

# Eyeing the New Neighbors

**Smallmouth bass** are moving upstream on the Yellowstone. Will they harm the river's renowned trout population? **By Jack Ballard**

**I**n the not-too-distant future, the classic Montana postcard could feature a fly angler on the Yellowstone River battling a leaping smallmouth bass, rather than the classic airborne trout. That's the concern of some anglers worried that the non-native bass, slowly making its way upstream, may be displacing coldwater species.

"I wouldn't say anyone has panicked, but we definitely hear from some concerned trout anglers in the Livingston area," says Scott Opitz, Montana Fish, Wildlife & Parks biologist for the upper Yellowstone River.

For more than a decade, FWP biologists have documented temporary upstream migrations of adult smallmouth from the lower Yellowstone. But in the past few years, anglers and biologists have reported higher numbers well upstream of Billings. Mike Ruggles, an FWP fisheries biologist in Billings, says smallmouth have recently been caught by anglers in the Yellowstone as far upstream as the U.S. Highway 89 bridge at Livingston.

In many respects, smallmouth bass are similar to rainbow and brown trout, the two primary trout species occupying the Yellowstone above Billings. Smallmouth, like trout, thrive in clean streams and rivers. They also like cool water (50 to 70 degrees), though not as cold as what trout prefer (40 to 60 degrees). Like trout, young smallmouth eat insects but start to feed on crawfish, minnows, and even small trout as they grow.

Both species are highly regarded by anglers for their feisty fight when hooked. But much of Montana's angling tradition and valuable tourism industry centers on trout fishing, not bass fishing. As smallmouth move up the Yellowstone, local anglers, guides, and biologists are wondering what is prompting the migration, whether it's tempo-

rary or part of a long-term trend, and how the newcomers may affect the Yellowstone's renowned wild trout populations.

#### STOCKED AT ANGLERS' REQUEST

The smallmouth bass is native to the eastern and central United States and southern Canada. Its range expanded in the late 19th century and throughout the 20th century as state and federal agencies, responding to angler requests, transported the hardy fish to rivers and reservoirs as far west as California. In various parts of the country, smallmouth bass are known as smallies and, for their coloration, bronzebacks, brown bass, and brownies.

The species first arrived in Montana in 1914 when the state stocked them in Horseshoe Lake near Bigfork. In subsequent decades, bronzebacks colonized other waters—most notably Fort Peck Reservoir and several lakes in northwestern Montana—sometimes stocked by state fisheries crews, other times spilling in from other waters.

Smallmouth first reached the Yellowstone via the Tongue River. The Montana Department of Fish and Game, as the agency was known then, stocked smallmouth in the lower Tongue from 1966 to 1969. Smallmouth also moved down from Tongue River Reservoir, into which they likely washed from ponds near Sheridan, Wyoming, during a year of high water.

Once in the Tongue, it was inevitable that smallmouth bass would eventually make their way downstream to the Yellowstone. Still more arrived from the lower Bighorn,

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**RED EYE FLIGHT** Not native to Montana, the smallmouth bass has been moving increasingly farther upstream on the Yellowstone River. A likely reason: warming waters.

NATHAN COOPER

which FWP stocked during a few years in the late 1980s and early 1990s.

For the next three decades, smallmouth bass quietly populated a significant stretch of the lower Yellowstone. Mike Backes, FWP regional fisheries manager in Miles City, says a robust population now occupies the Yellowstone from Billings to the confluence with the Powder River. “Anglers catch them almost anywhere,” he says. “They generally target the places they’d fish for trout: current seams and structure.” In 2016, FWP raised the daily possession limit from five to ten—not to decrease the smallmouth population, Backes says, but because the tasty, white-fleshed fish were abundant enough to sustain a higher harvest level. Downstream of the Powder River, the Yellowstone becomes too murky for the sight-feeding predator fish to thrive. But in the clear waters upstream from Billings, the only thing holding back the bass has been colder water temperatures. Until recently.

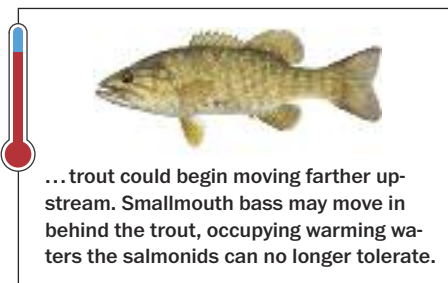
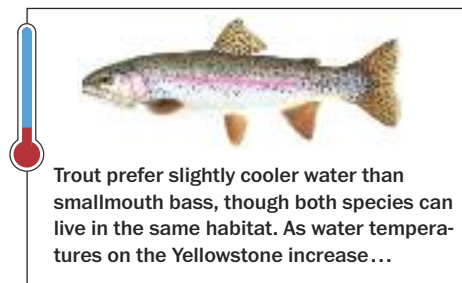
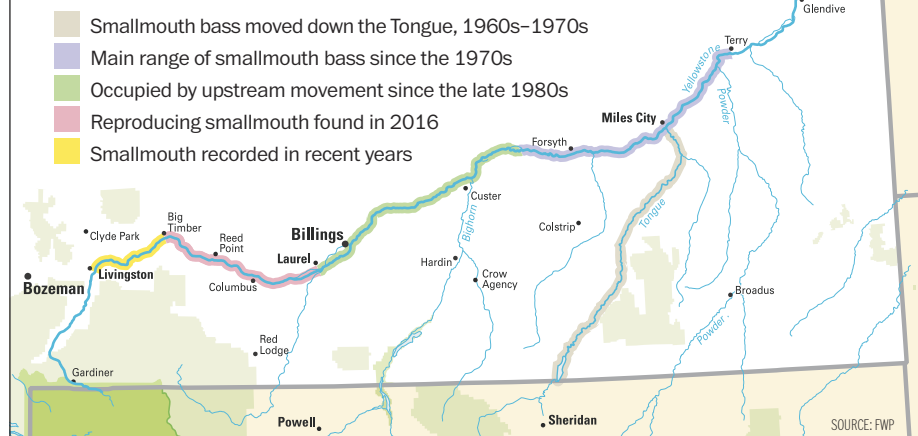
For the past decade, the Yellowstone has seen lower water volume and elevated temperatures due to decreased mountain snowpack and several sultry summers. U.S. Geological Survey temperature monitors on the upper Yellowstone show a warming trend, says Optiz.

Whether that’s what’s drawing smallmouth farther west, though, is another matter. Ruggles says FWP can’t state conclusively that warmer water accounts for the upstream movement of the more heat-tolerant species. “It seems likely, but it could be due to other factors we haven’t yet identified,” he says.

In a free-flowing river like the Yellowstone, temperatures typically increase downriver, as coldwater tributaries fed by mountain snowmelt give way to warmer

## Smallmouth bass in the Yellowstone

Smallmouth bass, not native to Montana, reached the Yellowstone River via the Tongue River. The state stocked bass into the lower Tongue in the 1960s, and smallmouth also moved down from Tongue River Reservoir, after arriving from ponds in Wyoming during a high water year. In recent years, smallmouth have been moving farther upstream along the Yellowstone.



prairie feeder streams. As water temperatures rise, habitat once hospitable to certain fish may instead prove more inviting to others. Upstream movement of a species like the smallmouth can be caused by slightly warming water temperatures that make those locations more favorable than in the past.

### BECOMING RESIDENTS

Anglers with rod and reel and biologists using survey nets have captured smallmouth upstream of Billings for years. But those fish might have been on short-term journeys. Ruggles points out that bass can travel 100 or more miles in a river system to reach spawning areas, wintering pools, or ideal water temperatures. Such temporary movements don’t make a species a permanent resident, however. To biologists, a species becomes resident to a portion of a river when it reproduces there.

As part of a cooperative study, U.S. Geological Survey (USGS) researchers, FWP biologists, and a Montana State University graduate student have been surveying the Yellowstone for smallmouth bass over the past several years. The scientists have been looking most closely for juvenile fish above Billings, indicators that bass are reproducing there. Adam Sepulveda, a USGS research zoologist, says that in the summer of 2016 survey crews found fingerling bass in backwaters as far upstream as the stretch between Reed Point and Big Timber, but none above there. That means smallmouth are now resident in the Yellowstone up to Big Timber.

Whether bass will maintain a successful foothold that far up the river remains to be seen. Research on smallmouth in other parts of the country indicates that if juveniles do not grow to slightly over three inches by the time water temperatures drop in the fall,

they rarely survive winter. Along the Yellowstone, a string of colder-water years could severely limit bronzebacks from establishing residency farther upstream.

For the time being, the bass have established themselves in the lower reaches of Yellowstone’s storied trout territory. One question now is whether the predatory fish will harm the river’s rainbow, brown, or Yellowstone cutthroat trout populations. Ruggles says smallmouth bass could conceivably reduce trout numbers in two ways: by eating juvenile trout, and by competing with adult trout for minnows and other forage fish.

### THE SKY: STILL IN PLACE

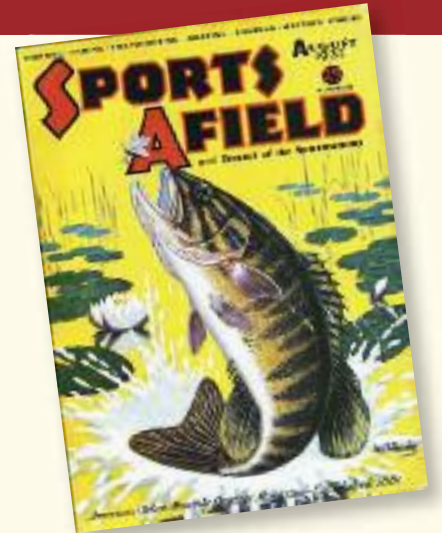
FWP surveys show that trout numbers in the areas where smallmouth bass now reside haven’t declined. “The sky isn’t falling,” Ruggles says. That could be because other species that favor warmer water, such as sculpins and goldeye, also are moving upriver, perhaps providing additional prey for adult bass and large trout. The presence of these fish may also reduce the likelihood of smallies feeding on young trout. “Looking elsewhere in the United States, we’ve found that smallmouth coexist with all species found in the Yellowstone,” Ruggles says.

“We don’t see smallmouth farther upstream as this big, scary development.”

Yet that could change, which is why Optiz says scientists need to continue monitoring the Yellowstone. That includes measuring water temperature at more points along the river, investigating the relationship between bass and other species, and tracking bass and trout movements. “We need to determine the potential effects of smallmouth on trout,” Optiz says. “Right now, it doesn’t seem to be a problem. But could that change? And, if it does, is there anything we do about it?”

Eileen Ryce, chief of the FWP Fisheries Division, says that while the department will continue to monitor smallmouth movement in the Yellowstone River, trout anglers should be more concerned about warming waters. Temperature, not another fish species, would most likely push trout farther upstream.

So far, that hasn’t happened. But if water temperatures continue to climb, trout may have to move into the Yellowstone River’s cooler stretches around Livingston and then up into the Paradise Valley. “If we start to see a decline in trout numbers around Big Timber and higher, it will probably be due to warmer water, not the presence of bass,” Ryce says.



## The “gamest fish that swims?”

The smallmouth’s aggressive nature and acrobatic strength account for its popularity with anglers. When hooked, the bass often heads skyward, breaking the water surface and somersaulting in the air as it attempts to throw the hook. Early French explorers who came to North America called the newly discovered species “the fish that struggles.” In a 1909 magazine story, Zane Grey wrote of his repeated but unsuccessful efforts as a young man to land what he called the “wolf-jawed, red-eyed bronzeback.”

In addition to their feisty fight, smallmouth can be caught on a range of offerings. Fly anglers toss Dahlberg Divers and deer-hair poppers, while spin-fishermen use crayfish-imitating crankbaits and bait such as night-crawlers. One Billings angler recently posted on her blog that she caught ten smallmouth in an hour “on some salad shrimp that I picked up at Albertson’s.” Smallmouth often strike surface lures and flies, which, because the angler sees the take, is one of angling’s greatest thrills. Another bonus: Smallies are most aggressive during the hottest days of midsummer, a time when reservoir fish and river trout often refuse to bite.

In 1881, James A. Henshall, the leading authority on fish in his day, wrote of the smallmouth in his *Book of the Black Bass*, “I consider him, inch for inch and pound for pound, the gamest fish that swims.” At the time, the term black bass encompassed both smallmouth and largemouth bass, making it unclear which species he was praising. For the millions of smallmouth fans across the United States, the inestimable ichthyologist was most certainly referring to their beloved bronzeback.

—Tom Dickson, Editor



**NOT SCARY—YET** So far, upstream-moving smallmouth haven’t seemed to affect the Yellowstone’s storied trout populations. FWP monitoring will be necessary to see if that changes.

MAP ILLUSTRATION BY LUKE DURAN/MONTANA OUTDOORS; FISH ILLUSTRATIONS BY JOSEPH TOMELLER; SMALLMOUTH BASS PHOTO BY ERIC ENGHETSON