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COPING WITH RUNOFF

Big water in Bighorn River: All are struggling with high flows

BRETT FRENCH
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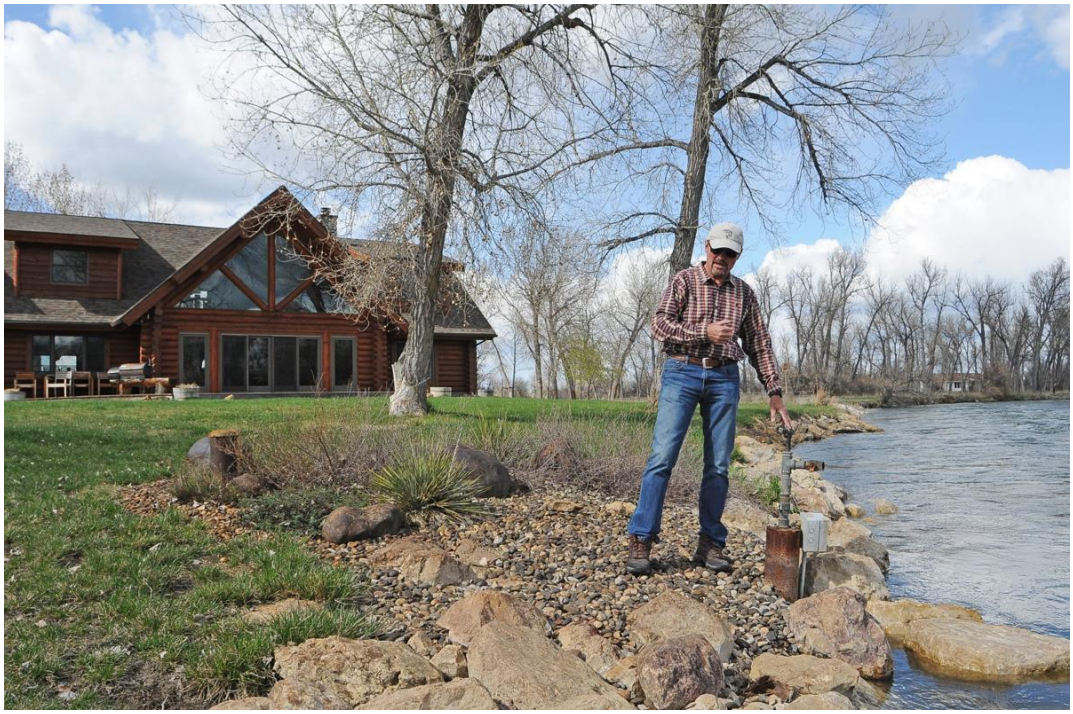

This well head that Mike McMeans is standing next to used to be located 10 feet farther out from shore, that's how much land he lost in the last high water year of 2011.

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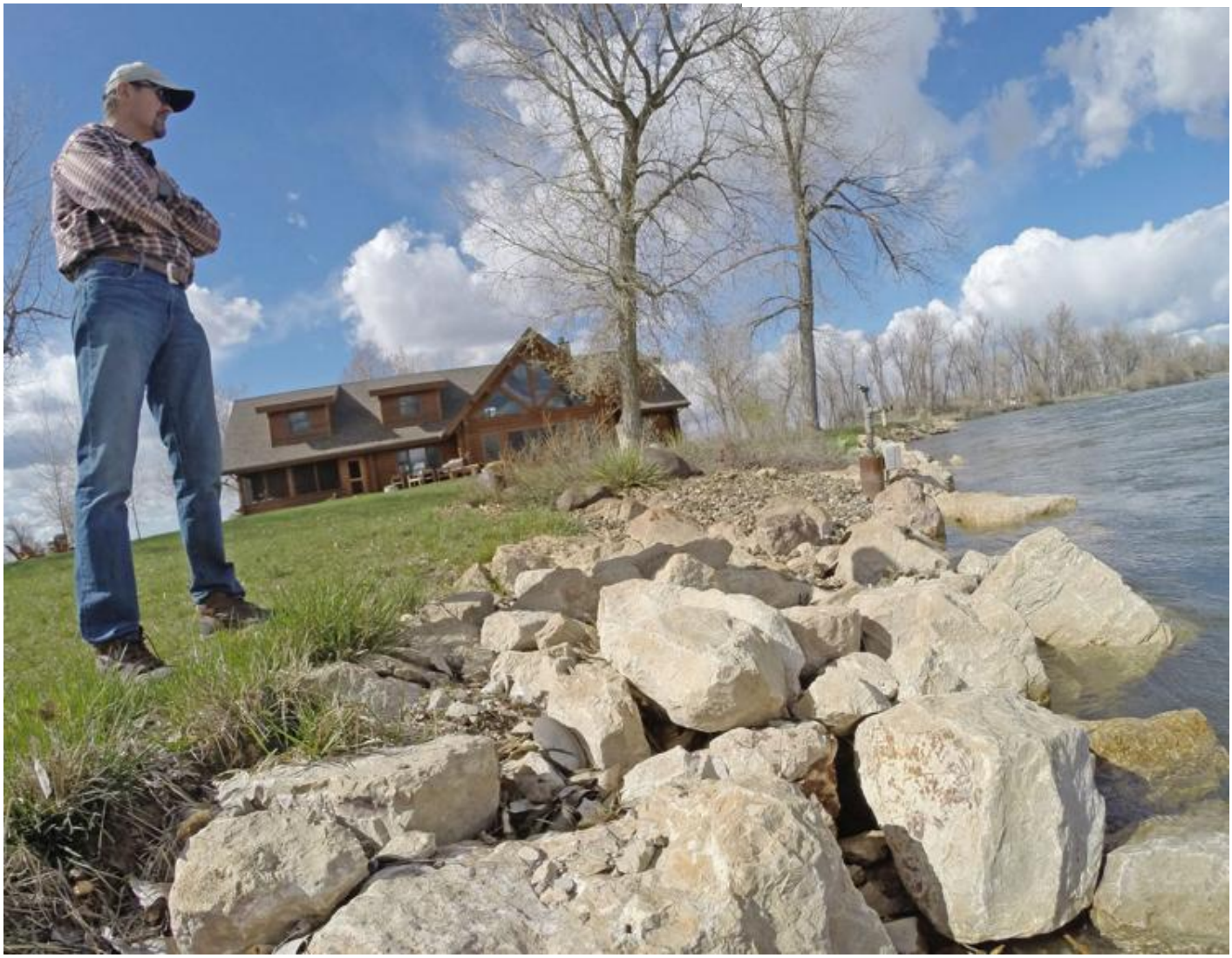
From the large picture windows of his log home, Mike McMeans watched the Bighorn River rush past the greening spring grass of his front yard last Wednesday.

Normally it's a soothing scene, but in the record-setting high water year of 2011 the once placid river rose to within about 4 to 5 feet of the deck that extends out from his two-story windows. The house, built in 2004, became an island while the large island across from the house went under water. For two weeks McMeans and his wife were displaced from their home, which is located about 7 miles south of Hardin.



Mike McMeans, a homeowner along the Bighorn River, said he thinks the reservoirs along the river upstream have been mismanaged since 2009 causing flood damage to property owners and economic damage to lodge owners and fishing guides. "When the dams were ran as one unit the coordination for the water levels in the dams was a lot better. Was there high water yes but it was managed and lasted only short periods in June."

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“This is setting up like 2011,” McMeans said as he gave a tour along the river bank to a visitor. “We’re one rain event away.”

High water

As of Tuesday, the Bighorn River was flowing at 11,500 cubic feet per second — more than four times the average flow at this time of year — and was scheduled to rise to 12,000 cfs on Wednesday. According to the U.S. Geological Survey, the Bighorn River flow at St. Xavier since Nov. 1, 2016, is the highest in 81 years of record keeping.

The culprit is a huge snowpack in Wyoming where a predicted runoff about 200 percent of average has sent water into Bighorn Reservoir at a higher rate than it can be evacuated. Managers of Yellowtail Dam, the large concrete gate between Bighorn Reservoir and the Bighorn River in Montana, are in a race against time and nature.

“We’re going to continue to try to push as much water as we can through the system,” Clayton Jordan, of the Montana Office of the Bureau of Reclamation, told a gathering of anglers, guides, fly shop owners and homeowners last Wednesday at a meeting in Fort Smith, just minutes from the dam and river.

“We’re aware some homeowners are being impacted,” Jordan said.

But with a maximum possible runoff prediction of 2.8 million acre feet of water — the high water year of 2011 saw 2.5 million acre feet — the Bureau is worried about holding too much water in Bighorn Reservoir.

On the high end of its April 1 water forecast, the Bureau predicted river releases could hit 12,500 cfs in May and 13,500 by June. At the beginning of April the high end of the Bureau’s forecast was just over 10,500 cfs, so that high number has already been exceeded and there’s still lots of snow in the mountains and always the chance of heavy spring rainstorms.

About 11,500 cubic feet per second of water is being dumped from Bighorn Reservoir into the Bighorn River to make room for high runoff.

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A religion

It seemed appropriate that the roughly 75 people — the majority of them anglers — were crowded into the community room in the small town of Fort Smith’s Baptist church last Wednesday to express their concerns to Bureau of Reclamation officers.

“In our family, there was no clear line between religion and fly fishing,” reads the first line in Norman Maclean’s famed fly-fishing novella, “A River Runs Through It.” Religion can be a hot-button issue, and so can fly fishing when it comes to flows in the Bighorn River.

Thumping at the makeshift pulpit on the warm evening was Anne Marie Emery, executive director of the Bighorn River Alliance, a river and fly-fishing advocacy group. The main targets of her sermon were Jordan and Steve Davies, Montana area manager of the Bureau.

The main theme hammered home by Emery was that the group was tired of the Bureau's conservative water management, holding back water in an attempt to ensure a full reservoir through the summer. She also complained that having the river's management broken down between Wyoming, where the Bighorn's headwaters are located, and Montana is not working for Bighorn anglers.

"As evidence of this, eight of the last 10 years have resulted in sustained releases over 7,000 cfs," the Alliance complained in a letter delivered to the Bureau and read at the meeting. "One would have to look at the prior 24 years to see that happen again. Seven of the last 10 years have resulted in sustained releases over 8,000 cfs. One would have to look at the prior 29 years to see that happen again. Finally, six of the last 10 years have resulted in sustained releases at or above 10,000 cfs. One would have to look at the prior 37 years (almost as far back to the year the dam was closed) to see that happen again."

The letter goes on to criticize the Bureau for favoring lake users at the expense of homeowners, river anglers and lodges, a complaint that's been aired since the agency reconfigured its operating criteria.

"Nevertheless, we genuinely feel BOR intentionally favors lake interests in Wyoming over river interests in Montana, despite the overwhelming disparity in number of users, economics, accessibility and most importantly long-term viability," the letter continued.

Members of the Bighorn River Alliance gather at the Baptist church in Fort Smith for a presentation from the Bureau of Reclamation and Fish, Wildlife and Parks.

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Bureau stance

Davies assured the crowd that the Montana and Wyoming offices are in constant contact about managing the high water.

“We’ve been in daily operational mode for two months,” he said. “We have calls weekly with the Wyoming office. I assure you intensive cooperation is occurring.”

To that comment one angler mumbled under his breath, “We don’t want discussion, we want results.”

Part of the problem, Davies told the crowd, is that for the past five to 10 years runoff has fluctuated dramatically. Right after 2011’s record high water the Bighorn Basin saw record low inflows.

“It’s very challenging conditions” given that the Bureau has relatively new operating criteria that’s meant to try and ensure at least minimal flows for fish in Montana’s Bighorn River while also guaranteeing enough water to make Horseshoe Bend Marina’s boat ramp usable in Wyoming’s end of the Bighorn Reservoir.

“Climate change is factoring into this,” Davies said. “We’re seeing earlier runoffs. We are recognizing earlier temperatures that are much higher. We’re looking at modeling efforts to try and document that.”

None of that mattered to long-time Bighorn fisherman Richie Montella.

“We used to have a steady flow of 3,500 (cfs),” he said, standing to address Davies. “We don’t need this erratic up and down.”

Angler and former fly shop owner Gordon Rose also pushed Davies and the Bureau to be more liberal with its pre-runoff water releases from the dam to avoid the wild swings in river flows come springtime.

This **annual water fight** extends back to at least **2006**, when lake users from the community of Lovell, Wyoming, began demanding more water for boating in the 70-mile-long Bighorn Reservoir that straddles the Montana-Wyoming border. They were backed by the National Park Service, which manages the land around the reservoir as the Bighorn Canyon National Recreation Area.

This year, though, because of the high runoff and high releases out of the dam, it will be later than normal that the boat ramp at Horseshoe Bend Marina will be usable — the southernmost ramp. Until then, lake users at that end have to drive the 14 miles farther north to Barry’s Landing, a boat launch that has less camping and fewer amenities than Horseshoe Bend.

“We are not managing right now to provide them boat access, and they are understanding,” Davies said.

In the long-term, he said the Bureau of Reclamation is working on mathematical models to try and better understand water flows based on the variability of mountain snowpack, rainstorms and earlier runoff.

That provided little salve to the sore folks gathered under the Big Horn Baptist Church’s towering white steeple. Some, like Montella, walked out shaking their heads.

This view looks upstream along the riverbank next to Mike McMeans' home in the background.

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On the banks

Meanwhile, McMeans is dealing with a river that in 2011 ate about 25 feet of bank, forcing him to move an irrigation wellhead back 10 feet.

“I’ve been fighting this since 2009,” he said. “Roughly 10 years ago we didn’t get these high flows for such an extended period of time.”

He has neighbors with similar concerns, some of whom may lose structures, not just river bank.

The high water is frustrating for such homeowners because the dam was built partly as a means of flood control, the No. 2 concern after generating power. Providing irrigation water is third and last comes recreation.

Following 2011’s high water McMeans added 225 tons of limestone to the river bank in front of his house in an attempt to prevent more loss of his property. Now he’s thinking he may need to add additional rock to protect a stretch of bank farther upstream.

“It’s either riprap or lose your property,” he said. “The good thing with the riprap is it’s improving the fishery. I don’t have to go anywhere else.”

Wyoming reservoirs

Boysen Dam on the Wind River in Wyoming is currently releasing 5,500 cubic feet per second of water to make room for near-record runoff.

Reservoir managers plan to drop the lake's level by 10 feet to an elevation of about 4,700 feet in May. During peak runoff the dam could increase releases up to 6,500 cfs.

Buffalo Bill Dam is releasing 3,000 cfs into the Shoshone River as part of a plan to drop the reservoir by 11 more feet in May. Those flows could jump to 5,500 cfs in June.

Both reservoirs empty into rivers that feed Bighorn Reservoir which is rushing to dump water to make room for runoff, as well.