

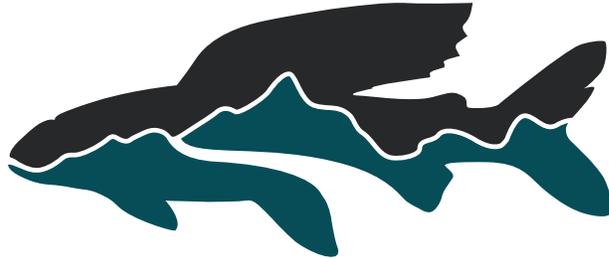
Free Flows

A Quarterly Publication

Winter 2015

This Issue

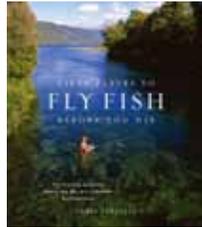
Sweetgrass Rod Raffle
Technical Guidance Series
Riparian Buffers
Annual Dinner Photos
Fence Projects
2014 Income & Expenses



BIG HOLE RIVER
FOUNDATION

The Big Hole River Foundation's mission is to conserve, enhance and protect the free-flowing character of the Big Hole River, its unique culture, fish and wildlife.

The Big Hole River Foundation on Network Television!



If you happened to be on the Big Hole this past June, you might have noticed a boat carrying more cameras than fly rods. That was a crew from World Fishing Network filming an episode for the first season of "Fifty Places To Fly Fish Before You Die."

The series – which features noted angler Conway Bowman as host – is based upon the best-selling books by author Chris Santella. (There's also a "Fifty More Places To Fly Fish Before You Die"; both are published by Stewart, Tabori & Chang.) The idea with the show is to highlight some of the world's premiere fly fishing destinations – not just the fishing, but also the personalities, history and other intangibles that make a fishing venue special.

During the crew's three days in Wise River, Bowman fished several days with Butte native, Rudy Ketchum from Big Hole River Lodge. Water conditions are always a roll of the dice in early June, but Mother Nature was kind and nice fish were caught.

Conway and the crew also spent time with Wade Fellin (from Big Hole River Lodge) and Harold Peterson to discuss how ranchers and anglers have worked together to keep the Big Hole flowing for all river users. "The various conservation challenges and opportunities present at each place we fish is an important part of the series," said Santella, who's acting as coordinating producer for the show. "If we don't take care of our fisheries, there won't be any fishing."

The Big Hole River episode premiered on January 18th. To learn more about "Fifty Places To Fly Fish Before You Die," visit <http://www.worldfishingnetwork.com/fifty-places>.



2015 Events

Nov 2014 to May 2015 - Sweetgrass Bamboo Fly Rod Raffle

March - July 2015 - Hyde Drift Boat Raffle

May 2 - Kid's Day on the Big Hole

May 2 - Drawing for Sweetgrass Fly Rod

July 18 - Big Hole River Day

July 18 - Drawing for Hyde Drift Boat

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Executive Director
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1.406.925.2276
mikebias@3rivers.net

Operations Manager
Corky Logan
1.406.560.7089
bhfr@bhfr.org

Phone
1.406.560.7089

Mail
PO Box 3894
Butte, MT 59702-3894

Internet
www.bhfr.org

EMail
Operations bhfr@bhfr.org
Pres. tomwelsch923@gmail.com
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Big Hole River Foundation

President's Message

It's been three months or more since I visited the Big Hole River. Things went well over the last year with good water levels throughout the year, great fishing and hunting, and a bright economic outlook for the ranches in the valley with cattle prices up. There was a favorable ruling from the Montana Supreme Court in reaffirming the principle that the public may access our waters from public bridges and the rights-of-way.

A small group of individuals has given notice that it intends to contest the decision of the US Fish & Wildlife Service not to place the fluvial Arctic grayling on the threatened species list. The River Recreation Rules, which have worked well for the River, are coming up for review. In the civil liberties context, I believe it was Roger Baldwin who said, 'No battle for civil liberties ever stays won.' We at the Foundation believe the same principle applies here.

Over the last month a majority of the Board of Directors has accepted a challenge from the Foothills Foundation to raise \$25,000 per year over the next three years to support the Foundation's work. For its part of the bargain, the Foothills Foundation has agreed to donate matching funds up to \$25,000 per year to the Foundation. Under the terms of the challenge the Board is to 'give or get' that amount yearly in new funds. Each Board member will be expected to raise his or her pro rata share of the yearly target from new or existing donors. The Foothills Foundation has also agreed to retain, at its expense, a consultant to train the Board in the ways of raising funds.

As a separate obligation under the challenge, the Board is to implement a more active grant-writing effort to help provide a steady source of multi-year funding. Executive Director, Mike Bias, will be responsible for the grant writing effort. The Foothills Foundation has agreed that the consultant it retains to work with the Board in developing its fundraising program will also be available to assist Mike in grant-writing effort.

With the Challenge and the support of our members for boat and rod raffles, Big Hole River Day and our year-end giving campaign, the Foundation's fiscal outlook will allow us to 'conserve, enhance, and protect' the River's unique culture, fish and wildlife into the indefinite future. Thank you for your continued support and we look forward to working with you again in 2015.

Tom

Executive Director's Message

A new year is upon us. I cannot thank you all enough for your generous support through 2014. I know it's almost cliché, but we cannot accomplish the good work we do without your help. It simply could not be done. Thank you.

As we head into the New Year, I'm busy writing proposals and seeking funding for several additional conservation, research, and education projects. This year we will be working to fence an additional mile of Moose Creek. This project will fence the wet meadow section immediately upstream of Interstate 15. The owners of Moose Creek Ranch are looking to rehabilitate the pastures upstream of the Interstate and are seeking our help with protecting that section of Moose Creek from unmanaged grazing through fencing.

Starting in April this year, we will again be sampling benthic macroinvertebrates throughout the Big Hole River. This year we have a particular focus on the important tributaries and upper Big Hole River areas to assess how landowners implementing conservation practices improve river health. We're looking for funding to initiate a watershed-wide wildlife habitat inventory project. Determining how well our conservation practices are doing across the landscape and the ability to quantify change through time requires an inventory. This study will use Geographic Information Systems (GIS) to map and quantify habitat cover throughout the Big Hole River Watershed.

We began to seek funding to bring Trout Unlimited's Trout in the Classroom program to the Melrose and Twin Bridges Schools along the Big Hole River. Trout in the Classroom (TIC) is a conservation-oriented environmental education program for elementary, middle and high school students. Through the school year students raise trout from eggs to fry. Both schools are excited at the opportunity to raise trout. Our Education Initiative work will continue with Kid's Day and Big Hole River Day.

An historic milestone confirming the importance of collaborative conservation work occurred last August 19th when the Fish and Wildlife Service decided not to list the Arctic grayling under the Endangered Species Act. In December 2014 two conservation groups and two individuals filed a formal notice of intent to sue the Service over the agency's latest decision to deny protection to a unique population of Arctic grayling in Montana. We will remain vigilant on this issue and provide any necessary help to assure the past and on-going management and conservation of grayling continues in the Big Hole.

We accept our responsibility to you – our funders and supporters – to utilize your donations wisely by implementing important conservation projects. We realize as well that we must deliver the best research, conservation, and education projects possible to “conserve, enhance, and protect” the Last, Best River. Thank you for your time and support!

Respectfully,

Mike

Thank You

We are grateful for the following members and donors who have renewed or made recent contributions and gifts in support of our mission as of January 25, 2015..

Every effort has been made to maintain accuracy. If we have made any errors, please call 406-560-7089 or email bhrf@bhrf.org.

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"I am inspired by the rancher's commitment to this program" - Kenneth Dabbs BHRF Donor



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Drawing May 2, 2015

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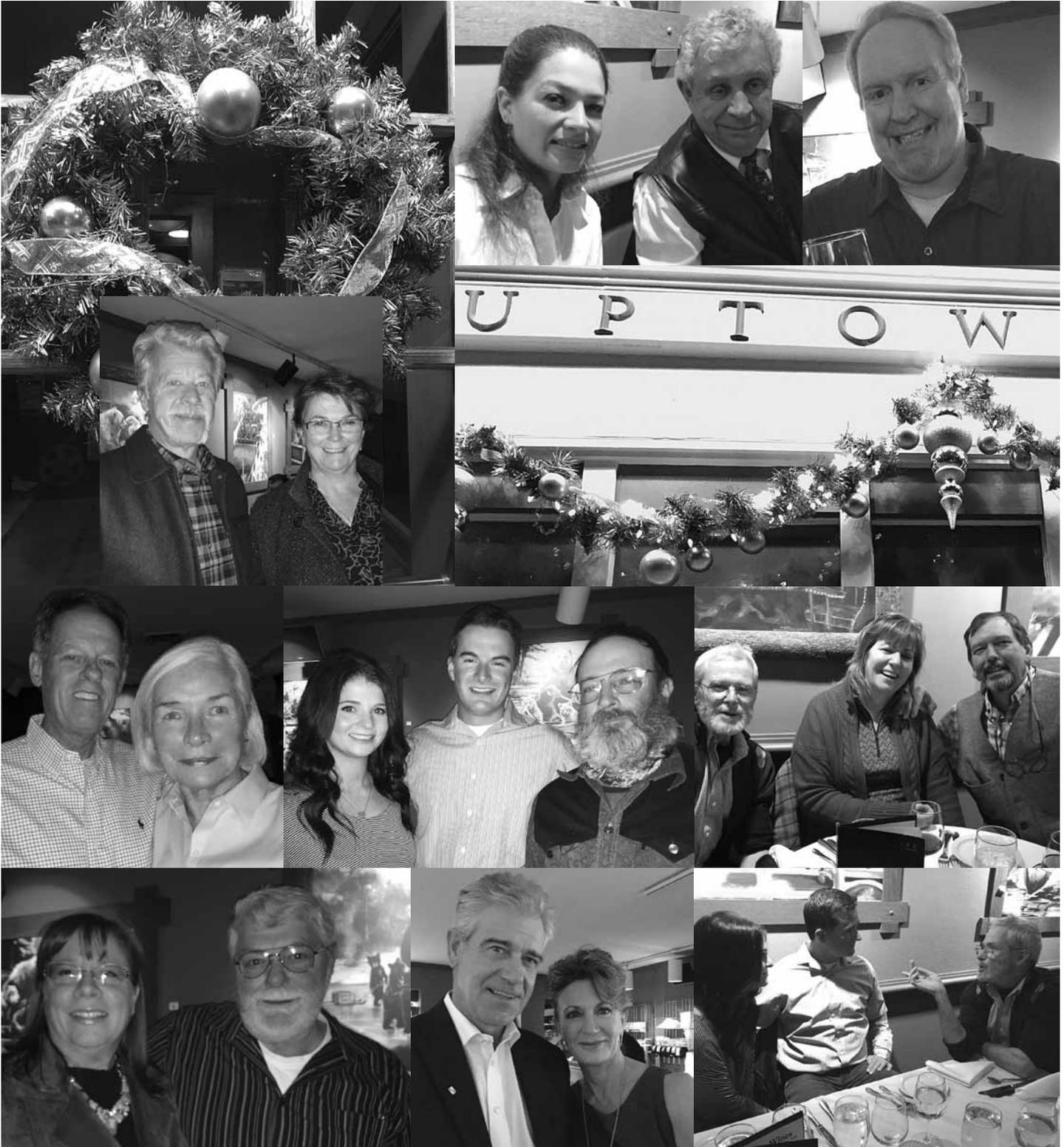
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Annual December Dinner at the Uptown Cafe





2014 Foundation Income & Expenses

BE RESPONSIBLE WITH BAIT FISH Winter Anglers Can Help to Protect Montana's Waters

Montana's fishing regulations restrict anglers from importing live bait fish into Montana. It is also illegal to release live bait fish of any kind into Montana waters.

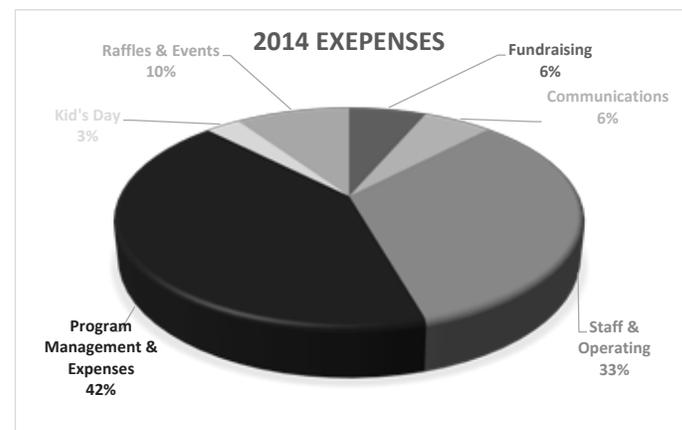
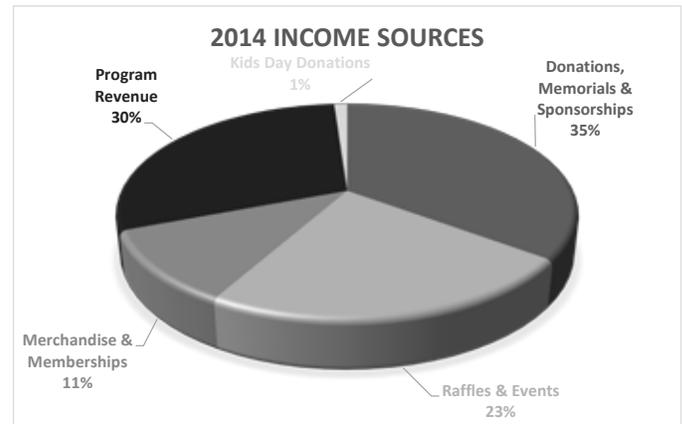
Bait fish and the water they are contained in can carry disease, invasive species or foreign organisms. If released into a body of water the biological impacts can be devastating and irreversible.

"It is illegal to move bait fish between states," said Eileen Ryce, Montana Fish, Wildlife & Parks.

"While this regulation is particularly easy to forget for anglers who may cross state lines during a single fishing trip, it is critical these days that we all take responsibility for monitoring our use of bait fish."

For details on the use of live bait in Montana check the Montana fishing regulations online at fwp.mt.gov; click Fishing.

Ryce said anglers should dispose of live bait in a zip-lock bag that is put into a landfill or in a garbage bag bound for a landfill site.



Hamilton Ranch Stewardship Fence Project by Mike Bias

Tony and David James purchased the Hamilton Ranch five years ago. The Ranch is a 30,000-acre cattle ranch that stretches across the valley from the Highlands to the Tobacco Roots. The James' are avid anglers and sportsmen. Situated at the confluence of the Ruby, Beaverhead, and Big Hole Rivers, which form the Jefferson River, the Hamilton Ranch near Twin Bridges has been undergoing some outstanding conservation work. Under the direction of Jamie Wood, Ranch Manager, several miles of spring creeks and sloughs – important tributaries to the Ruby and Beaverhead Rivers – have been restored for trout habitat and spawning. In addition to the stream restoration work, the James' have been protecting the riparian areas of all the rivers and streams of the ranch by managing livestock grazing in these areas through fencing. All of the streams and rivers through the Ranch have been fenced using 4-strand wildlife-friendly fencing methods. One of the last fence projects to be done on the ranch, the fence along the west bank of the Big Hole River just upstream from the High Road Bridge, was completed during December by the Hamilton Ranch in cooperation with the Big Hole River Foundation's Stewardship Fence Project. This project fenced over a mile of the Big Hole River and included 1,800-feet of jackleg fence. The outstanding conservation work being done on the Hamilton Ranch serves as a model for how conservation practices to enhance and protect important riparian areas can be accomplished in a working cattle operation.



Fence posts of the Stewardship Fence Project completed during December by the Hamilton Ranch in cooperation with the Big Hole River Foundation are noticeable atop the bluff along the west bank of the Big Hole River just upstream from the High Road Bridge.

What does that mean?

~ Riparian Buffers by Wade Fellin

The Big Hole River Foundation is working hard to put fences up on the Big Hole River, but why? The primary function of our fencing projects is to allow natural riparian buffers to regrow. Riparian buffers are naturally vegetated areas adjacent to waterways, including rivers, creeks, wetlands, and lakes. This natural vegetation protects the land adjoining a waterway by preserving the floodplain, keeping native soils intact, and maintaining the riverside land and riverbanks. Vegetative buffers help encourage infiltration of rainfall and runoff, and provide absorption for high river flows – this sponge like action and infiltration provided by the buffer helps reduce flooding and drought. The vegetative community provides habitat for many species of plants and animals, many of them dependent on riparian habitat features for survival and many of them threatened or endangered species. The buffer area provides a living cushion between upland land use and water, protecting water quality, the hydrologic regime of the river structure. The naturally vegetated buffer filters out pollutants, captures sediment, regulates river water temperature and processes many contaminants through vegetative uptake. In this way, buffers efficiently provide water quality benefits and environmental enhancement for waterways and wetlands. Riparian buffers should be kept intact or restored wherever possible. On the Big Hole, this means bringing back thick willows and cottonwood trees.

Buffers protect riverbanks and river structure



Healthy Riparian Area - photo by Wade Fellin

Rivers are formed over time by the forces of nature. A river's physical structure shifts naturally over time but often is forced to change more dramatically, unnaturally by human intrusion such as urban and agricultural encroachment on riverbanks. A vegetated

buffer along a waterway protects and supports the banks and other critical parts of a river's make-up, allowing it to resist erosive forces like spring ice flows and early summer runoff and remain stable. Riparian buffers are the glue that holds together nature's design. The vegetation's roots hold the riparian lands in place, maintaining the hydraulic roughness of the bank, slowing flow velocities in the river near the bank. Also, the absorption ability of a vegetated buffer, especially when it contains a mix of willows and trees, slows down the water in high river flows and soaks up water, reducing in-stream channel velocity and volume during runoff, and thereby reducing the damage to the river of ice and agricultural runoff. Root systems of willows and trees do a better job of anchoring soils than wild grasses.

Buffers protect life in and associated with the river

Riparian buffers provide food, cover and habitat for wildlife and aquatic organisms. They also support diverse and productive plant communities. Many species of flora and fauna found there can survive nowhere else, using the riparian area as both temporary and permanent habitat. Many birds are particularly dependent on the unique resources of the riparian area.

Buffers also regulate river temperature through shading, important for healthy habitat.

Denuded waterways typically suffer from increased instream water temperatures. The heating up of a river reduces

the oxygen carrying capacity of the waterway, harming river life that is temperature-sensitive. As water temperature increases above 60 degrees F, phosphorus attached to sediment, is more readily released from its sediment hosts and dispersed into the river as a pollutant. Increased water temperatures also produce heavy growth of filamentous algae, encourage the growth of parasitic bacteria, and can adversely affect benthic organisms and trout.



Unhealthy Riparian Area - photo by Wade Fellin

Buffers act as filtration systems

Sediment and particulates are trapped by the structure of the forest floor and other naturally vegetated communities. Riparian buffer vegetation and organic litter slow the flow of runoff, allowing a greater opportunity for sediment and particulates to settle out before entering a river or other waterway.

Plants, via their root systems, take up pollutants, especially nitrogen and phosphorus that are essential for plant growth. About 80% of phosphorus in runoff is removed by forested buffers; about 80% of nitrogen is transformed to gases by the anaerobic conditions in leaf litter and surface soil layers, removing it from runoff; pesticides are transformed into gases by the anaerobic conditions in leaf litter and surface soil layers or are taken up as nutrients by plants and trees, removing them from runoff; pesticides are also transformed and biodegraded. Buffers have multiple benefits, provide added value and riparian corridors provide shelter for insects that are beneficial in the control of agricultural pests and provide a natural integrated pest management system for the local environment.

The next time you float by one of our fencing project signs you can educate your fishing buddies on the importance of riparian buffer zones!

Species Spotlight ~ Rocky Mountain Bighorn Sheep by Wade Fellin



Bighorn Sheep Ewes - photo by Corky Logan

The Big Hole River's Maiden Rock Canyon, north of the town of Melrose, has historically been home to a healthy population of Big Horn Sheep. Bighorn sheep were among the most admired animals of the Crow Indians, and what is today called the Bighorn Mountain Range was central to the Crow tribal lands. In the Bighorn Canyon National Recreation Area book, storyteller Old Coyote describes a legend related to the bighorn sheep. A man possessed by evil spirits attempts to kill his heir by pushing the young man over a cliff, but the victim is saved by getting caught in trees. Rescued by bighorn sheep, the man takes the name of their leader, Big Metal. The other sheep grant him power, wisdom, sharp eyes, sure-footedness, keen ears, great strength, and a strong heart. Big Metal returns to his people with the message that the Crow people will survive only so long as the river winding out of the mountains is known as the Bighorn River.

Bighorn sheep are named for the large, curved horns borne by the rams. Ewes also have horns, but they are shorter with less curvature. They range in color from light brown to grayish or dark, chocolate brown, with a white rump and lining on the backs of all four legs.

Male bighorn sheep have large horn cores, enlarged cornual and frontal sinuses, and internal bony septa. These adaptations serve to protect the brain by absorbing the impact of clashes. Bighorn sheep have preorbital glands on the anterior corner of each eye, inguinal glands in the groin, and pedal glands on each foot. Secretions from these glands may support dominance behaviors.

Bighorns from the Rocky Mountains are relatively large, with males that occasionally exceed 500 lbs and females that exceed 200 lbs.

Since bighorn sheep cannot move through deep snow, they prefer drier slopes, where the annual snowfall is less than

about 60 inches a year. A bighorn's winter range usually lies at lower elevations than its summer range. Bighorn sheep are highly susceptible to certain diseases carried by domestic sheep, such as scabies and pneumonia; additional mortality occurs as a result of accidents involving rock falls or falling off cliffs, a hazard of living in steep, rugged terrain. Bighorns are well adapted to climbing steep terrain where they seek cover from predators. Predation primarily occurs with lambs, which are hunted by coyotes, bobcats, and golden eagles. Bighorn sheep of all ages are threatened by bears, wolves and especially mountain lions, which are perhaps best equipped with the agility to prey on them in uneven, rocky habitats. They are considered good indicators of land health because the species is sensitive to many human-induced environmental problems.

Many bighorn sheep populations in the United States experience regular outbreaks of infectious pneumonia, which likely result from the introduction of bacterial pathogens carried asymptotically in domestic sheep. Once introduced, pathogens can transmit rapidly through a bighorn population, resulting in all-age die-offs that sometimes kill up to 90% of the population. In the years following pathogen introduction, bighorn populations frequently experience multiple years of lamb pneumonia outbreaks. These outbreaks can severely limit recruitment and likely play a powerful role in slowing population growth. Montana's Fish Wildlife and Parks Service monitors sheep populations and has recently removed sick sheep from the Madison River to stop the spread of pneumonia in that herd. Please let us know if you spot any Bighorn sheep on the Big Hole this summer and send us your photos!

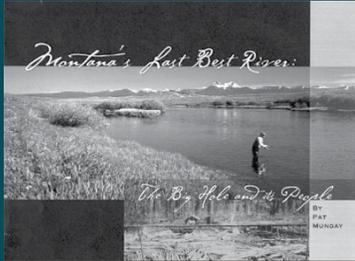


Bighorn Sheep Ram - photo by Corky Logan

BHRF Merchandise

The Big Hole River Foundation has books, logo fishing shirts, vests and hats for sale. To order, please visit our website at www.bhrf.org.

Montana's Last Best River: The Big Hole and it's People by Pat Munday.
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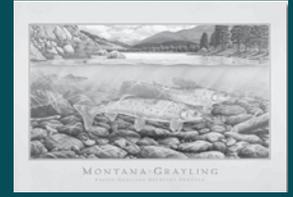


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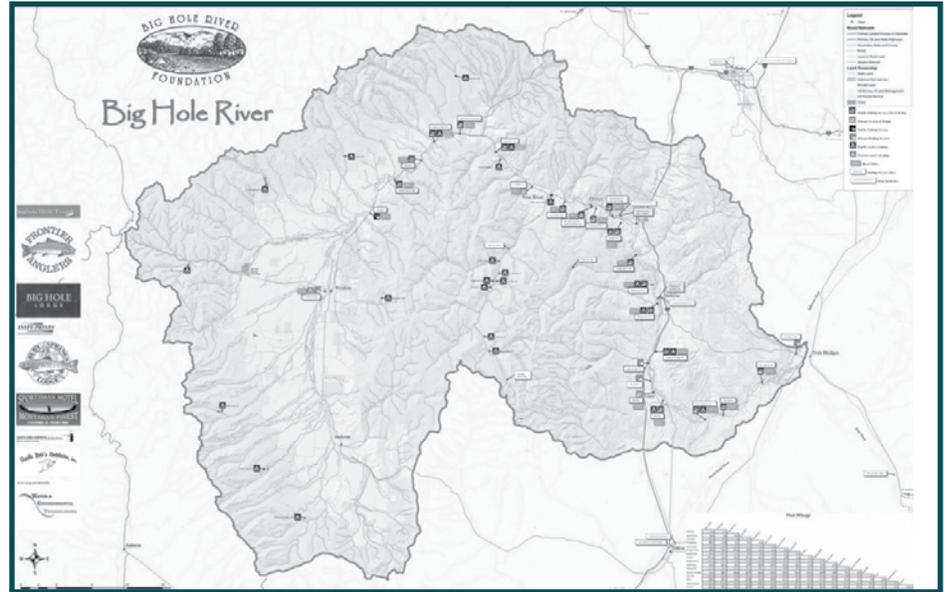


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Montana artist, Monte Dolack's "Montana Grayling" posters
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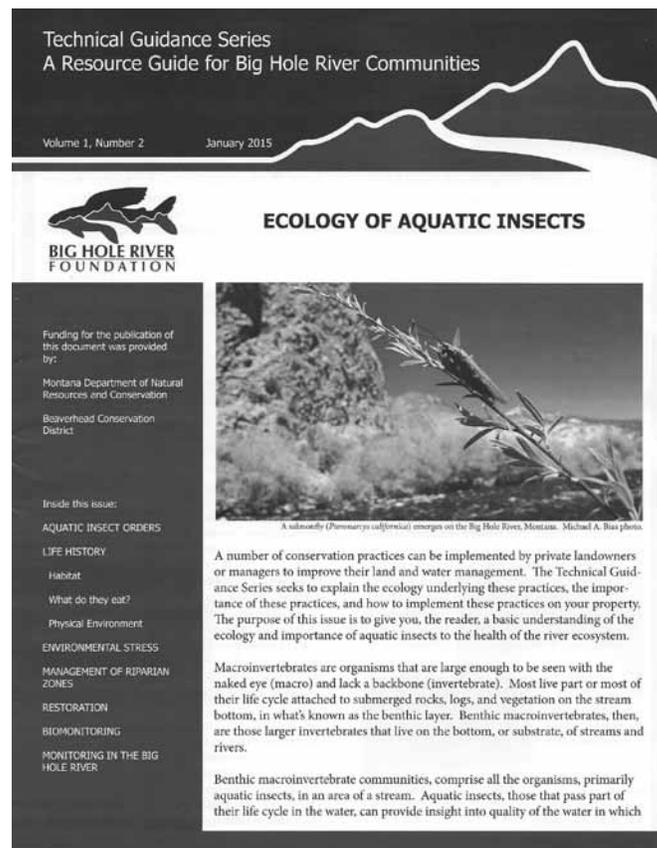
Technical Guidance Series - A Resource Guide for Big Hole River Communities

Hot off the presses!

With the generous help from an HB223 Grant through the Beaverhead Conservation District and the State of Montana's Department of Natural Resources and Conservation, we just produced the second issue in our Technical Guidance Series, Ecology of Aquatic Insects. This issue, based largely on our seven year monitoring and evaluation study of aquatic insects throughout the Big Hole River, is directed towards informing the recreational anglers, guides and outfitters, and land managers of the importance of the ecology of aquatic insects in land and water management.

Through our Education and Outreach Initiative we occasionally produce and publish a Technical Guidance Series for private landowners in the Big Hole River valley. This series consists of individual publications that focus on an aspect of private land management or ecology to inform and educate landowners and the public. It seeks to explain the ecology underlying these practices, the importance of these practices, and how to implement these practices on your property.

It is available by request and a PDF version is posted on our Facebook page as well as our website, bhrf.org under the Explore and Publications links.



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