



# Big Hole Watershed Committee

Monthly Meeting Minutes

March 15, 2017 – 7:00 pm

Wisdom Community Building – Wisdom, Montana

## In Attendance

Jennifer Downing, BHWC; Tana Nulph, BHWC; Pedro Marques, BHWC; Ed Scott; John Jackson, BVHD County Commissioner; Jim Hagenbarth, Rancher/BHWC; Betty Bowler; Mark Raymond, Rancher; Clint Shoop; Tom Bowler; Rob Macioroski, BVHD County Planner; Roy Morris, GGTU/BHWC; Mark Kambich, Rancher/BHWC; Dean Peterson, Rancher/BHWC; Dennis Havig; Randy Smith, Rancher/BHWC; Emma Cayer, MFWP; Blake Huntley, Rancher; Molly Ryan, USFS; Jessica Dhaemers, USFS; Adam Braddock, USFWS; Jacqueline Knutson, MFWP; Lindsay Schmitt, NRCS; Jim Magee, USFWS; Brittany Trushel, BHRF; Mike Roberts, DNRC; Eric Thorson, Sunrise Fly Shop; Paul Cleary; Peter Frick, BHWC.

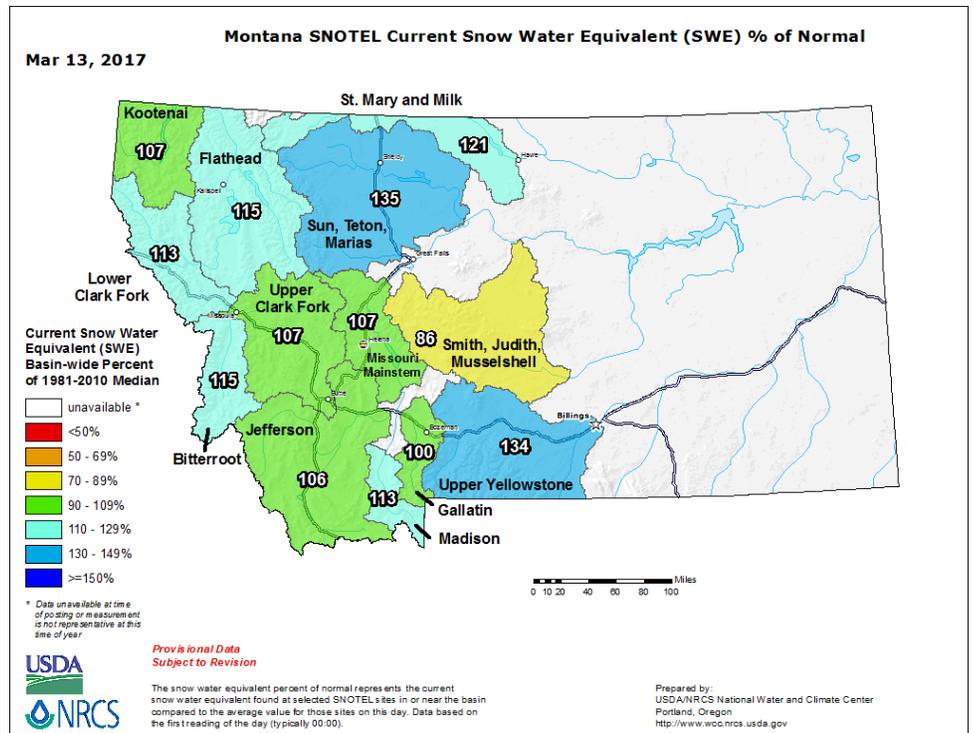
**Introductions** Attendees introduced themselves.

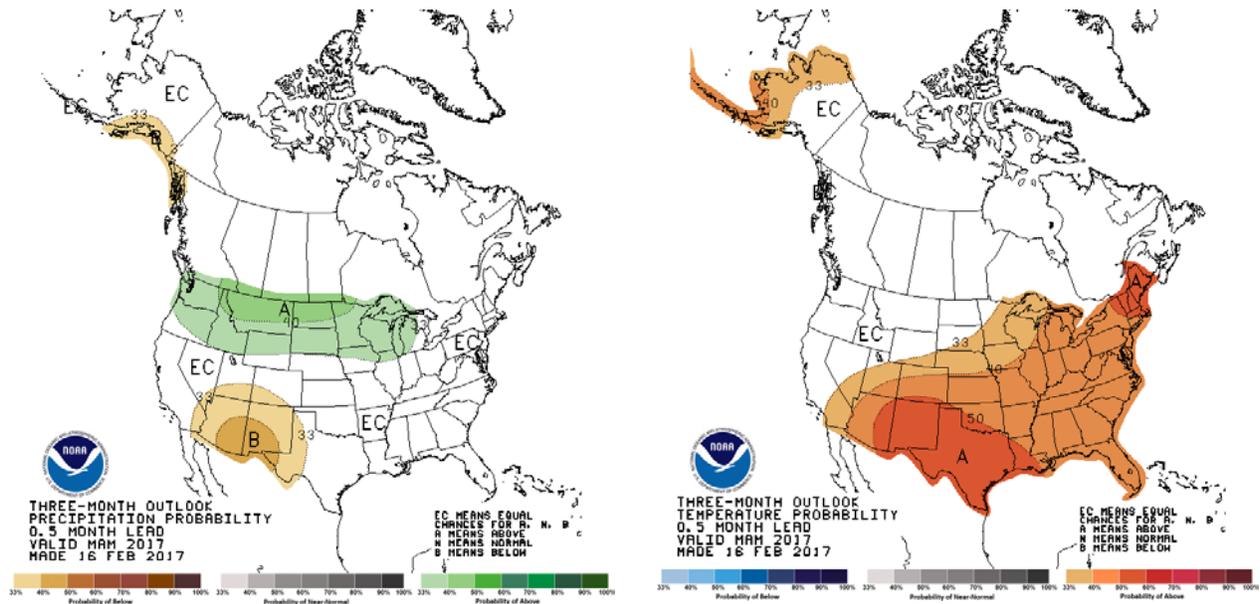
**Meeting Minutes** February 2017 meeting minutes were reviewed, no additions or corrections.

## Reports

*Streamflow/Snowpack Report –Mike Roberts, DNRC*

- **Streamflows:** Most gages are seasonal and are not currently reporting flows.
- **Snowpack:** At this time the Big Hole Basin is at 111% of average. The Jefferson Basin in its entirety is at 106% of average. When compared to the same time last year we are seeing less overall snowpack across the basin.
- **Temperatures:** Valley air temperatures for March as of the 14th have been slightly above normal with average highs around 5 degrees F above average. The outlook for the remainder of the month looks to be much of the same.
- **Forecast:** The weak La Nina event that characterized January and February weather in Montana has shifted to neutral conditions and forecasters are confident it will remain that way through the rest of the spring. Currently, El Nino models are on the fence although it seems that we may see an El Nino event late summer to early fall (~50%). The three-month outlook currently favors slightly above average precipitation through the rest of the spring and average temperatures.





**Most recent NOAA 3-month outlook is for wetter than average and normal temperatures through the spring.**

### *Drought Management Plan – Jennifer Downing*

- BHWC is gearing up for the (potential) 2017 drought season. There were no significant changes made to the DMP this year.
- Tana attended a drought conference hosted by the USFS in Choteau March 14-15. BHWC staff has also been involved in the National Drought Resiliency Partnership and a variety of other drought-related efforts.

### *Director's Report - Jennifer Downing*

- We've been busy through the winter with things like grant reports, strategic planning, etc.
- 2016 Annual Appeal wrapping up – results were about as expected. Thank you to everyone who donated!
- Wrapping up last year's projects; no new restoration projects starting in 2017.
  - Finishing up California Creek, Mt. Haggin restoration, French Gulch & Moose Creeks, etc.
- High Divide Collaborative Workshop April 4-5, 2017 in Dillon. BHWC will be represented.
- Continuing to build partnerships and collaborate with several other groups; this winter, we focused on being thoughtful about our partnerships and strategic about what the results will be when we enter into a partnership.
- We have several vacancies on the governing board at this time. We have solicited some individuals to come to meetings, get to know BHWC members. We will elect them temporarily in May, and they will be confirmed into their official terms at the January 2017 Annual Business Meeting.

### *Steering Committee – Jim Hagenbarth, Roy Morris, Randy Smith*

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

### *Wildlife Report – Jim Hagenbarth, Tana Nulph*

- Senate Bill 73 (SB73): bill proposing to extend sunset of Livestock Loss Board (LLB) funding for nonlethal predator management programs and direct reimbursement to producers for livestock loss, has passed through the Senate and is in the House of Representatives. BHWC staff, board members, and partners testified this spring in support of SB73. The Livestock Loss Board funding supported by this bill funds our range rider and carcass management programs.
- Carcass Removal: Currently available in the upper Big Hole (see attached flier). Contact BHWC Conservation Programs Coordinator, Tana Nulph, (406-267-3421 or [tnulph@bhwc.org](mailto:tnulph@bhwc.org)) for more

information or Wildlife Programs Technician, Kim Bingen, (406-660-2158) to schedule carcass removal.

- Producers who are outside of the ~30 mile maximum can bring their carcasses to the compost site; they just need to contact Kim and make arrangements for her to meet them at the site and receive/cover the carcass.
- Carcass Composting: BHWC's carcass compost facility will open mid-March. Carcasses picked up through the carcass removal service will be hauled to the compost facility once operational. Carcasses removed prior to the facility's opening will be taken to the Beaverhead County Landfill. Tash T Diamond Post & Pole will donate wood chips to be used in the composting process. People and Carnivores and the Wildlife Conservation Society – Community Partnerships Program are assisting with site development and setup.
- CVA/Centennial Valley Carcass Removal: BHWC is partnering with the Centennial Valley Association to provide carcass removal at Sage Creek in the Centennial Valley this spring. The USFWS is providing the fuel and salary for the Centennial portion of this year's carcass removal. BHWC's Wildlife Programs Technician, Kim Bingen, will operate the carcass removal dump truck in both the Big Hole and Centennial Valleys this spring.
- Wildlife Speaker Series event: The 2017 Wildlife Speaker Series – Big Hole event will be held Monday, July 17, 2017 at 6pm at Great Waters Inn near Melrose. The event will include a potluck dinner. Topic: Wolverines. Potluck starts at 6pm, presentation starts at 7pm.
- Big Hole Sage Grouse Working Group meeting:
  - Had a meeting Tuesday, February 21, 2017 in Dillon to discuss the current status of sage grouse in SW Montana and plans for the future. Several organizations were represented at the meeting.
  - Tuesday, March 21, 2017, 1pm at Dillon DNRC office.
- It's important that we do some education so that we can better understand non-lethal predator management; it's a tool in the toolbox, but we also need lethal management to control the problem predators.

#### *Land Use Planning Report – Pedro Marques*

- Big Hole River Incentive Program: Incentive for streamside landowners to provide services that reduce sediment input or provide floodplain enhancement in the lower Big Hole. Still funding available. Hoping to implement the projects we have lined up. We're trying to get as much work done as possible in 2017; as soon as the projects are permitted, they will be "on-the-ground". Awaiting DNRC contract, which should be complete any day now.
- How to merge incentive programs with market research? How are other groups doing this on a national/international scale? Pedro will be going to Panama (all expenses paid) to present and collaborate on this. How do we create a sustainable and perpetual fund that landowners can count on to do streamside conservation that benefit the values we all hold dear WITHOUT having to run to a State or Federal grant source every year or two, (which is complicated and not sustainable)?

#### **New Business**

- Suggestion: Education regarding grazing utilization in rangelands, pasture, and riparian areas. Suggest Jeff Moseley to present. Lindsay Schmitt is considering putting on a field day in late July/early August.
- Suggestion: Education regarding sage grouse, public land policies that are developing regarding sage grouse and sage brush conservation, etc.

#### **Discussion**

- *Ed Scott got a hold of DNRC representative in Dillon, hopefully they will work with the island landowners to prevent them from over-developing their property.*
  - *Wants to put a 6,000 square foot house right on the banks of the Big Hole River.*
  - *The house will be over 300 feet from the river, not on the river bank.*
  - *This guy has jumped through all the necessary hoops to get the floodplain permit approved.*
    - *He has claimed that he wants to develop the islands; but there are several reasons he likely won't be able to do that.*

- *The next meeting will be held on April 10, 2017 at 10am in Dillon.*
- *It's tough for all of us to swallow: to see brand new development happening IN the floodplain, so soon after the new floodplain ordinances and maps went through. BUT, the rules are being followed; he's building according to existing ordinances.*
  - *Thanks to BHWC helping to push through the new floodplain map adoption and related ordinances, there are stricter regulations to follow – he's not building directly on the river.*

## **Meeting Topic: Upper Big Hole Arctic Grayling Recovery Update**

*Presentation by: Emma Cayer, Montana Fish, Wildlife and Parks  
Mike Roberts, Department of Natural Resource Conservation  
Jim Magee, United States Fish and Wildlife Service*

**Background:** The Upper Big Hole River Arctic grayling recovery effort is led by the Conservation Candidate Agreement with Assurances (CCAA) program. The CCAA program enrolls landowners in written agreements to help enhance and conserve critical Arctic grayling habitat and conditions between the Big Hole River headwaters near Jackson, MT to Dickie Bridge. In exchange, enrolled landowners are protected from any additional regulatory requirements if the Arctic grayling were to be listed on the Endangered Species Act. The CCAA has been in effect since 2006. Each year the CCAA program staff provide an update on progress to the BHWC.

### **Upper Big Hole Arctic Grayling Recovery Update – Emma Cayer, MFWP**

- Montana Fish, Wildlife and Parks is responsible for managing wildlife, fisheries, State parks, enforcement, etc.
- Emma works in fisheries division: Manages fish and their habitats; works for the resource and the public.
- Complex:
  - Multiple fish species.
  - Disease, AIS, water demands.
  - Environmental issues.
  - Social and economic.
  - Diverse interests and values.
- Native Species Management:
  - 57 native fish species in Montana. 23 of them are considered Species of Special Concern.
  - Goal: protect, maintain, and restore native fishery.
    - Life histories, genetic diversity, angling opportunities
  - MFWP Policy and State Law
  - Arctic Grayling Recovery office – 2 fulltime staff (Emma Cayer and Austin McCullough)
  - CCAA Program for Arctic Grayling:
    - EOS – permit holder
    - 20 year commitment
    - Coordinate program – 4 agencies (MFWP, DNRC, NRCS, and USFWS)
      - Kyle Tackett, who was a member of the CCAA team, has moved on to a new position. Lindsay Schmitt is the acting District Conservationist in his absence. Dan Durham from Sheridan will also be involved this year.
- Arctic Grayling Legal Status:
  - 2013
  - 8/14/2014 – USFWS came out with a not warranted decision: Grayling not warranted for a listing decision because populations have increased since 2010 thanks to conservation practices taking place in the valley.
  - 2015



- Projects
- Big Hole Arctic Grayling population:
  - 2 sampling methods
    - Traditional sampling – electrofishing
      - Relative abundance estimates
      - Distribution
    - Genetics
      - Long-term persistence
      - Abundance trends
  - In 2006, results showed 0.25 grayling per mile.
    - In 2012, we peaked around 3.25 grayling per year.
    - Populations declined slightly in 2013, but are on the rise again. Trying to get an idea of what's really going on out there with the grayling.
- Graduate Project:
  - Evaluate the influence of environmental factors on Arctic grayling abundance.
    - Nonnative salmonid species
    - Discharge
    - Temperature
    - Habitat condition
  - Temperature and flow have the greatest relative influence on where we found grayling.
    - Temperature and streamflow are correlated.
    - Management actions in place to drive streamflow up and temperature down.
    - We catch more grayling when experiencing cooler temperatures; also catch more grayling when the CCAA is meeting its flow targets.
    - Young of the Year (YOY) actually do better with warmer temperatures, lower discharge.
- Brown Trout: We see fewer Grayling YOY as Brown Trout numbers increase. This is important, because Brown Trout populations are growing in the Big Hole River. We need a better understanding of the relationship between these two fish species.
- Future Direction:
  - Evaluate riparian assessments
  - Brown Trout
    - Monitor trend in abundance
    - Ensure abundance samples characterize entire population
  - Lower river studies (will begin this year in conjunction with Jim Olsen, MFWP)
- 2016 genetic results
  - Hoping to get results back soon
  - Heterozygosity
  - Allelic richness
  - % Relatedness
  - Effective population size
- 10 Year CCAA program goal:
  - Increase distribution of AG within project area (CCAA management segments A and B).
    - Distribution has increased determined through electroshocking sampling.
    - Introduce grayling through streamside incubators.
- Grayling Incubators:
  - 10 RSI Governor Creek
  - 10 RSI Miner Creek
  - 6 RSI Upper Big Hole
  - In 2016, put out 40,000 eggs – only captured 1 YOY that fall. But it was a tough drought year.
  - Thankful for private land access to set up and operate incubators.

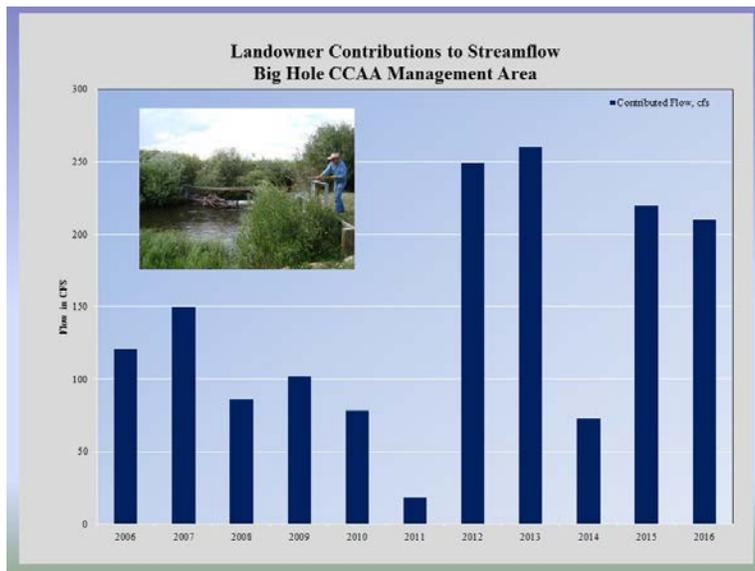
*Discussion:*

- *How does the Proliferative Kidney Disease affect grayling or does it?*

- Unfortunately, grayling are susceptible to PKD, so this is something we need to be aware of.
- How closely do you work with fishing outfitters/guides as far as recording grayling sightings?
  - Emma has been working with Eric Thorson to try to figure out a way to tap into this resource. Need an organized way to record this information.
  - Potentially a cell phone application.

## 2016 Upper Big Hole Hydrology and CCAA Report – Mike Roberts, DNRC

- 2016 Water Year:
  - Big Hole Basin snowpack: Appx. 96% of avg. (1981-2010 median)
  - Spring precipitation: Appx. 100% avg.
  - Summer precipitation: Appx. 100% avg.
  - Winter temperatures (valley): 108%
  - Spring temperatures (valley): 108%
  - Summer temperatures (valley): 98% avg.
  - Peak flows:
    - Melrose: 4,490 cfs, May 22
    - Wisdom, 1,780 cfs, May 22
  - Low Flows:
    - Melrose: 137 cfs, August 31



- Wisdom: 8.2 cfs, August 23
- Diversion Reduction Agreements:
  - Biologically based flow targets (based on wetted perimeter)
  - Partitioned watershed.
  - When flow values are reached, the CCAA crew starts making phone calls, and those with Diversion Reduction Agreements are required to cut back their water usage. This is a difficult thing to ask of irrigators during the summer, when they really need the water. But it does make a difference.

### Discussion:

- Is this information available online?
- Yes it is, in fact it's available on BHWC's website, <http://www.bhwc.org>
- It's important to remember that 2016 was

*the 84<sup>th</sup> lowest precipitation year in the past 86 years, but streamflow didn't drop excessively and CCAA targets were nearly met. This is a big accomplishment, and thanks to the hard work of the CCAA crew and landowner contributions.*

## Montana Partners for Fish and Wildlife – Jim Magee, United States Fish and Wildlife Service

- Montana Partners for Fish and Wildlife:
  - Works with private landowners; each state has its own Partners for Fish and Wildlife Program.
  - Federal Trust Species (migratory birds, interjurisdictional fish, threatened and endangered species).
  - 73% of Land in United States is private; much of the best wildlife habitat is on public land. Many fish and wildlife species depend on private lands.

- Every 5 years, review priorities. Just had this review, committed for another 5 years.
- Currently working in the:
  - Big Hole: Arctic grayling, Sage Grouse; and
  - Centennial: Arctic grayling, Trumpeter Swans, Grizzly Bears, Sage Grouse.
- CCAA Total Projects:
  - Irrigation structures: 124
  - Measuring flumes: 70
  - Fish ladders: 64
  - Stockwater systems: 71
  - Restoration (mi.): 28
  - Riparian fence (mi.): 119
  - Streamflow gages: 25
  - Grade control: 15
  - Bridges: 15
  - Fish screens: 2
  - Siphons: 1
  - Willows planted: 72,200
  - Acres of noxious weeds treated: 16,450
- Project funders: USFWS, MFWP, NRCS, DNRC, Future Fisheries, BHWC, BHRF, SWIG, RRGL, USBR, AGRP, USGS, TNC, TU, BLM, other private donors, landowners.
- 2016 Big Hole projects:
  - Irrigation improvement: 8
    - Swamp Creek Irrigation Efficiency and Fish Passage project:
      - 8 PODs with fish passage
      - Functioning structures
      - Measuring devices
      - 2 bridges
      - Access to 3+ stream miles
  - Stockwater systems: 2
    - Little Lake Stockwater System: supports riparian management/grazing plan and improved streamflows.
    - Horse Pasture Solar Stockwater System: improved stream flows and riparian health on 9,000 feet of Big Lake Creek.
  - Fish ladders: 7
  - Bridges: 2
    - Dudley Bridge: Maintains fish passage and decreases sediment load in Big Hole River.
  - Pasture/riparian fence: 2.5 miles
  - French Creek fence: 2.8 miles
- CCAA Projects by Threat:
  - 194 in-stream flow
  - 118 riparian
  - 95 fish passage
  - 3 entrainment
- Migration barriers/fragmentation
  - Goal: remove all barriers
  - Denil Fish Ladder:
    - Arctic Grayling Denil Fish Passage research
      - Purpose: Determine the Best Management Practices for Denil Fish ways for Arctic grayling passage.
    - Objectives:
      - Phase 1: Determine Arctic grayling swimming performance.
        - Researchers: Matt Blank, MSU; Kevin Kappenman, USFWS; Katey Plymesser, MSU; and Erin Ryan, USFWS.

- Volitional swimming performance:
    - Increased velocities to determine max ability
    - Passage decreased as velocity increased
    - Staged multiple attempts
    - Using burst swimming
- Phase II: Determine water depth/slope and passage success through Denil fishways.
  - AG capable of swimming through fish ladders.
  - Behavioral aspects to fish passage.
  - Fish passage dependent on a relationship between approach pool and attractant flow.
  - Different scenarios in field installation.
- Phase III: Develop low flow device.
  - Need to provide passage during low-flow periods while maintaining water right quantities to irrigators.
  - Goal is to provide 100% passage of Artic grayling while balancing irrigation needs.
  - 2017: test 4 different designs, evaluate flow and passage for each design.
- Phase IV: Evaluate fish passage in the field. Assessing and increasing landscape connectivity of Denil fishways in the Big Hole River watershed
  - 2017:
    - Measure Denil hydrologic factors
    - Develop a passage probability model.
  - 2018:
    - Mark capture-recapture study of fish passage through Denils
    - Different species
    - Variable flows, temps. Etc.
- Management Implication: Best Management Practices, installation specs, minimum flow, depth, velocity, low flow board
- Partnership is what it's all about – thank you to everyone who is a part of this program and the grayling recovery process!

### Discussion

- *Does the size of the grayling affect how large the ladder needs to be?*
  - *Good question, we're testing with 12" grayling.*
    - *It might be difficult for grayling >12" to get through the ladders.*
- *Does the color of the fish ladder matter?*
  - *We're not sure, we have blue ones and yellow ones but don't know of any effects on the fish.*
- *Are you more worried about low flow or high flow with fish ladders? How do you know they work?*
  - *We have put fish traps above the ladders and caught various species of fish. Emma captured grayling and put them downstream of the ladders; the grayling WERE seen moving through the ladders, so they do work.*
  - *Finding a balance with irrigators is really important.*
  - *I'm more worried about low flows, because without enough depth, the grayling can't get through the ladders.*
- *Are you looking at irrigation ditches?*
  - *Yes, if the water is shut off too quickly, the grayling can't always get out of the irrigation ditches. It works better to shut them off gradually.*
  - *It was mentioned tonight that there are several new faces present. Everyone is welcome to contribute; your knowledge and ideas are really important to this organization. Thank you for coming, and please continue to come, because this is about all the interests on this river, from cows to fish to forest. Thank you for coming.*

## **Upcoming Meetings**

- April 19, 2017, BHWC public meeting, 7pm @ the Divide Grange. Topic: Big Hole Watershed Weeds.
- May 17, 2017, BHWC public meeting, 7pm @ the Divide Grange. Topic: Grizzly Bears in the Big Hole Watershed.
- June 21, 2017, BHWC public meeting, 7pm @ the Divide Grange. Topic: Big Hole Watershed Wildlife Update.
- July 17, 2017, Wildlife Speaker Series – Big Hole Event, 6pm @ Great Waters Inn. Topic: Wolverines.

## **Adjourn**



**BIG HOLE**  
**WATERSHED COMMITTEE**  
*Conservation Through Consensus.*

# **Livestock Carcass Removal Service Available to Upper Big Hole Ranchers Beginning March 2017**

**MUST BE WITHIN ~30 MILES OF WISDOM**

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**To arrange for carcass removal, contact Kim Bingen,  
Wildlife Programs Technician, at (406) 660-2158**

**For more information, contact Tana Nulph,  
BHWC Conservation Programs Coordinator,  
at (406) 267-3421 or [tnulph@bhwc.org](mailto:tnulph@bhwc.org)**

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**Carcasses will be hauled to BHWC's Upper Big Hole  
Carcass Compost Facility next to the MDT Wisdom  
Maintenance Shop, where they will be broken down into  
minimal amounts of compost. The purpose of our carcass  
management programs is to remove predator attractant  
from the landscape in order to reduce risks of predation  
and control predator populations. Similar programs have  
had tremendous success in other parts of Montana. All  
information regarding livestock and ranching operations  
will be kept confidential.**