A River at Risk

THE BIGHORN
A Report Compiled by the Bighorn River Alliance
quick facts

FISHING

In 2015 alone, the Bighorn contributed an estimated $102,266,167 to Montana’s economy, 98% of which is generated from nonresident anglers.

AGRICULTURE

More than $7 million in agriculture production has been lost since 2008.

HYDROELECTRICITY

Nearly $60 million worth of potential taxpayer revenue has been lost in the last 10 years alone.

A ONE-OF-A-KIND RIVER

The Bighorn River is a world-renowned wild trout fishery that draws anglers from all over the world to experience its unique blue-ribbon waters. These waters serve as the lifeline of the Big Horn County economy, bringing jobs and income to the area, while also nourishing thousands of acres of agricultural land that have been home to generations of family farms and ranches.

From fishing, to agriculture and tourism, the Bighorn River plays a key role in what makes Montana such a unique and beautiful place to live, work, and recreate. Not only this, but the river is an economic powerhouse for Southeastern Montana, as well.

Thanks to the river’s top-notch fishing, fly shops and fishing guides thrive in Big Horn County, and bring more than $100 million in business to Southeast Montana annually. In a rural area, this ripple effect supports hundreds of jobs and local families.

Agriculturally, the river has helped families who have staked their claim on this land for generations. The miles of fertile river bottom along the Bighorn’s banks support hundreds of farms and ranches, which have long served as the backbone of Montana’s economy.

For years, the Yellowtail Dam upriver has operated in harmony with anglers and landowners to control flows and provide power, in turn generating key revenue to local government.

A river as unique and economically important as the Bighorn should be managed in a way that considers its health and economic viability.

THE ISSUE

In 2008, government agencies responsible for managing the flows into the Bighorn River from Yellowtail Dam changed water management practices that, in turn, negatively impacted the river downstream through implementing overly-conservative Bighorn Lake storage levels.

This change has caused massive disruptions to the river that have impacted recreation, businesses, and agricultural practices. In fact, over the past nine years the Bighorn River has experienced more days over 8,000 CFS (cubic feet per second) than the previous 40 years combined, leading to massive increases in bank erosion – which adds up to lost land for farmers, ranchers, and landowners, and high, murky water that hurts the fishery and the fishing industry.

Recent data from Hydromet, a networked data system operated by the United State Bureau of Reclamation to monitor river levels, shows that average flows have skyrocketed since dam operating criteria were changed, as have the number of high-flow days throughout the year.
“High flows coupled with unpredictable river conditions have resulted in revenue losses upwards of 40% in various product/service categories throughout our business.”
Steve Galletta
Owner, Bighorn Angler Fly Shop & Lodge

WATER, POWER, & MONEY WASTED
On top of threatening the fishery and eroding farmland, high flows mean that more water is being released than the dam’s turbines can handle.

The high flows released in recent years have caused millions of acre-feet of water, a supply which could have been used for hydroelectric production, to spill uselessly over the dam.

When water released in excess of the dam’s capacity creates spillage of this scale, the end result is an unrecoverable loss to Big Horn County's hydroelectric revenue. The magnitude of this waste is significant - nearly $60 million worth of potential taxpayer revenue has been lost in the last 10 years alone.6

FISHING INDUSTRY AT RISK
The Bighorn is recognized as the crown jewel of trout fishing in Montana, reeling in anglers not only from Montana, but from all over the world. The resulting economic footprint makes it the most profitable wild trout fishery in its region.

Transportation, guide fees, meals, and lodging sales are driven by the local outdoor recreation industry, in turn resulting in significant funds for Montana and sustainable jobs in a part of the state that has come to rely heavily on the river.

Montana Fish, Wildlife, and Parks (MFWP) tracks data on angler use days, which when combined with MFWP data on angler spending and adjusted for inflation, shows that in 2015 alone, the Bighorn contributed an estimated $102,266,167 to Montana’s economy, 98% of which is generated from nonresident anglers.2 This figure does not include the thousands of fishing licenses sold every year, or equipment such as rods and waders sold.

This is an irreplaceable amount of economic activity for Big Horn County and the state, and hundreds of jobs and families rely on the Bighorn continuing to be a one-of-a-kind fishery.

Families who have made their living off this land for generations are struggling to deal with rapid erosion, and landowners have sunk millions of dollars into measures to slow the loss. Landowners have already spent thousands on riverbank maintenance to mitigate the problem, and applying those costs to the affected area, it is estimated that it would take $3.14 million3, all at landowners’ expense, to protect farmland for just a small section of the river. To add to that, we estimate that more than $7 million in agriculture production has been lost since 2008.4

Using aerial photography and data from the Bureau of Reclamation’s Hydromet system, it has been found that the rate of riverbank erosion on the Bighorn has increased 300% when compared to the years before changes in dam operating criteria. In areas of the river highly susceptible to erosion, this increase is as much as 450%.5

“Agriculture & Landowners are losing acres”

Since water management rules were arbitrarily changed in 2008, the dam has lost its ability to be a shock absorber for high or low inflows. If something isn’t done soon, landowners will continue to see their land stripped away year after year, as they are forced to spend more money to slow down the losses.”
Justin Hossfeld
Manager, Sunlight Ranch

BIGHORN RIVER WEEKLY FLOWS 1998-2017
Weekly flows on the Bighorn River, measured in CFS, have become erratic and damaging to the river in the years since changes were made to Yellowtail Dam operating criteria.7 As illustrated here, prior to these changes the flows were relatively stable and supported balanced use of the river by anglers, farmers and ranchers, and landowners in the area.
what can be done?

Dam management practices and procedures need to be updated and changed to consider the economic importance of the Bighorn River below Yellowtail Dam. The operating criteria must reflect the needs of all river users downstream – including anglers, farmers, landowners, and taxpayers.

The Bighorn River has the potential to continue powering southeast Montana’s economy and supporting hundreds of families, but this is only possible if it is protected and managed properly, with all users in mind, and risk shared between all stakeholders – both in high and low flow years.

GET INVOLVED

The Bighorn River Alliance was founded to advocate for the wellbeing and balanced management of the Bighorn River. The Alliance is made up of landowners, anglers, and farmers and ranchers, who are committed to protecting one of Montana’s greatest natural resources.

LEARN MORE + GET INVOLVED + BECOME A MEMBER

bighornriveralliance.org

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1 Based on 2015 Montana Fish, Wildlife, and Parks angler pressure data. Dollar figures have been adjusted for inflation to 2017 levels using the U.S. Department of Labor Bureau for Labor and Statistics price index.

2 Economic value figures based on average spending associated with resident and nonresident angler days, drawn from The Net Economic Value of Fishing in Montana, Duffield et. al., Montana, Fish, Wildlife and Parks, 1987, and adjusted for inflation to 2017 levels. These figures include expenses such as lodging and travel, but do not factor in retail sales of hard goods or fishing license sales.

3 $3.14 million based on costs already incurred to landowners, assuming an average cost of $150 per linear foot for bank remediation.

4 Estimate based on interrupted irrigation intervals and crop planting options/intentions multiplied by the number of years under the new operating criteria.

5 Average increase of 300% in erosion rate in 2013-2016 when compared to 1996-2005, based on dam inflow data from the Bureau of Reclamation’s Hydromet system, and aerial photography available from Google Earth Pro.

6 Based on queries of Hydromet data from the Bureau of Reclamation.

7 Weekly flow levels based on data from Bureau of Reclamation Hydromet data.