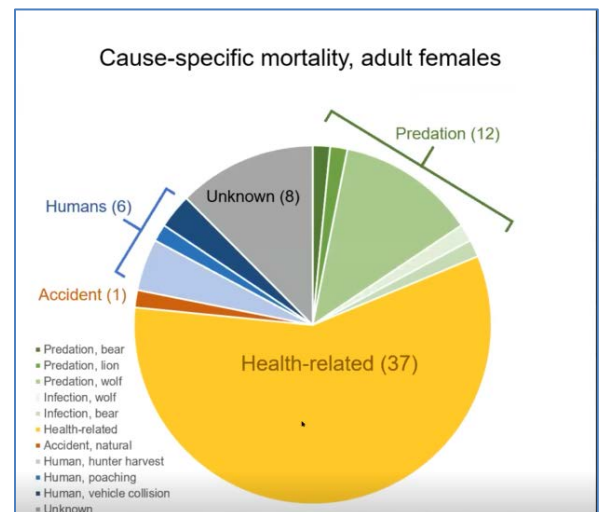
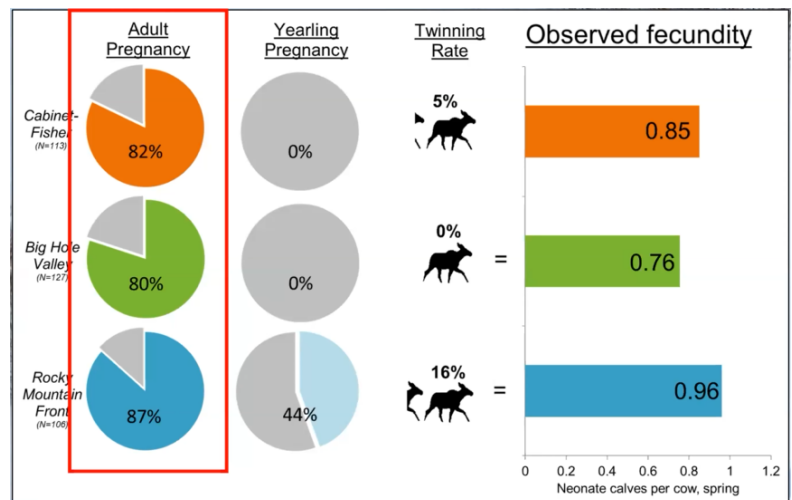
- 2018: 15 hens
 - 2019: 15 hens
 - 2020: 2 hens
 - Mortalities:
 - 2018: 5
 - 2019: 8 (3 were 2018 hens)
 - 2020: 6 (3 from 2018, 3 from 2019)
 - 3-unit failures + 1 dropped unit
 - Currently 9 hens “on the air” (fitted with tracking devices)
 - Causes of Mortality:
 - 2 avian predations (found tracking unit in eagle nest – sage grouse hens are very vulnerable during nesting period.
 - 2 mammalian predations
 - 9 unknown predations
 - Unknown cause
 - Hatch success (6-9 eggs per nest, 28-day incubation):
 - 2018:
 - 16 total nest attempts
 - 12 first nests, 4 second nests
 - : 1 successful hatch
 - 2019:
 - 20 total nest attempts
 - 17 first nests, 3 second nests
 - 9 successful hatches
 - 2020:
 - 13 total nest attempts
 - 11 first nests, 2 second nests
 - 5 successful hatches
- Next Steps:
 - Analyze data gathered to-date to identify on-the-ground projects.
 - DNA analysis of feathers.
 - Produce 3-year progress report.
 - Expand capture to Horse Prairie.
 - Continue to capture and monitor marked hens 3+ years.
- Projects Resulting from Data:
 - Vigilante Electric Coop: pole design to eliminate raptor perches.
 - Steel Creek mesic restoration: water holding and conifer removal.
 - Big Hole fence improvement: 8.5 mile of fence removal and modification.
- MFWP Pronghorn Movement and Population Ecology Study:
 - Objective: Monitor location data to identify potential barriers to movement and habitat improvement projects within seasonal ranges or along migration corridors.
 - Populations:
 - Big Hole
 - Madison
 - Paradise
 - Musselshell
 - Garfield-Rosebud
 - South Phillips
 - Fergus-Petroleum
 - Powder River-Caiter
 - Results:

- 46 collared January 2020
 - 13 mortalities
 - 2 collar malfunctions
 - 31 still on air

Wildlife Study Updates by Jesse Newby

- Pronghorn Movement and Movement Barriers in Horse Prairie:
 - Jesse Devoe – Montana Pronghorn Movement and Population Ecology Project
 - Movement barriers:
 - Impermeable barriers
 - Isolated escapes
 - Total entrapment
 - Semipermeable barriers
 - Partners:
 - Montana Cooperative Wildlife Research Institute
 - Montana Fish, Wildlife and Parks
 - BLM
 - National Wildlife Federation
 - The Nature Conservancy
 - Proposed management actions:
 - Wildlife-friendly fencing:
 - The friendliest fences to wildlife are very visible and allow wild animals to easily jump over or slip under the wires or rails.
 - 40-42" height
 - 16-18" bottom gap
 - 12" top gap
 - Top and bottom wires smooth
 - Fence modification:
 - Top and bottom wire modification: increase visibility with a PVC cover, high-visibility wire, flagging, or a top rail.
 - Removal and replacement
 - Bottom wire modification
 - Total surveyed: 42.5
 - Total for modification: 35.4
 - Drop top strand: 3.2
 - Raise bottom strand: 2.7
 - Raise bottom strand, lower top strand: 5.3
 - Remove and replace with wildlife-friendly fence: 23.6
 - Secretarial Order (S.O.) 3362: Improving Habitat Quality in Western Big-Game Winter Range and Migration Corridors.
 - Modified wire: 4.1 miles, \$16,265
 - Removed and replaced fencing: 9 miles, \$177,607
 - Total: 13.1 miles, \$198,872
 - Funding:
 - National Fish and Wildlife Foundation
 - USFWS Partners for Fish and Wildlife
 - Landowner Contributions
 - Sportsman's Groups
 - Conservation Organizations
- MFWP Moose Study:

- 2013-2023
- Objectives:
 - Monitoring: evaluate monitoring strategies
 - Population dynamics: vital rates and limiting factors
- Partners:
 - Montana Fish, Wildlife and Parks
 - Safari Club International Foundation
 - USFWS – Wildlife Restoration Program
- Questions for Montana's moose:
 - Primary:
 - Population growth
 - Secondary:
 - Nutritional condition
 - Adult female survival
 - Adult female fecundity
 - Calf survival
 - Tertiary:
 - Human harvest
 - Predation
 - Forage & habitat
 - Parasites/disease
 - Heat stress/snow
- Study areas:
 - Cabinet Mountains
 - Rocky Mountain Front
 - Big Hole Valley
- Methods:
 - Sample of adult females (30/area)
 - N=162 individuals
 - Adult female survival: N>500 moose-years
 - Fecundity:
 - Pregnancy (N=437 via fecal progesterone)
 - Parturition and litter size: via spring flights
 - Calf survival: N=372 via calf-at-heel for 1 year
 - Other attributes:
 - Age, rump fat, tick loads, etc.



Upcoming Meetings

- BHC Virtual Monthly Meeting, November 18th, 2020 – 6pm via Zoom

Adjourn