

Thirty-five years of fishing the Firehole have convinced the author that it is . . .

Queen of the Yellowstone

ERNEST SCHWIEBERT

THIRTY-FIVE YEARS have passed since my introduction to Yellowstone Park and its rivers, and during the past fifteen seasons I have made faithful pilgrimages to fish these waters in both the changing moods of early summer, with its bitter squalls and fine fly hatches, and in autumn, when hillsides are bright with October aspen and a chill of winter is in the wind.

The fishing offers surprises, and no river in the Yellowstone holds more secrets and surprises than the gentle Firehole. Rising near the most famous geysers and hot-spring basins in the world, the Firehole's cold flowages mix with boiling spillages and sulfurous fumes, making the little river one of the strangest trout streams on earth. Although its sister rivers surrender generous catches and bigger fish, the Firehole is filled with trout. It still shelters large trout, both sleek rainbow and richly spotted browns, but the Firehole is legend for its shy fish, its moodiness and the frustrating angling riddles it presents. It is clearly my favorite Yellowstone stream. It is seldom generous to strangers, however, and the memory of my first Firehole morning is still vivid because the morning was a sermon in failure.

The ecology of the Firehole is unique, and it has fascinated people since frontier times. Its early history remains uncertain and clouded, although its name suggests that it was christened by the early trappers, as were many other famous basins in the northern Rockies. James Bridger first explored the Firehole, and it might have been Bridger who named it. His tall stories about Colter's Hell had given the Yellowstone country a mythology a half-century before Ulysses Simpson Grant declared it a national park in 1872.

Bridger delighted in spinning his Yellowstone yarns, and he loved to describe a river that flowed downstream so wildly that friction heated its currents and cooked its hapless trout. The Firehole is unmistakably that mythical river. Although Bridger exaggerated its currents and water temperature, the Firehole has many places where its water is quite hot. In his *Trout*, Ray Bergman observes,

Here [in the Firehole] the trout rise well with water temperatures of nearly seventy-four degrees and higher. There may be other streams like this. As Ranger Scotty Chapman says: 'Those Firehole

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Dan Callaghan photo

trout have become accustomed to warm water and thrive in it. The temperature remains fairly constant, and the fish rise quite consistently.'

Bergman's observations, however, are no longer completely true. Several earthquakes over the past twenty-five years, including the devastating shocks in 1959 that measured nearly eight on the Richter Scale, have utterly changed the ecology of the Firehole watershed.

These tremors caused wild gyrations and eruptions in the geysers and hot springs. Scalding water and toxic silt flooded into the Firehole, and its temperatures increased. Both fish and fly hatches were affected. The

river was almost too warm for trout in the first weeks after the earthquake, and it flowed with a yellowish, foul-smelling sludge. The greatest damage perhaps was to the insect populations. Few of the Firehole's hatches are as bountiful as they were in Bergman's time, and only its sedges, or caddisflies, are found in really good numbers today.

Populations in the food chain were seriously truncated. Water temperatures became much colder once the geysers and hot springs subsided. Firehole rainbow once thrived only in the faster stretches, where the currents captured oxygen, but they quickly established themselves throughout the colder river. The chilling

Dante's Inferno? The settings of the Firehole River make experiences there more than just fishing.

temperatures and hot-spring silts that choked their spawning grounds sharply reduced the brown-trout population that once dominated most of the Firehole watershed.

"It's not the same river that Bergman wrote about years ago," Bud Lilly explained. "We just don't see the dry-fly fishing we used to have."

The Firehole has become even more unpredictable in

recent years. Minor earthquakes and droughts continue to change its character. Its rainbow are the principal species still, from its headwaters above Old Faithful to the waterfalls of the pretty little canyon at its bottom mileage before its junction with the Gibbon.

Like other rivers in the northern Rockies, the Firehole begins in snowfields above timberline. Such rivers warm themselves gradually as they tumble along, gathering flowage from other creeks and springheads. The Firehole's principal source is the snowmelt seepages and timberline bogs that feed Madison Lake, and the swift little river emerges first in the lake's outlet flowages. The stream gathers other little alpine tributaries as it spills swiftly into the dense spruce and lodgepole forests between the lake and the famous geyser basin at Old Faithful. These Firehole headwaters are the habitat of brightly jeweled brook trout, except near Lone Star Geyser and seepages of other minor thermal springs. Where it is born the Firehole seems like any alpine stream.

But Old Faithful changes the river completely. Morning Glory Pool and Iron Spring Creek are only most famous among hundreds and hundreds of hydrothermal flowages. During the dog days of late August, when the snowfields at the Firehole headwaters have shrunk to tiny pockets sheltered from the sun, I have recorded temperatures approaching eighty-nine degrees where the Firehole leaves its first geyser basin at Old Faithful. Trout are forced to escape such temperatures to survive.

Iron Spring Creek rises on the periphery of the Old Faithful basin, flowing north to join the Firehole above Biscuit Basin. During the hot summer months, the creek is often colder than the river, although its hot springs mean it can never equal the ice-cold chill of the Little Firehole. Both tributaries join at a footbridge before they reach the river. The Firehole itself lies another hundred yards downstream.

Both tributaries are beautiful, with clear, smooth currents running over fine gravel. Both are relatively shallow, except for deep holes in some bends, and both have grassy, undercut banks. The streams hold numbers of big trout in hot weather, but these fish are selective and shy. When large fish from the river are holding in these colder tributary currents, there are some remarkable trout found there.

BISCUIT BASIN LIES just downstream. It's a beautiful geyser field, with sulfurous plumes rising between the pitchstone escarpment and a screen of lodgepole pines. The snowmelt of early spring has carved several channels where Iron Spring Creek and the Little Firehole join the river at Biscuit Basin. Fishing the back channel in cold weather, with gurgling hot springs and billowing steam completely shrouding tiny pools, is like casting on the mythological River Styx.

The meadows below Biscuit Basin shelter a series of channels and grassy bends. Still primarily brown-trout water, the Firehole there glitters in the pale bottoms of sedges and coyote willows and broam. Where the Firehole winds like a serpentine necklace through the trees

it has long been a favorite reach of mine. It has also been a favorite beat for Charles Brooks, and his wonderful book *The Living River* has these paragraphs:

In the Biscuit Basin meadow the river becomes a typical meadow stream, winding deep along the banks, and with a glassy surface. There are no pools as such, although there are places over five feet deep. But the glassy surface is deceiving; there are strong currents throughout and one has only to cast a fly with a long line upon them to see how tricky they are.

Nevertheless, when the temperature of the water is below seventy-six degrees this is one of the finest dry-fly stretches in the country.

The first stretch is a giant bend that meanders between steam-bleached deadfalls. Bergman wrote about it in *Trout*, and it was the scene of several failures in my early years, especially during heavy hatches of tiny *Baetis* and *Pseudocloeon* flies. The Biscuit Basin water also shelters fishable hatches of *Siphonurus* and *Ephemerella* mayflies, which are particularly fine twilight hatches of slate-winged olives in early July. Sedge populations of *Leptocerus* and *Brachycentrus* and green-bodied *Rhyacophila* flies are plentiful, too. There were once fine hatches and mating swarms of the famous brown drakes and large slate-winged olives, species so important on other nearby rivers, but their populations failed to survive the traumatic earthquake and geyser-basin eruptions twenty years ago.

Below these meadows, with their labyrinth of channels and smooth bottoms of pewter-gray gravel, the Firehole flows almost lazily through thick forests and springhead bogs. The hot springs are minor seepages there, but there are cold springs, too.

The valley is a narrow corridor below Biscuit Basin, shaded from the sun until late morning and dropping into shadow long before twilight. The shade cools the river slightly in hot weather, and it provides fishing during August doldrums when other stretches are dour. Since the narrow valley is cloaked in dense pines and affords the best crossing between two wilderness plateaus, it often shelters good numbers of mule deer and elk. The narrow crossing is often used by grizzlies, too, and a fisherman should avoid becoming totally preoccupied with his sport. Grizzly bears are poor company for anyone hobbled by waders and armed with a 4-weight bamboo rod.

It is still pleasant fishing there, and although the trout are usually small the water holds some surprises. It also holds important lessons. On a swift-flowing flat over ledgerrock that drops off into deep water, lava is polished smooth in the current, except for tiny faults and pock marks that mar its winter-brown algae.

"It's barren water," I thought every time I fished that reach. "There's no cover on those ledges." It was a foolish judgment. The Firehole often reveals its secrets grudgingly, but it sometimes rewards an angler.

Several years ago, after fishing some pools down-

stream until nightfall, I found myself walking out past these ledges. The river flowed smooth in the last twilight and I stopped for a moment. The current was quiet when I stopped, but then I saw a tiny mayfly dun coming down. Seconds later, there were several mayfly silhouettes on the surface, and soft rises followed quickly. The fish were feeding greedily.

"Slate-winged olives," I thought.

There were a half-dozen imitations in my vest and I changed flies looking up against the sky. The hatch of dark-winged mayflies lasted only twenty minutes, but I took several good browns before the river surface flowed undisturbed again. The ledgerrock stretch had proved generous.

MULESHOE BEND lies like a polished quarter-mile-long question mark that bulges against a chalky bluff. Its currents seem smooth and perfectly suited to the dry fly, but that is illusion. The complex currents are formed by potholes and lava outcrops. They are further influenced by weedbeds until they are riddles wrapped in riddles. Muleshoe is moody and coy.

The road circles high on a shoulder above the bend, with a parking turn-out where you can watch the pool for rises. It is a perfect observation point. You can monitor a quarter-mile of river with binoculars, and I often do so to discover what is happening on the river. Often bank feeders work along the bluffs, but a worn path circles high above the river there. Both tourists and thoughtless anglers regularly walk that path, oblivious to fishing courtesy. The Muleshoe fish stop rising when anyone walks that route, silhouetted high above the water.

Since the fly hatches at Muleshoe are both prolific and brief, spooking rising trout by walking the bluff can end their feeding in an entire hatching cycle. The character and water chemistry there seem to favor Diptera instead of caddisfly and mayfly species, but the tiny aquatic insects occur in such numbers that Muleshoe holds many fish better than two pounds. But these fish are shy and seldom betray themselves, except for the soft dimples of classic smutting rises.

Muleshoe also has its hazards. Its benign face conceals a smoking cavern across its tail, and a fifty-foot caldron bubbles in its lower meadow. Sometimes these hydrothermal springs indulge themselves in sudden eruptions, spewing floods of fetid-smelling steam and scalding water. Such explosions are typically more startling than dangerous, except in strong winds, which could carry hot spray across a heedless fisherman.

Downstream the river breaks off into a long reach of ledgerrock shallows. It is among the few stretches that offer relatively easy fishing, although its rainbow are mostly small. Parking is plentiful there, and the variety of habitats sustains a wide spectrum of hatches. Perfect nymph-fishing water, its rainbow come eagerly to partridge-hackled wet flies. Some larger fish can surprise a daydreaming fisherman there, too, particularly in the deeper runs and weedy channels before the river shallows along the outcrop at Excelsior Geyser.

Excelsior Geyser expels a flood of scalding water just above the footbridge at Midway, yet trout hold just outside its lethal water and sip the hatching *Baetis* flies. The boiling pools, geysers, springheads and their toxic discharges at Midway Geyser Basin change the ecology of the river. The water below the Midway footbridge is shallow and tepid, its currents saturated with the bitter chemistry of the springheads and geysers.

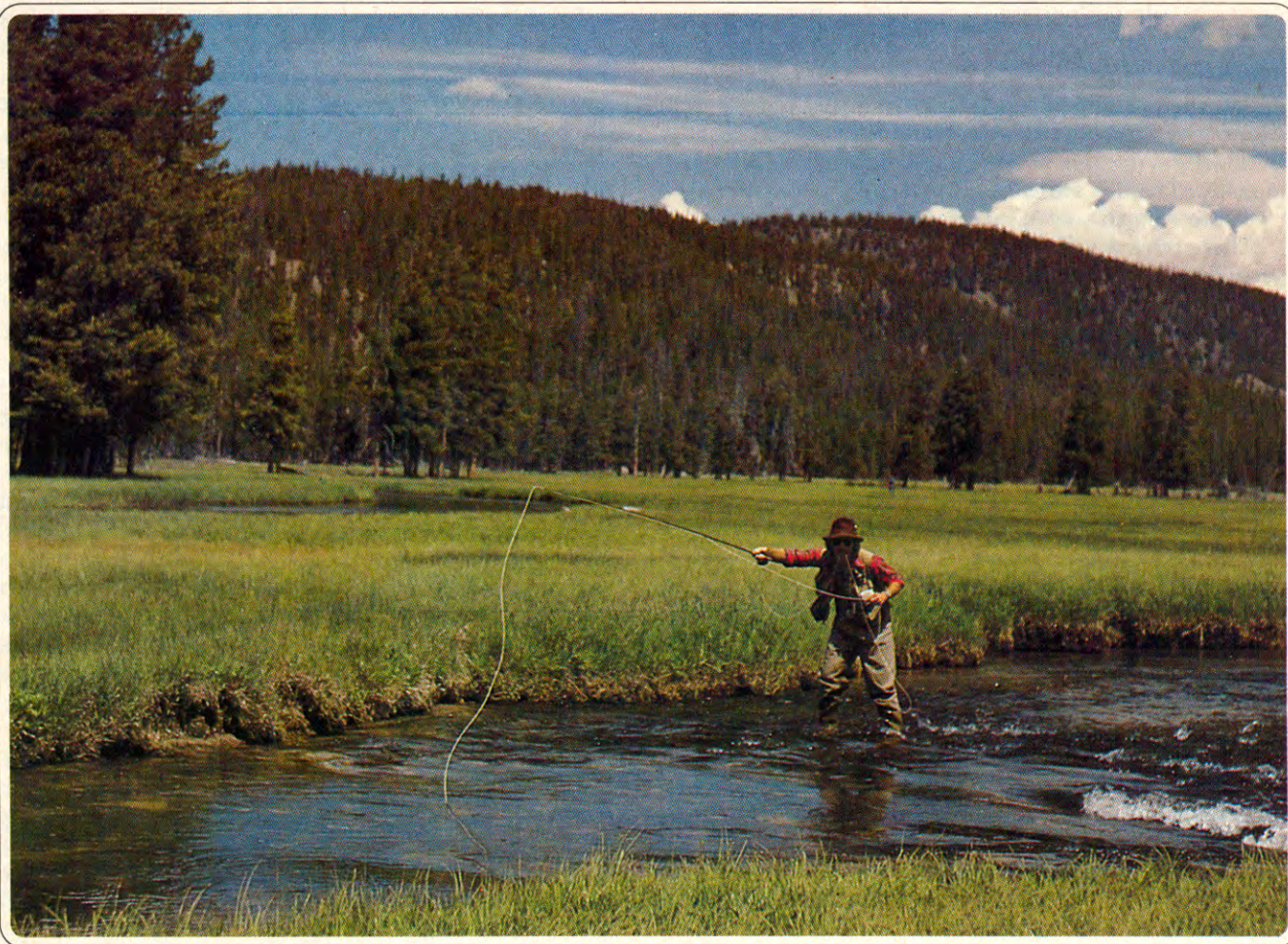
The fishing is poor until the river loops back into the forest under the bridge. There, cool seepages along the marshy banks restore its fertility, and the valley that lies upstream from the lodgepole bench at Goose Lake is quite beautiful.

Cool springheads flow into the river at Goose and Feather lakes, seeping through the marshy banks along the steep lodgepole moraines. Muskrat holes can prove treacherous. Wading here is relatively easy, although there are unexpected potholes and cooling faults and fissures. Sometimes these lava traps are hidden by hot-spring silts, and an unsuspecting angler can find himself armpit deep in the current, his thighs trapped in sulfurous mud. The Firehole spills down a ledgerrock shallows and slides deep and slow into an hour-glass waist. Looping back across another series of lava stairsteps, it arrives in the meadows at Elk Springs.

BEFORE THE SHARP earthquakes that rumbled across the Yellowstone twenty years ago, Elk Springs were the principal flowages draining a large hot-spring bog along the river. The influence of the 1959 upheaval is evidenced by the bleached skeletons of trees killed by hydrothermal discharges. Elk Springs are merely tepid now, flowing slightly warmer than the trout prefer, but slightly cooler than the Firehole itself in late August. The crusts of still older hot springs are outcrops that compose the opposite bank. The luke-warm springs that join the river there play an intriguing role in the seasonal cycles of the Firehole.

During the winter, such springheads flow at seventy to seventy-two degrees, insuring an ice-free stretch of river during the most bitter weather. Such refuges protect both trout and food-chain organisms from typical winter kill. These same springhead temperatures produce optimal feeding and metabolic conditions in early spring, long before such conditions are found in the colder reaches of the Firehole. These warm springs trigger hatches on days when they are not found elsewhere on the river, just as such hatches are triggered in small stretches throughout the entire watershed in the microhabitats created by springheads.

When the entire river flows at optimal temperatures for both fish and fly hatches, such springs are merely a source of fertile water. The fish move throughout the river system then, and forage widely in its disparate currents. But when the Firehole is running almost hot in these warm-spring bottoms, the trout are forced to retreat. When river temperatures are above eighty degrees, seventy-degree springs provide trout with cooling relief from the heat. There are cooled seepages along the entire drainage that provide such thermal shelter, too,



Terry Ring photo

Other stretches of the Firehole offer enticing small-stream challenges, such as the one being addressed.

but their precise locations are more difficult to pry from the Firehole regulars than the locations of prime grouse and woodcock covers from a New Englander.

Once the heat of summer has passed and there is a prelude of winter in the morning air, the equilibrium of the Firehole is changed again. The hot springs suddenly mitigate the chill of a September river, providing places of optimal temperatures that sustain both fish and fly hatches.

There are long flats below Elk Springs where the Firehole flows in sweeping bends through meadows. The fish and the fly hatches are moody and unpredictable there, but this mileage holds some of the best fish in the river.

Downstream it loops back tightly toward the Old Freight Road and the iron bridge at Ojo Caliente Spring. The water upstream of the bridge has pockets, deep runs, tumbling rapids, chutes, brief cascades and a minor waterfall. It is beautiful water, but there is less than meets the eye and the fisherman should resist its promise.

The mileage below the bridge is a first-rate fishery. Ojo Caliente is something between a hot spring and a geyser, although its surroundings suggest that its erup-

tions might once have rivaled better-known neighbors. Its eruptions today are more like indigestion, with boiling water churning in a storm of billowing steam. The spring spills thousands of gallons of steaming hot water into the river each day, and its impact on the river's ecology is obvious in the final mileage of the Firehole.

Between Ojo Caliente, and the boggy island that lies two hundred yards downstream, is some productive water along undercut banks. The island lies opposite the sloppy mouth of Fairy Creek, which is cooler than the effluents below Ojo Caliente in hot weather. The reach is almost a half-mile of relatively deep, weed-filled water in channels and pockets. The fly hatches here are tiny species typical of the entire river; the Firehole holds few dry-fly insects larger than #16. Its fish also migrate surprising distances when the river becomes too warm.

SENTINEL CREEK is a cold tributary draining a large bunchgrass meadow that lies between the lower river and the pitchstone escarpment some four miles toward the southwest. Its brightly-colored brook trout suggest its character. During hot weather, it attracts fish from the Ojo Caliente stretch upstream, and its cold currents

flow tightly against the grassy banks below its mouth for as much as a hundred yards. These undercut banks are quite popular during grasshopper time, which provides the only easy fishing on the Firehole. Spawning browns also gather in the lower regions of Sentinel, sometimes holding in the effluents downstream in late summer.

Lodgepole Bend is another half-mile downstream, where the Firehole loops back toward the Old Freight trace. Its character changes from season to season, depending on the growth of aquatic weeds, but it usually supports a labyrinth of channels and a relatively clear current against its high-grass banks. Lodgepoles spill over the moraine to cover its slopes and shelter the pool in the mornings. It is a stretch that has frustrated fishermen many times, particularly during swarms of tiny, dark-winged sedges and *Pseudocloeon* spinners. It often has bank feeders working if careless fishermen and tourists have not walked its high banks. Sometimes the Lodgepole Bend has prolific hatches when nothing is happening elsewhere, a phenomenon I wish I understood better.

The Fountain Flats reach from the Lodgepole Bend to an unusually deep pool just above the Nez Perce picnic grounds. There are small hot springs throughout these meadows, particularly in the outcrops of hot-spring crusts downstream. The deep, funnel-shaped pool at the bottom of the Fountain Flats water surrendered a brown trout of almost twelve pounds a few seasons ago. The Fountain Flats are almost too accessible, with a secondary road along the entire length. The weedy channels are a constantly changing puzzle, with chest-deep runs in some places, and it has good hatches. As William Schaldach observed about a particularly beautiful piece of the Beaverkill in *Currents and Eddies*, the only thing wrong with these meadow flats is their popularity.

Nez Perce Creek drains a large plateau between the Firehole and Yellowstone Lake. Its lower mileage provides extensive spawning and nursery grounds for the lower river, and relatively few warm effluents make the final mileage of the Firehole a viable fishery during the summer.

The little creek gets its name from the Nez Perce Indians. During the Nez Perce War, Chief Joseph and his tiny force of warriors held the United States Cavalry at bay for months. The Nez Perce retreat led through the Yellowstone country, and the war party camped in the Firehole Basin before its final battle at Bear Paws in northern Montana. The headwaters of the Nez Perce flow through a pretty little canyon, and its forested plateau provides the primary summer range for the large buffalo herd that winters in Geyser Basin.

Several British fishermen were among the first to explore the fishing in the Yellowstone, and a number wrote engagingly of its fishing. It seems probable that these English writers christened the wide flats between Nez Perce Creek and the Firehole Canyon. These flats are called The Broads, and they seem uniform in character, flowing about three miles through dense lodge-

pole forests that shelter the highway and a series of picnic grounds. The stretch is so accessible that it is often crowded with fishermen and tourists. The seemingly uniform face of these weedy flats is deceptive. Their lava and pea-gravel bottoms offer easy wading in most areas, but there are several shoulder-deep runs and glides. Some fine holding water lies along the grassy banks along the road, mixed with a few swift riffles and runs. But the muted currents of these flats are a quiet prelude to the wild symphony of the canyon downstream.

The trout population is almost entirely rainbow in these lower reaches, and the percentage of rainbow steadily increases as you head downstream from Muleshoe Bend. The river narrows between the highway and the cliffs and outcrops on opposite sides, and it traverses a series of staircases and ledgerrock riffles and pools. Its quiet currents are alive with the soapy bubbles and caramel-colored foam that gather in huge piles in the eddies and deadfalls. The ambient fertility of the Firehole is obvious in these final miles.

There is little warning of the Firehole Canyon in the smooth currents that slide like polished silver. The river seems to pause almost absently at the brink, eddying past a tiny island crowned with a single tree, before plunging wildly into the cascades of the Firehole. Fierce currents leap onto a white water staircase before pouring through a narrow chute in the rhyolite, and then buck like an unbroken pony through a final mile of steep-walled canyon. There are pools that well up from these waterfalls where the tourists like to swim during the late-summer doldrums. The canyon walls echo with excitement when a few foolhardy children leap from the thirty-foot precipice below Firehole Falls.

These final chutes and pools seem like most other Western rivers, but that is merely an illusion. The geysers and hot springs each day discharge an estimated one hundred thousand gallons of water—at temperatures between seventy-five degrees and the boiling point—into the Firehole headwaters. The rich spectrum of life-giving minerals from these discharges makes the Firehole far more fertile than most rivers in the northern Rockies.

The brittle outcrops and talus slides in the steep-walled Firehole Canyon can make access difficult, but the canyon has its devoted acolytes. Its deep chutes and pools conceal some prodigious trout, although probably fewer than the more fishable reaches upstream. The canyon is better in the fall, when the big browns from the Madison and its Hebgen Reservoir migrate upstream into the Firehole and Gibbon to spawn.

AFTER THIRTY-FIVE YEARS, my memories of fishing the Firehole are many and rich. The echoes of the early times at Old Faithful and Biscuit Basin and the Lodgepole Bend above the Nez Perce are still quite fresh.

Memories of losing a heavy hook-jawed brown on a tiny fly in the Goose Lake meadows mix with later memories of these bottoms. There was a morning with Dan Callaghan and Bud Lilly on the Long Flat above

Ojo Caliente, when the bank feeders that had started working to a hatch of pale morning duns were frightened by a herd of buffalo. Other times I shared these meadows with old friends Morris Cox, Vern Gallup and Patrick Daly. And there was a brace of twenty-inch rainbow taken while fishing with the late Jonathan Wright on a misty afternoon at Elk Springs.

But the most pervasive memory of the Firehole is of one bitter afternoon in October. The entire river seemed lifeless, flowing cold and polished under a wintry sky. George Kelly and Dick Talleur had about decided to quit fishing when a heavy hatch started in the flats at Nez Perce. The wind had stopped and the trout started rising.

We fished for them with mixed results while the flies lasted, and finally the hatch stopped coming. Another dark squall drifted into the Firehole Basin, its ragged ink-colored clouds shrouding the escarpment beyond Sentinel and Ojo Caliente. It became almost frighteningly still, and suddenly we were engulfed in snow. Steam from Ojo Caliente billowed high on the wind; its acrid perfume seemed strange in the swirling snowflakes.

The fishing was finished for another year, and I shivered and waded from the river. It flowed sluggishly through its buffalo-grass bottoms toward the Nez Perce. The chill wind smelled of winter and the snow drifted through the lodgepoles. It had been warmer standing waist-deep in the river, and I shivered uncontrollably when I finally reached our camper. My muscles tightened across my shoulders and my back ached sharply, fatigue flooding my body once the concentration of fishing was gone.

The brief climb back to the road was steep, and the wind stopped when I finished putting away my equipment. The day had grown much colder, filled with a strange silence.

Tiny plumes of steam drifted high beyond the trees where there were few hot springs. Filled with curiosity I shouldered into a heavy parka, pulled on my old pair of Gokeys, and started across the meadow. Beyond a thin stand of lodgepoles, I stopped in amazement. The sprawling, straw-colored basin beyond the trees was filled with hundreds of buffalo, gathering in their winter herd for the mating season. Their breath plumed like hot springs in the chill twilight. Time had seemingly stopped, frozen in the fur-trapper years that followed Lewis and Clark into these trackless mountains. Buffalo foraging along the Firehole must have looked like that to trappers like Colter and Bridger when they first found its valley.

"The Firehole's the queen of the Yellowstone," I thought, watching the buffalo in the gathering darkness, "and she's a whole lot more than fishing!"

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