## тне $^{L a d y} y_{\text {and тни }}$ Monster

Popular Perceptions and Treatment of Arctic Grayling and Bull Trout in Twentieth-Century Montana
by Adam R. Hodge


This seventeen-pound bull trout was caught on the South Fork of the Flathead River, ca. 1930-1940. For much of the twentieth century, sport-fishing values influenced Montanans' treatment of native and nonnative fish species. Consequently, sportsmen and the state treated two native fishes-the Arctic grayling (Thymallus arcticus) and the bull trout (Salvelinus confluentus)-very differently, revering one while vilifying the other.
Henry Thol, photographer. MHS Photograph Archives, Helena 955-271

In August 1903, Missoula County auditor L. H. Coleman hooked a quarter-pound westslope cutthroat trout while fishing on the Thompson River, only to nearly lose the fish to a fierce competitor. A bull trout reportedly measuring at least four feet long and weighing more than thirty pounds grabbed the much smaller fish before the angler could land it. Coleman alleged that a forty-five-minute battle between man and fish ensued before finally, "having worn the monster completely out, I drew him up to me in the shallow water and reached down to grasp him by the gills when the huge fish opened his mouth and let loose of the little trout, having never swallowed it." ${ }^{1}$

The tendency of bull trout (Salvelinus confluentus) to prey on other trout-including ones already hooked by fishermen-meant that, for most of the twentieth century, Montana sportsmen treated this native fish quite differently than they did other types of salmonids. The species was classified as a game fish and it was illegal to catch trout with anything but a rod, hook, and line, yet for many decades Montanans apparently killed the state's largest native salmonid by any means necessary. Newspapers shared stories of individuals bludgeoning them with shovels and dispatching them with stones. Some anglers, tiring of long battles with the large bull trout they hooked, shot them. Other men stabbed bull trout with pitchforks or blasted them with dynamite as swarms of the fish pushed upstream to spawn. ${ }^{2}$

Meanwhile, Montana sportsmen generally regarded another native fish, the Arctic grayling (Thymallus arcticus), with the utmost respect. This particular salmonid was so beloved that fish culturists invested years of work into artificially propagating it despite the challenges they faced in trying to do so. Making the species a focal point of efforts to increase game fish populations, state and federal agencies, as well as private organizations, mass-produced grayling in hatcheries and planted them in many of

[^0]Montana's waterways. Sportsmen and fish managers alike fretted as the distribution and abundance of the grayling dwindled despite rigorous attempts to augment existing populations within the species' historic range and to establish the fish in waters to which it was not indigenous. ${ }^{3}$

Today, when Montana's Species of Concern list includes twenty-three varieties of native fish-including both the Arctic grayling and the bull trout-it might be difficult to fathom why two of the Treasure State's native salmonids were once treated so differently from each another. Both were classified by the State of Montana as sport fish and, therefore, supposedly protected by laws and sporting ethics that did not apply to suckers and other so-called coarse fish. Nonetheless, many sportsmen did not view bull trout as they did other game fish, often violating fishing regulations and eschewing sporting values when they treated it as they did the coarse varieties. In reality, for most of the twentieth century, the bull trout was considered only "half game fish," as Judge Walter M. Bickford of the Montana Fish and Game Commission remarked in 1916; indeed, the commission itself often publicly vilified the species and promoted its eradication. ${ }^{4}$



Trout Fishing, 1872. The English gentlemen's sport of trout fishing for leisure influenced American sport-fishing values, determining what constituted proper, sportsmanlike fishing as well as which fish were suitable quarry for sporting anglers. Trout, salmon, and grayling sat atop that hierarchy. Currier \& lves, lithographers. Library of Congress 06343 u

To explain why sportsmen and fish managers treasured grayling but detested bull trout, one must consider the dominant cultural lens through which people viewed each species. The cultural values that Euro-Americans carried into the West during the nineteenth century profoundly shaped popular perceptions of Montana's native fishes. Those views, in turn, influenced the actions of anglers and fish managers, who altered aquatic communities by suppressing some indigenous fish species, attempting to augment populations of other native varieties, and introducing several types of nonnative salmonids. Juxtaposing the stories of Montanans' treatment of the Arctic grayling and the bull trout illuminates how sporting culture values above all else shaped prevailing views and interactions with the state's native fish species up through the mid-twentieth century. The grayling's traits made it a favorite of sportsmen and, consequently, influenced the Montana Fish and Game Commission, which asserted a century ago: "We should by all means foster the grayling (Thymalus) in every stream where indigenous, and discourage the planting of other varieties inimical to its welfare."

Although some anglers pursued bull trout for the sport they offered, the species' propensity for eating other fish clashed with prevailing sporting values and seemingly undermined hatchery work. Therefore, the bull trout was regarded as an aquatic public enemy and its slaughter during the early twentieth century was completely justified by sportsmen and fish managers alike, with some anglers reportedly "look[ing] forward to the time when a bounty will be offered on them. ${ }^{.5}$

American anglers borrowed and adapted their sport-fishing culture from England, where aristocrats viewed salmon and trout as the ideal sport fish and prevented commoners from fishing in wealthy landowners' trout streams. The aristocratic class regarded these beautiful fish as more noble than bottom-feeders and other coarse fish, which they conflated with the lower classes, who fished for survival or livelihood. To sportsmen, subsistence and commercial fishing reflected a lowly socioeconomic status, whereas sport fishing was an acceptable endeavor that the well-todo indulged in as a leisure activity. Thus, upper-class, urban Americans embraced recreational fishing as
an escape from increasingly crowded cities and the drudgery of daily life during the nineteenth century, venturing into the countryside to pull fish from waters as yet little affected by industrialization and urbanization. This sojourn into nature, moreover, was considered generally a masculine activity and part of a broader movement to save American manhood from the dangers of "over-civilization." Trout fishing reflected the values of the upper class, and was, therefore, regarded as an especially respectable activity, the fish either being released or kept in moderation after being caught only with a rod and line. ${ }^{6}$

Just as sport fishing separated elite anglers from their working-class counterparts, the recreational angling culture defined which fish were acceptable quarry for sportsmen and which were not. Charles Hallock, the founder and editor of the American sporting journal Forest and Stream, once wrote, "Define me a gentleman and I will define you a 'game' fish, which the same is known by the company he keeps, and recognized by his dress and address, features, habits, intelligence, haunts, food, and manner of eating." The character of the fish pursued reflected that of the fisherman himself, and recreational anglers developed a hierarchy that placed species with desirable traits at the top and those that seemingly possessed few redeeming qualities near the bottom. Trout and salmon sat atop that order: they inhabited clear waters, were attractive-looking fish, and were discerning in their eating habits-all in all worthy qualities for a game fish pursued by gentlemen. Sportsmen also valued fish based on the quality of the sport they presented, their edibility, and where one would have to go to catch them. ${ }^{7}$

On the other hand, most sportsmen frowned upon fishing for unrefined coarse fish, also known as "rough" or "trash" fish, which did not possess the "civilized" traits of game fish. Sportsmen generally eschewed the bottom-dwelling denizens of slower,

Right, the employees of Missoula's Boehme-Cummings Trout Fly Factory produce synthetic flies in 1931. Sport fishing-unlike subsistence or commercial fishingwas originally deemed a gentleman's pursuit. By the twentieth century, its popularity among all economic classes in the United States added to the pressure to protect game fish for recreational fishing.
R. H. McKay, photographer. Archives and Special Collections.
muddier waters, and coarse fish were often tossed ashore in disgust if they dared to bite an angler's lure. Although catfish and other "lower-class" species were good to eat, sportsmen devalued such fish because of class- and race-based biases against people who fished for survival. Furthermore, for subsistence fishermen to go after trout was unacceptable to sportsmen, who regarded "proper game fish" as suitable quarry for gentlemen anglers alone. Generally, these anglers tolerated commercial fishing, but only so long as such operations were confined to certain waters or restricted to species upon which sportsmen themselves placed relatively low recreational value.


Above all, one cardinal sin that sportsmen could not abide was another fish competing with their beloved trout for food or, worse, preying on them. ${ }^{8}$

These ideals manifested in Montana, where authorities largely championed the state's salmonids and vilified its coarse fish. To protect game fish, the first territorial legislature passed a law in 1864 stating that "a rod or pole, line and hook, shall be the only lawful way trout can be caught in the streams of the territory." Subsequent statutes established harvest limits and prohibited the sale of trout and grayling. Such regulations did not apply to coarse fish. In a 1929 article in Montana Wild Life, naturalist

Morton J. Elrod highlighted popular views when he wrote, "Here's Old Man Sucker himself. The western sportsman knows him. In fact he knows him intimately enough to hit him on the head and leave him to the magpies and wiggle worms. . . . He's one of the reasons, with his Brother Carp, why the fish food intended for game fish is devoured. These fish are bottom feeders, lazily swimming over the pebbles or mud." Similarly, the Montana Fish and Game Commission asserted, "The sucker and squaw fish eat the eggs of the trout, so that there should be no protection by law for any variety of species except those known as game fish: that is, the Mountain trout, Rainbow



Photographer F. J. Haynes created this artfully arranged image of a stringer of Arctic grayling and one rainbow trout (center) in 1900. The photograph expresses anglers' preference for the pretty grayling, the preeminent quarry of elite anglers.
F. J. Haynes, photographer. MHS Photograph Archives, Hetena H-05808
trout, Eastern brook trout, the Steelhead trout, and the Grayling." It was an unforgivable offense for other fish to compete with or prey on these varieties, simply because "trout and grayling appeal more to the Montana angler than other fish."9

Anglers held few fish in higher regard than the Arctic grayling. For American sportsmen, part of the appeal was its scarcity within the contiguous United States, as the species historically inhabited only parts of Michigan, Montana, and Wyoming. When James W. Milner of the U.S. Fish Commission classified specimens of grayling caught in Montana as Thy-
mallus montanus in 1872, the fish resided exclusively in some scattered waters of the upper Missouri River system above Great Falls. Eastern sportsmen, in fact, doubted the fish's presence in Montana until William C. Harris, editor of The American Angler, visited the Gallatin River in 1886 and caught plenty of them. Elrod reported in 1931 that "anglers have traveled long distances to take the handsome specimens from the cold water of their native streams." By then, it had already become apparent that decades of overfishing and logging, as well as the introduction of nonnative trout, had so reduced Michigan's grayling popula-
tions (then classified as a separate species, Thymallus tricolor) that experts declared the fish extinct in that state. Thus, the Montana Fish and Game Commission could then fairly boast that the Arctic grayling "belongs particularly to the Treasure State." ${ }^{\prime \prime}$

Also native to parts of Eurasia, the grayling was entrenched in English fishing lore. Legendary fishing expert Izaak Walton celebrated its virtues and wrote that St. Ambrose, bishop of Milan, called the grayling "the Flower of Fishes." Despite bearing a name that suggests a drab appearance, the grayling was proclaimed by enthusiasts as "the most beautiful fish outside of the tropics." Fish culturist James A. Henshall observed that "the grayling, the "lady of the streams,' is as trim and graceful and withal as beautiful as a damsel dressed for her first ball." He especially admired "her lovely iridescent colors and tall gaily-decorated dorsal fin, which may be compared to a gracefully waving plume." M. D. Baldwin of the Montana Fish and Game Commission concurred: "There is no species of fish sought for by anglers that surpasses the grayling in beauty. They are more elegantly formed and more graceful than the trout. . . . Its crowning glory, its immense plume-like dorsal fin, is dotted with large brilliant, bluish purple spots, surrounded with splendid emerald green.:"11

In accord with their class-based fish hierarchy, authorities on recreational angling declared the grayling a "royal member of the piscatorial family" and an "aristocratic western fish." Henshall lauded the grayling as "a clean and handsome fish," challenging "heretics" who preferred catfish by quipping, "Those who like the taste of rich mud will swear by the catfish and eel, but those who prefer their flavoring in more delicate doses will stick by the fishes born and raised in the cold, clear waters of the mountain streams." Others similarly extolled the grayling as a superb food fish, asserting their preference for its white, firm, sweet, and flaky meat. Even the state's Fish and

[^1]Game Commission described the grayling as "one of Montana's prize piscatorial delicacies." Moreover, its champions noted, grayling primarily consumed invertebrates - an eating habit suitable for a gentleman's game fish-and rarely devoured smaller fish or eggs. Elrod underscored the grayling's desirability when he described it as "the 'ultima thule' of fresh water fishes, living only in clear, cold and rushing water, feeding mainly on insects and their larvae. It is even better than trout as food and is in every way desirable. For food and for fly-fishing sport it is eagerly sought by fishermen." ${ }^{\prime 2}$

Indeed, anglers raved about the sport that grayling offered. Elrod confirmed that the grayling "rises eagerly to the artificial fly, and if it misses will rise again and again." Anglers could catch the fish in great numbers, and one of the earliest reports on grayling fishing in Montana noted that one J. F. Head caught seventy grayling and twelve trout in one day on Deep Creek, a tributary of the Missouri River east of Helena, in 1874. Judge Bickford of the Fish and Game Commission opined, "The Grayling which for gameness is not surpassed by the trout . . . to the sportsmen are a great source of pleasure, because they take the fly readily


## Native Peoples and a Native Fish

MONTANA's westernmost indigenous peoples valued bull trout as an important source of sustenance and survival. According to Salish-Pend d'Oreille tribal historian Thompson Smith, the species that the Salish (Séliš) called aay "served as a critical, stabilizing component of one of the most sustainable ways of life the world has ever seen." The people held aay in high regard based on the lessons of Coyote, who taught their ancestors how to fish and "showed them how to live in a good way-a way of respect for other people, and for the animals and plants and water, upon which the people depend." ${ }^{1}$

Salish and Pend d'Oreille (Qlíispé) oral traditions highlight the centrality of aay and other fish to their ancestors, whose homelands historically included much of what is now western Montana. As diversified hunters and gatherers, they utilized many resources, but aay were especially vital because of their year-round availability and abundance. Especially during the winter, Salish located their camps where they knew the fishing would be good, and they depended on aay for nourishment. Until the U.S. government forced their removal to the Flathead Indian Reservation in 1891, the Bitterroot Salish situated their main winter camp along the Bitterroot River near the present-day site of Stevensville. In addition to being in the heart of one of Montana's "banana belts," the stream
offered reliable supplies of aay. The people acknowledged the species' importance to them by using it in a sustainable way. ${ }^{2}$

The preponderance of Salish place-names referring to aay in western Montana illustrates the fish's cultural significance. Smith, in fact, asserts that more places were named after aay than any other animal or plant. The people called the confluence of the Blackfoot and Clark Fork Rivers $N$ 'aycčstm, or "Place of Large Bull Trout." They referred to Missoula as Nf?ay, "Place of Small Bull Trout," because that was what they called the area where Rattlesnake Creek empties into the Clark Fork. When roadbuilder John Mullan identified modern-day Monture Creek as "Salmon-Trout Creek" in 1854, he loosely interpreted an aay-based name that his Salish guides shared. ${ }^{3}$

Historical documents are replete with references to Salish and Pend d'Oreille fishing activities in western Montana and suggest their centrality to the people's subsistence. In the 1850s, for example, Washington Territory governor Isaac I. Stevens reported, "In summer the [Pend d'Oreille] Indians live principally on fish, which they catch not only by weirs and fish-traps, but by the hook and line and by spearing." The exceptionally large "salmon-trout" to which he and others in his party referred could have
and make a game fight." Although the average adult stream-dwelling grayling measured approximately a foot long and weighed perhaps a pound, sportsmen attested that the fish fought surprisingly well because its large clorsal fin added resistance. Henshall argued that the grayling compared favorably with its peers: "As a game fish, the grayling is considered by those who know it best, both in this country and England, when of corresponding size, equal to, if not superior to, the brown trout of England, the brook trout of Michigan, or the red throat trout of Montana." ${ }^{13}$

Collectively, the grayling's virtues made it the "pride of the angling fraternity of the Treasure State," and the state promoted the fish as one of its chief sporting attractions. In 1926, the Fish and Game

Commission boasted that Montana was "exceptionally fortunate" to possess some of the country's few grayling streams, when it declared, "It is very desirable that we should at least do all in our power to keep, the streams now containing these fish in their present condition." In promoting its protection, Elrod wrote, "It is attractive in color, gamey to the last, is clean in its habits, lives in swift streams in the rugged places of the great outdoors, is excellent for food, and is in every way desirable." Even as the species declined as a result of growing fishing pressure, habitat alterations, and introductions of nonnative trout species, Montana Fish and Game asserted, "The grayling is Montana's native fish. It is a fine game fish, and one worth saving., ${ }^{14}$
only been bull trout. Trader and Indian agent John Owen's journals from his time in the Bitterroot Valley also alluded to bull trout and documented Salish fishing activities. One entry from 1867, for instance, noted that "the Bitter root is Swarming with the finest trout in the World-the Ind Boys take them in the greatest abundance." ${ }^{4}$

After their relocation to the Flathead Indian Reservation, the Salish continued to depend on and value aay, which were also a staple food of the Pend d'Oreille and Kootenai people who shared their reservation. Especially as they lost access to other resources, aay and other fish found in the Jocko River were cornerstones of their diets. However, habitat impacts that included the development of an irrigation system on the reservation eroded such aquatic resources. So, well before aay landed on the Endangered Species List, the Confederated Salish and Kootenai Tribes fought for it by establishing minimum instream flows within their reservation and by contesting proposals to build dams in the Flathead drainage. Their work continues today with the restoration of several miles of the Jocko River that provide prime bull trout habitat. Smith writes, "In our efforts to regain the world that Coyote prepared for us-to restore some measure of the good way of life he established-we must try to ensure that "this most excellent fish" swims through the waters of the Salish, Pend d'Oreille, and Kootenai people for many generations yet to come." ${ }^{5}$


Tribal policeman Michel Fisher of the Flathead Reservation holds a bull trout, Jocko Valley, Montana, July 5, 1910. The Salish and Pend d'Oreille Tribes relied on bull trout for subsistence, but the sporting culture that shaped Montana's fisheries management had little interest in the vital role bull trout played in tribal food economies. G. H. Ellis, photographer. MHS Photograph Archives, Helena 954-508, detail
to crimson spots. Their bellies are usually white, although those of spawning males often redden. To most Montanans, bull trout were neither novel nor beautiful. ${ }^{15}$

But the bull trout did possess a pair of desirable qualities beyond its membership in the distinguished family Salmonidae. It was "a very desirable food fish," according to Elrod, a statement backed by newspapers, which noted that bull trout "are fine food." In 1914, Superintendent of Fisheries H. D. Dean remarked that the fish was "eagerly sought by anglers, both for his game quality and also for his flesh, which is considered by many to be as good as nearly any fish." The second promising characteristic was that bull trout could grow quite large. Migratory
specimens that resided in lakes and rivers commonly surpassed two feet in length and often weighed more than ten pounds. Large bull trout put up tremendous fights when hooked, adding to their appeal to sportsmen who preferred a challenge. For promotional purposes, Montana Fish and Game acknowledged that "to many anglers, the Dolly Varden affords rare sport; it attains a weight of over twenty pounds." A 1918 state publication titled The Resources and Opportunities of Montana listed bull trout among its game fish and observed that it "attains great size." ${ }^{16}$

Montana newspapers regularly carried stories of fishermen battling and sometimes landing "monster" bull trout, often with multiple men passing a rod back and forth as the fish tired them. Occasionally, tales also circulated oflegendary bulls that repeatedly frustrated the anglers who pursued them. In 1913, the Missoulian stated that a bull trout alleged to measure over four feet long swam in the Bitterroot River near Hamilton, but "no fisherman who has had hold of the fish has been able to turn him. In every instance the monster has easily made away with everything but the pole." A successful catch of an especially game bull trout made the news in 1930, when the Missoulian reported, "The best bull trout take by local fishermen was a fish that weighed 12 pounds, taken by Donovan Worden and Dr. F. G. Dratz, in Placid Lake last Sunday. The two anglers were almost exhausted by their fight before the fish finally was landed. ${ }^{17}$

Still, the quantity and quality of food as well as lively sport that bull trout offered could not redeem the species' otherwise damning qualities-chiefly, that it preyed on smaller trout. A notorious piscivore, the bull trout became known as "the camnibal of Montana's streams" and perhaps the sport fisherman's fiercest competitor. One issue of Montana Wild Life, the mouthpiece of the Fish and Game Commission, included a photograph that depicted an alleged bull trout that had over one hundred smaller fish spilling out of its eviscerated belly. The physical features of that "cannibal," with its small head and a body that featured dark spots on a light background rather than the reverse, cast doubt on whether it really was a bull trout, but the accompanying message was clear: "Montana sportsmen have declared war on the Dolly Varden or bull trout, the cannibal of the trout family, in the realization that the big fellows are devouring their daily toll of fingerlings and larger trout planted
through activities of the State Fish and Game Commission. . . . Small fry, just planted from a hatchery, would be an easy prey for such a voracious enemy."18

The bull trout's reputation for eating fish that apparently existed solely for anglers to catch compelled many sportsmen to call for the species' eradication. Montana Fish and Game estimated that a ten-pound bull trout consumed three hundred pounds of fish annually, asserting that the species "eats any and all varieties of other fish" and "is very destructive to fish life." As historian Andrea Smalley has observed, Euro-Americans could not tolerate such "uncivilized" behavior as they remade western ecosystems to suit their interests. While state fish managers and sportsmen stocked waterways with brook trout, rainbow trout, and other favored nonnative species and artificially propagated native varieties (such as grayling and cutthroat trout) preferred by anglers, they risked losing them to hungry bull trout. One sportsman complained, "A bull trout is particularly well equipped for what he considers his mission in life to be.... His mouth is studded with teeth that encourage his tendencies toward cannibalism and coincide exactly with his rotten disposition. . . . We caught several native trout with the mark of bull trout teeth on their bodies, but comparatively few of the smaller fish escape once the big fellows have marked them for a meal." ${ }^{19}$

Sensational stories elevated the bull trout's predatory nature to mythical status and amplified calls for the fish's eradication. One newspaper article recounted an incident that occurred in the Clark Fork River and that supposedly led the author to believe in the story of "Jonah and the Whale." As a muskrat crossed the stream, a "monstrous" bull trout seized the animal and carried it underwater. Moments later, the fish resurfaced near the riverbank and spat out the mammal before vanishing into the depths of the river; although stumned, the muskrat survived the ordeal. The Anaconda Standard printed an even more incredible tale about a bull trout that allegedly devoured a litter of pigs in 1904:

The old sow, [Frank McHaffie] said, had been in the habit of swimming across the Big Blackfoot River every day, the 17 little pigs following after her. One by one the little ones were found missing and considerable appre-


Here, Eino and Albert Karkanen display a large catch of fish, including several bull trout, from Clearwater Lake, 1925. Some
Montanans killed bull trout by any methods possible: shooting them, bludgeoning them with rocks or shovels, or even blowing them up with dynamite.
Archives and Special Collections, Mansfieid Library, University of Montana. Missoula Demmons 100-f.d
described a fight between two large bulls at the privately owned Columbia Gardens hatchery in Butte. The reporter wrote as if it were a prizefight in which gentlemen would never participate but could certainly spectate. Calling it a "barroom" brawl rather than a bout governed by the Queensbury Rules, the author described how the protagonists repeatedly rushed at one another, crashed together, and madly bit at each other until an even larger fish intervened. Such undignified and violent behavior reinforced that bull trout were not proper game fish and made it easier for anglers to vilify them. ${ }^{21}$

Disregarding fishing regulations and sporting ethics, Montanans brazenly flaunted violations of the law when they
hension was felt as to their whereabouts. Finally, a bull trout which weighed about 11 pounds was caught in the act of trapping the o.d sow and, hacl it not been for the timely interference of Mr. McHaffie, the animal would have perished.

McHaffie noted, perhaps with exaggeration, "It is no unusual thing . . . to find boots and shoes in their stomachs when they are hooked." ${ }^{20}$

The bull trout's apparent aggression toward its own kind attested to the fish's seemingly belligerent nature. In 1912, a story in the Anaconda Standard
boasted about how they used unconventional and violent means to dispatch bull trout. Some anglers shot and killed bulls after long, exhausting battles. Such was the case in 1894 , when Jule Hartley and Frank West took turns fighting a large Blackfoot River bull: "At last, while Mr. West was handling the rod, Mr. Hartley got in a shot that pierced the big fellow and ended the struggle." An 1896 edition of the Anaconda Standard reported that two boys used a shovel to slay a bull trout measuring thirty-three inches long and weighing twenty-eight pounds that they found in a Bitterroot Valley irrigation ditch. A group of Missoula-area boys who called themselves
the Bull Trout Slayers' Association killed bulls with stones. On one occasion, attorney Ben Chaffin found a large bull trout fruitlessly thrashing about to escape from a shallow riffle in the Jocko River. He "chose a nice, hard rock, and bounced it off Mr. Trout's bean. This diminished his ardor considerably and when Ben caved in his slats with another boulder, he gave it up as a bad job and died. Whereupon Ben waded in, poked to make sure he wasn't playing possum, and packed him in his creel. ${ }^{122}$

Because sportsmen viewed the bull trout as "the enemy of game fish," lawmakers either looked the other way or exempted it from protections afforded to sport fish. In 1911, the Missoulian reported that the state legislature was debating a bill that would prohibit trout fishing near dams, with fines and imprisonment the penalties for those caught violating the law. The bill specified that "the terms of this act shall not apply to the fishing for bull trout or Dolly Varden trout, char or whitefish." According to the newspaper, "Many of the members discussed the bull trout . . . as if they were old enemies. The bull trout . . . is a very bad cannibal. He did not have a friend in the house." In 1912, the Montana Fish and Game Commission challenged its own classification of the species as a game fish when it asserted that the bull trout "should be taken at any time and by any means because it is a cannibal fish." Meanwhile, the state tried to boost Flathead Lake's whitefish population by permitting the commercial netting of bull trout, an effort ended after two years because Superintendent of Fisheries H. D. Dean concluded, "I do not believe he can be exterminated without at the same time killing all the other fish in the same water:" A few years later, the Polson Chamber of Commerce petitioned the state to again allow the netting of bulls at Flathead Lake, and, in 1926, Montana Fish and Game briefly reopened the lake to the commercial harvest of the species, which had not been allowed since 1912-1914. In 1939, the Great Falls Tribune reported that a petition bearing 1,151 signatures had convinced the state to open the Flathead River to bull trout fishing ten days before the general angling season began. ${ }^{23}$

Throughout the first half of the twentieth century, Montana anglers promoted measures that would help clear the state's waters of the bull trout that supposedly endangered more desirable species. In 1904, the Anaconda Standard quoted local sportsmen who urged the state to place a bounty on bull trout. One of the anglers, Austin Hartley, remarked that "it would be a good thing if a bounty were offered for all the bull trout variety caught. They are so destructive that if they continue to increase it is only a question of time until they rid the streams of the smaller varieties." Another fisherman, Chick White, contended in 1905 that "war should be waged against bull trout, which . . . are doing more to diminish the streams of western Montana of game trout than anglers." Recounting how he had recently landed a half-pound cutthroat trout only after prevailing in a battle with a big bull that had pursued the hooked fish, White declared that "anglers should get together and formulate some plan of getting rid of those fresh water sharks." Sportsmen's clubs concurred. When Montana Wild Life announced the reorganization of the Plains Rod and Gun Club in 1930, the publication also observed that the group favored the bull trout's eradication, saying, "A request that charr $[s i c]$ be placed on the list of predatory fishes was made. Charr, or bull trout, and Dolly Varden are said to be the same variety of fish, and are considered a menace to Montana angling." ${ }^{24}$

Although Montana never put a bounty on bulls, sportsmen's clubs and the state encouraged fishermen to harvest lots of big bull trout. In 1913, the Missoula Anglers' Association announced that during the upcoming fishing season it would award two bull trout trophies to "work up a keen rivalry among the anglers" and "rid this section of the state of this dangerous fish." Each week, the organization would award a button to the angler who caught the largest bull trout and another to the fisherman who caught the most bulls. Other sporting clubs in the state offered similar awards. In 1924, the Montana Sportsmen's Association proposed a statewide "Bull Trout Week" because many fishermen believed that the species "is nothing more than a voracious

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Table 1. Grayling propagation efforts at the Bozeman hatchery under James A. Henshall, 1898-1907.

| Year | Esgs <br> Collected | Eggs <br> Shipped | Fish <br> Distributed |
| :---: | ---: | ---: | ---: |
| 1898 | $2,596,200$ | 115,000 | $1,500,000$ |
| 1899 | $5,735,000$ | 380,000 | $4,567,000$ |
| 1900 | $3,687,000$ | 811,000 | $2,459,718$ |
| 1901 | $2,400,000$ | 390,000 | $1,465,182$ |
| 1902 | $4,463,000$ | $1,455,000$ | $1,148,333$ |
| 1903 | $3,045,000$ | 645,000 | 974,482 |
| 1904 | $3,247,800$ | 494,000 | $2,692,425$ |
| 1905 | $1,010,000$ | 400,600 | 400,000 |
| 1906 | $1,650,000$ | 642,000 | 800,070 |
| 1907 | $2,370,000$ | 250,000 | $1,367,200$ |
| Total | $30,114,000$ | $5,585,000$ | $17,383,410$ |

Source: James A. Henshall, Culture of the Montana Grayling (Washington, D.C.: Government Printing Office, 1907), 7; Fish Plants from Bozeman Station, 1898-1907. Montana Fisheries Division Records, 1906-1991, RS 261, Box 2. Folder 25, MHS.
cannibal, and should be cleaned from the streams of western Montana." In a rare statement acknowledging the bull trout's legal status as a game fish, state authorities publicly responded by warning. "This variety of trout is considered a game fish . . . and any person taking more than the legal limit of Dolly Vardens would find himself facing a justice of the peace." Still, in its 1925-1926 report, the Montana Fish and Game Com-mission-taking its cue from sportsmen's clubsemphasized the species' piscivorous nature and asserted, "If the Dolly Varden . . . should be classed as a non-game fish, its destruction would be a good thing." Unsurprisingly, the commission regularly celebrated "bull trout fishermen who catch the big boys to save the little fish." Reinforcing such actions, Montana Wild Life in 1931 included a photograph of one J. MacHaffie holding a trophy bull trout and stated that he was "a specialist in the hooking and landing of large fish," especially bulls "which devour all the little fish in sight. ${ }^{2+5}$

While Montana anglers waged war on bull trout, federal, state, and private hatcheries raised and stocked millions of Arctic grayling to satisfy public demand for increased access to a popular fish that was found in only parts of the upper Missouri River drainage. From 1898, when James A. Henshall first artificially propagated the grayling, until 1960 , only native

Table 2 Surviving records of annual distributions of grayling by the Montana Fish and Game Department, 1919-1941.

| Year | Montana Hatchery | Egts and Fish Distributed |
| :---: | :---: | :---: |
| 1919 | Anaconda | 3,340,000 |
| 1920 | Anaconda | 9,513,500 |
| 1921 | Anaconda | 18,850,000 |
| 1922 | Anaconda | 8,950,000 |
| 1923 | Anaconda | 7,043,000 |
| 1924 | Anaconda | 8,254,000 |
| 1925 | Anaconda | 12,577,000 |
| 1926 | Anaconda, Somers | 15,844,000 |
| 1927 | Anaconda, Somers | 10,495,000 |
| 1928 | Anaconda, Somers | 6,800,000 |
| 1931 | Anaconda | 1,115,290 |
| 1933 | Anaconda, Somers | 6,561,828 |
| 1934 | Anaconda, Somers | 3,188,110 |
| 1935 | Anaconda, Somers | 10,105,486 |
| 1936 | Anaconda, Somers | 10,955,044 |
| 1937 | Anaconda, Libby, Somers | 14,702,900 |
| 1938 | Anaconda, Great Falls, Libby, Somers | 5,499,270 |
| 1939 | Anaconda, Big Timber, Emigrant, Great Falls, Hamilton, Lewistown, Libby, Somers | 4,863,838 |
| 1940 | Anaconda, Great Falls, Hamilton, Somers | 2,388,350 |
| 1941 | Anaconda, Emigrant | 3,919,950 |
| Total |  | 164,966,566 |

Source: Compiled from Report of the Montana Fish and Game Commission for the Two Years ending November 30. 1920, and 1921-1922. and 1923-1924, and 1925-1926 (Helena: Independent Publishing Co., 1920-1926, inclusive): Montana State Fish and Game Department Biennial Reports for 1931-1932, 1933-1934. 1935-1936. 1937-1938. 1939-1940, and 1941-1942 (Helena: Naegele Printing Co.. 1934-1942 inclusive); and "Have You Hooked Your 370 Fish?" Montana Wild Life 1:8 (Jan. 1929): 10-11.
cutthroat trout varieties were more heavily produced and planted in Montana. All told, state and federal facilities distributed an estimated 100 million Arctic grayling for planting in Montana streams and lakes cluring that period (see Tables 1 and 2 for samples of government hatchery activities). Some private operations also artificially propagated grayling, but surviving records are fragmentary. In 1928, for example, the Butte Anglers' Club stocked some 1.4 million grayling fry in the Big Hole River from its facility at Divide. ${ }^{26}$

As the distribution and abundance of Montana's grayling populations declined during the twentieth century, fish managers and sportsmen viewed hatchery work as a key to saving the species. By the 1920s, Montanans recognized that fishing pres-sure-grayling were notoriously vulnerable to overharvest-had significantly reduced populations of their beloved fish, although we now know that habitat degradation and fragmentation stemming from irrigation diversions, the construction of dams, the introduction of nonnative trout that competed with and preyed on grayling, and other human activities likely played even larger roles. Local newspapers often acknowledged the Fish and Game Department's work with grayling in its hatcheries to counter the fish's decline in the wild. Initially, its efforts intended to bolster existing grayling populations and to expand the fish's range, but it also provided other states, particularly Michigan, with grayling eggs through exchanges. (Table 3 highlights a sample of such interstate shipments.) The Butte Miner optimistically reported in 1922 that the fish's decline "has been rectified through artificial propagation, by means of which the native species will never become extinct." Even during the hard times of the Great Depression, Montana Fish and Game underscored the importance of its efforts when it acknowledged in 1931, "We are mindful of the task that we have before us in preventing the extinction of this wonderful fish and are doing all that is humanly possible under our financial handicap to preserve the grayling for this and future generations." ${ }^{27}$

But to plant large numbers of grayling, fish culturists first had to learn how to mass-produce a species that was notoriously difficult to breed, hatch, and raise in captivity. By the time that Henshall launched the first grayling propagation effort in Montana just before 1900, repeated failures in Michigan had, according to Spencer F. Baird of the U.S. Fish Commission, led many experts to "hold that it is beyond the reach of artificial fish-culture." It was with some fanfare that the press announced Henshall's intention to make the production of grayling at the federal hatchery in Bozeman a priority immediately following his arrival there in 1897. The Anaconda Standard

Table 3 Grayling eggs shipped out of Montana, 1933-1938.

| Year | Hatchery | Destination | Esgs Shipped |
| :---: | :--- | :--- | :---: |
| 1933 | Somers | Kalamazoo, MI | 530,640 |
| 1933 | Anaconda | Bay City, MI | 203,680 |
| 1933 | Somers | Osceola, WI | 120,064 |
| 1933 | Anaconda | San Francisco, CA | 102,912 |
| 1934 | Anaconda | Kalamazoo, MI | 214,880 |
| 1935 | Anaconda | Kalamazoo, MI | 443,840 |
| 1935 | Anaconda | San Francisco, CA | 81,760 |
| 1936 | Anaconda | Bay City, MI | 233,600 |
| 1936 | Anaconda | Clackamas, OR | 105,120 |
| 1936 | Anaconda | San Francisco, CA | 45,720 |
| 1938 | Anaconda | Ft. Bragg, CA | 220,460 |
| 1938 | Anaconda | Wild Rose, WI | 101,400 |
| Total |  |  | $2,404,076$ |

Source: Hatchery Egg Cards, Box 4, Montana Fisheries Division Records, 1933-2003, UPRS 61B, MHS.
remarked that the fish "will be much in demand for stocking the freshwater streams of this country, should it be found possible to hatch and grow this fish artificially." Henshall did not disappoint. He authored pamphlets that detailed how to raise grayling, which from the egg stage required different handling than did trout. Henshall's departure from Montana in 1909 elicited considerable praise for his work with the species. Still, into the 1930s Montana Fish and Game reported that fry survival rates rarely surpassed 75 percent because many young fish starved for want of suitable food. After years of research, fish culturists reported in 1935 that the introduction of a tiny crustacean referred to as the water flea boosted grayling fry survival to 97 percent. ${ }^{28}$

Historically, Montana Fish and Game maintained several lakes for grayling brood stocks, and two of those yielded major harvests (Table 4). The first was Georgetown Lake at the head of Flint Creek near Anaconda, a man-made waterbody where grayling were first planted in 1909. Its spawning station, which the state asserted was "the largest plant of its kind in the nation," was once a veritable grayling factory. Although low oxygen levels during the winter sometimes caused massive fish die-offs at Georgetown Lake, the state successfully restocked grayling to sustain its egg harvests. The fish was also not native to

Table 4 Documented annual collections of more than 5 million grayling eggs at Montana Fish and Game spawning stations, 1913-1951.

| Year | Spawning Station | Ests Collected |
| :---: | :--- | :---: |
| 1913 | Georgetown Lake | $15,000,000$ |
| 1920 | Georgetown Lake | $20,000,000$ |
| 1924 | Georgetown Lake | $13,294,972$ |
| 1926 | Georgetown Lake | $16,742,000$ |
| 1930 | Georgetown Lake | $5,064,344$ |
| 1933 | Rogers Lake | $8,038,928$ |
| 1935 | Rogers Lake | $12,806,720$ |
| 1936 | Rogers Lake | $12,773,270$ |
| 1937 | Georgetown Lake | $9,696,000$ |
| 1937 | Rogers Lake | $12,413,720$ |
| 1938 | Georgetown Lake | $5,165,160$ |
| 1938 | Rogers Lake | $6,417,280$ |
| 1951 | Georgetown Lake | $6,811,024$ |

Source: Compiled from Hatchery Egg Cards, Box 4, Montana Fisheries Division Records, 1933-2003, UPRS 61B, MHS; W. M. Bickford, "Notes on the Montana Grayling," Transactions of the American Fisheries Society 43:1 (Jan. 1914): 15355 ; Report of the Montana Fish and Game Commission for the Two Years ending November 30, 1920, and 1923-1924, and 1925-1926 (Helena: Independent Publishing Co., 1920, 1924, 1926); and "Montana Makes New Mark," Montana Wild Life 3:3 (Aug., 1930): 3.

Rogers Lake southwest of Kalispell, a natural waterbody dedicated to the production of grayling eggs by the 1930s. When fish managers attributed a decline in the lake's grayling population to shiners eating fry in the late 1950s, they captured all the grayling they could, used the toxicant rotenone to kill the remaining fish, restocked grayling, and resumed their egg collections. ${ }^{29}$

Meanwhile, Montana Fish and Game blamed bull trout when attempts to establish grayling west of the Continental Divide failed. In 1910, the state began stocking grayling in the Bitterroot River, a stream beyond the fish's

[^3]native range and home to bull trout. Within a few years it planted over a million fry in the Bitterroot, but a dearth of reported grayling catches indicated that the effort had been unsuccessful. Initially, state authorities were puzzled, as the "Bitter Root River is a fine large trout stream and seems an ideal home for the grayling." But before long the Fish and Game Commission concluded that bull trout were to blame, for "no planting of grayling in waters containing 'Dolly Varden'. . . has ever been successful. As the last named species is very cannibalistic, an inference is easily drawn for the reason for failure." The commission's next report noted that grayling plantings had only succeeded in waters west of the Continental Divide that did not hold bull trout, such as Rogers Lake. ${ }^{30}$

When grayling vanished from Montana waters despite hatchery work and restocking, the state took further action to preserve the species. In 1931, the Fish and Game Commission acknowledged that "Thymallus Montanus, the pride of the angling fraternity of the Treasure State, is in a bad way" and lamented that "the envy of sportsmen of America . . . has, with each succeeding year, shown a marked decrease in numbers." Artificial propagation had achieved only limited success, as plantings had worked in some isolated mountain lakes, but the stocking of streams, even those to which the species was indigenous, had shown little, if any, evidence of success. Consequently, in 1950, Montana Fish and Game stepped up its activities, reporting that it was securing new remote sanctuaries for the fish and considering measures to protect spawning gray-



This handwritten table from 1933 totals all game fish egg harvests by species completed by Montana Fish and Game that year. "Natives" refers to cutthroat trout while "L. Leven" is the brown trout.
Hatchery Egg Cards, Box 4, Montana Fisheries Division Records, 1933-2003, UPRS 61B, MHS Research Center, Helena
ling, including prohibiting fishing at spawning stations. The state meant business, and the Missoulian reported in 1952 that two anglers faced charges for taking grayling from an inlet to Rogers Lake where the fish spawned. ${ }^{31}$

In the early 1950s, Centennial Valley-one of the few parts of Montana that still held indigenous grayling-became a refuge for the species. The Fish and Game Commission banned fishing within the Red Rock National Migratory Waterfowl Refuge, determined that only grayling would be stocked above Lima Dam, and initiated habitat improvement projects. The latter included the removal of beaver dams to help grayling reach spawning areas. The agency also used toxicants to "rehabilitate" the Elk Springs Creek drainage above a dam that the U.S.

Fish and Wildlife Service had built for the benefit of trumpeter swans. With that area "cleaned of other fishes," the state restocked grayling. ${ }^{32}$

The Great Falls Tribune noted in July 1969 that Helena residents were fortunate that the state had planted grayling in nearby Park Lake several years earlier, as the species had become increasingly scarce across Montana. Echoing earlier writers who had lauded the fish's beauty and edibility, the author also reported that, during a recent visit to the lake, grayling were "smacking our small black and brown wooly worms as if there were no tomorrow." Still, the mass propagation of grayling in private, state, and federal hatcheries could not overcome the combined effects of overfishing, habitat alterations, and introductions of nonnative salmonids. Fisheries


This card reports the last collection of grayling eggs at Rogers Lake during the spring of 1936 and the total harvested there during the entire spawning season.
Efforts to harvest eggs and transplant young fish from hatcheries continued well into the twentieth century but were largely unsuccessful.
Hatchery Egg Cards, Box 4, Montana Fisheries Division Records, 1933-2003 Fisheries
UPRS $61 B$, MHS Research Center, Helena
biologists have since concluded that much of the work that fish culturists invested in grayling was utterly wasted, because hatcheries attempted to plant progeny of lake-dwelling grayling into streams, and their offspring lacked the behavioral traits necessary for survival in those environments. More recently, biologists have recognized that grayling survival also requires "imprinting" into streams at the egg stage, similar to some other salmonids. ${ }^{33}$

Although grayling now occupy more mountain lakes in Montana than they did before the twentieth century, the stream-dwelling variety resides in only a few stretches of water. Since conservationists filed a petition to have fluvial Montana grayling protected under the Endangered Species Act in 1991, the fish has been the subject of an ongoing legal battle. The State of Montana continues to manage its grayling populations, although the 9 th U.S. Circuit Court of Appeals ruled in 2018 that the U.S. Fish and Wildlife Service must reconsider an upper Missouri grayling listing because its most recent (2014) determination failed to consider key population data and environmental factors. ${ }^{34}$

In contrast to the grayling, bull trout did not have a significant place in Montana's early hatcheries, and attempts to preserve the species did not come about until much later. It does not appear that the state stocked any bulls prior to the 1930s. The lone reference to bull trout in a hatchery before that time resides in a 1912 edition of the Anaconda Standard, which noted that the private hatchery at Columbia Gardens in Butte raises them "from the spawn up. In one of the tanks are a number of full-grown bull trout." It is not known if the Butte Anglers' Club actually planted any of those fish. In 1932, Montana Fish and Game collected 14,708 "Dolly Varden" eggs from Warm Springs Creek and took them to the hatchery at Anaconda, but no record of what became of them survives. The next documented hatchery work with bull trout was another egg harvest in 1944 that inaugurated a decade of modest activity involving bulls. As Table 5 shows, the state's work with bull trout paled in comparison to its efforts with grayling, and hatcheries found little success with bulls. In March 1950, for example, the Creston hatchery received 102,720 bull trout eggs, but it had only 5,226 survivors (just over 5 percent) to plant in June 1951. In August 1953, the Somers hatchery planted just 1,500 finger-

Table 5 Documented bull trout egg collections by the Montana Fish and Game Department, 1932-1954.

| Year | Collection <br> Site | Hatchery | Esgs <br> Collected |
| :--- | :--- | :--- | ---: |
| 1932 | Warm Springs <br> Creek | Anaconda | 14,708 |
| 1944 | Bull River | Libby | 89,766 |
| 1949 |  | Libby | 601,656 |
| 1951 |  | Somers | 10,032 |
| 1952 | Trail Creek | Somers | 126,354 |
| 1954 | Trail Creek | Somers | 2,856 |
| Total |  |  | 845,372 |

Source: Compiled from Hatchery Egg Cards, Box 2, Montana Fisheries Division Records, 1933-2003, UPRS 61A and Libby Hatchery-Stock Records, Box 3, Folder 19, Montana Fisheries Division Records, 1933-2003. UPRS 61A, MHS
lings raised from 126,354 eggs (just over 1 percent) that it received the previous September. Those 6,726 combined fish represent the state's only documented bull trout plantings. ${ }^{35}$

Even these meager attempts to raise bull trout indicated that views of the fish had begun to change by midcentury. On rare occasions before the 1940s, some scientists suggested that bulls might not be the aquatic public enemies that sportsmen and state authorities made them out to be. In 1929, for example, Elrod noted that although the species "is destructive to other fish," one study conducted at Flathead Lake revealed that the "majority of fish found in the stomachs of bull trout were . . squawfish, which is not considered a desirable species." Still, the decadeslong smear campaign against bull trout ensured that it would take time for popular perceptions of the species to evolve. Fortunately for the fish, by the mid-twentieth century scientists and conservationists were beginning to reconsider longstanding traditions of predator-hating in general. Among them were Adolph Murie, the first scientist to intensively study wolves in the wild, and Aldo Leopold, who had participated in the eradication of wolves as a young employee of the U.S. Forest Service and had witnessed the negative consequences for ecosystems. Murie's Wolves of Mount McKinley, which appeared in 1944, presented research findings that challenged centuries of misconceptions about the character and behavior of an animal long shrouded in mystery and imagination. Perhaps more influentially, in one of the single most powerful writings produced by any
conservationist, Leopold pondered the benefits of predation and thereby highlighted the folly of wolf extermination in his essay "Thinking Like a Mountain," which was published posthumously in $1949 .{ }^{36}$

Although biologists who revised popular views of wolves tend to receive more attention today, scientists and conservationists also reevaluated prevailing perceptions of predators like the bull trout. At a time when Leopold, Murie, and others were exploring the ecological roles of apex predators like wolves and grizzly bears, fisheries scientists expressed concerns about coarse fish becoming more numerous as bull trout populations declined. Echoing researchers' findings that wolf predation strengthened prey communities because they tended to kill old or injured animals, scientists concluded that bull trout helped cull waterways of "undesirable" fish and, thereby, improved fisheries. But decades of being targeted for extermination by anglers-along with the transformation of aquatic habitats and communities via logging, irrigation, dam construction, introductions of nonnative salmonids, and other activities-had significantly reduced the state's bull trout populations, especially those of large migratory fish that depended on waterway connectivity. In 1947, the Missoulian recapped a lecture by botanist J. W. Severy in which he discussed how, for decades, "sportsmen tried to kill the bull trout because they thought it was eating other trout. Now, with the bull trout nearer to extinction, suckers and other nongame fish are taking over the streams." In the 1950s, Montana Fish and Game conducted a study in the Flathead River sys-
tem to help scientists better understand the declining species and its needs. Drawing from such research, Dallas Eklund, president of Flathead Wildlife, Inc., published a series of articles in the Daily Inter Lake in early 1956 to seek redemption for the maligned bull trout. Eklund emphasized the species' sporting value and, more importantly, cited its role in aquatic ecosystems when he observed that the bull trout "was placed in these waters for a purpose- that of maintaining a balance of rough fish." He also noted that several streams had recently been closed to fishing to protect spawning bull trout and that the state had set harvest limits for bulls. "The Dolly," Eklund concluded, "is a noble game fish in this area and all true conservationists should do everything possible to maintain and increase their numbers. ${ }^{337}$

Publicizing the bull trout's virtues eventually elevated bull trout toward being regarded as an imperiled native Montanan, but not without some controversy. In 1980, biologist Pat Graham wrote in Montana Outdoors, "Misunderstood and often maligned, Dolly Varden have been considered an undesirable species. . . . They suffered from the same type of shortsighted human action that has plagued other predators such as eagles, wolves, lions and coyotes." The State of Montana responded to the fish's decline by designating it a Species of Concern in 1986. In 1992, the western Montana-based conservation groups Alliance for the Wild Rockies, Friends of the Wild Swan, and Swan View Coalition petitioned the U.S. Fish and Wildlife Service to protect it under the Endangered Species Act. An article published

## STATE OF MONTANA DEPARTMENT OF FISH AND GAME



This egg card documents a rare harvest of bull trout eggs, 1951. At the time, fisheries managers were only beginning to understand the habitat requirements of bull trout and grayling, and so hatchery work remained their primary conservation tool.
Hatchery Egg Cards, Box 2,
Montana Fisheries Division Records, 1933-2003, UPRS 61A, MHS Research Center, Helena


An Indian fishes on the Pend d'Oreille (Flathead) River, Flathead Indian Reservation, ca. 1905. In 1998, bull trout were designated a threatened species under the Endangered Species Act, making it illegal to kill them. Despite current efforts to protect native bull trout and grayling, their numbers continue to decline due to a variety of factors including dams, stream sedimentation, habitat loss, illegal harvest, and interactions with nonnative species such as brook trout.

Edward H. Boos, photographer. Archives and Special Collections, Mansfield Library, University of Montana, Missoula 78.0252
in the Missoulian that year illustrated how popular views of the fish had evolved since the early twentieth century and observed that the species was valuable because its status indicated overall watershed health. "Bull trout, like the arctic grayling," asserted the article, "represent something unique to our region," and therefore conserving the fish meant "protecting and preserving our natural heritage." Three years later, Montana governor Marc Racicot also cited Montanans' obligations as stewards of their state's resources to save the species when he spearheaded a campaign to forestall federal protection. Although Racicot and others, such as Idaho governors Cecil Andrus and Phil Batt, touted the intrinsic value of bull trout, their opposition to federal listing stemmed, at least in part, from economic considerations. In
particular, logging giants such as Plum Creek Timber Company, whose operations encompassed and jeopardized much remaining bull trout habitat in the Northern Rockies, sought to prevent the imposition of federal regulations. Nevertheless, when faced with ongoing legal pressure supported by a growing body of scientific data, the U.S. Fish and Wildlife Service ultimately listed bull trout as "threatened" under the Endangered Species Act in 1998. But the fish's range and numbers continue to shrink despite the myriad local, state, and federal conservation efforts since undertaken. ${ }^{38}$

Comparing popular perceptions and treatment of Arctic grayling and bull trout reveals the shortcomings of the old classification system that categorized fish as either game fish or coarse fish. As the case of the bull
trout demonstrates, trying to squeeze some species into one category or another does not work. ${ }^{39} \mathrm{~A}$ more nuanced understanding of the values that undergirded fishing and fisheries management is necessary to comprehend the vastly different approaches Montanans took toward two of their native fish species.

Ultimately, considering the stories of the "lady of the streams" and the "voracious monster" side by side illuminates the dangers of viewing other organisms through a wholly anthropocentric lens made narrower in scope by an emphasis on recreational fishing. The Arctic grayling, characterized as a refined species and quintessential game fish, was the angler's ideal quarry; in contrast, the bull trout was an "uncivilized," predatory fish that apparently challenged Euro-Americans' control over waterways and did not fit neatly into the game fish-coarse fish paradigm. Those perceptions shaped human treatment of individual fish and whole populations of them, motivated the transformation of aquatic communities, and influenced the allocation of resources to fisheries management activities. Although the bull trout is a focal point of conservation initiatives today, Salvelinus confluentus was once viewed and treated quite differently from Thymallus arcticus and other game fish. Montanans, particularly sport fishermen, pushed the fish toward extinction because they thought it jeopardized recreational fishing. In doing so, they did not consider the broader ecological implications until its destruction affected trout fishing by seemingly enabling "trash" fish to take over streams. Moreover, they disregarded entirely the impact its demise might have on other cultural groups, such as Salish, Pend d'Oreille, and Kootenai peoples who had long depended on the fish for sustenance.

Dissecting the relationships between fish and people also highlights the limitations of the early conservation movement in the United States. As historians such as John F. Reiger have demonstrated, sportsmen were the driving force behind some of the nation's early conservation efforts. Grayling, in theory, were a beneficiary of this movement as a favored fish that sportsmen-conservationists tried to save. On the other hand, the interests of those who hunted and fished primarily for sport but also for food precluded the protection of bull trout and other predators in the name of preserving prey species, thus fueling those species' extermination. The story of the bull trout,
therefore, presents a microcosm of the broader trend described by Smalley, in which Euro-American colonizers pushed animals that threatened their control over environments toward extinction. ${ }^{40}$

Most fundamentally, a comparative history of Euro-American treatment of Arctic grayling and bull trout exposes how cultural values frame our approaches to other species and their survival. Culturally bound ideals have historically determined the fates of fish and wildlife, and often enable appalling human behavior that we justify in an effort to manipulate the natural world by destroying that which conflicts with our vision of it. To be sure, prevailing views of fish have evolved over time, but vestiges of old classification systems and the centrality of our cultural values to how we view fish remain. For example, Montana's 2020 fishing regulations separate all of the state's fish species into three broad categories: "bait fish," "native fish," and "non-native" fish. ${ }^{41}$ In many ways, such classification systems tell us more about how we view various fish in relation to our own cultural values and human activities than they do about the fish themselves.

As we emphasize native species conservation in the United States today, we must consider past actions and our role in shaping current and future populations. The fates of organisms hinge in large part on how we value them, often in relation to their peers but also in relation to ourselves. These cultural values influence the scientific understanding at the core of conservation efforts. Today, we view many nonnative species as threats to the persistence of indigenous ones, including grayling and bull trout, and history tells us that how we respond to those perceived threats will shape their futures. Regardless of what exactly that entails, we must begin by viewing all species from multiple cultural lenses and, also, valuing them for their intrinsic and ecological worth.

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Abbreviations used in the notes include Montana Historical Society Research Center and Archives, Helena (MHS); and Montana The Magazine of Western History (Montana). Unless otherwise noted newspapers were published in Montana.

## The Lady and the Monster (HODGE)

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## Shakespeare in Frontier and Territorial Montana (MINTON)

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22. Vigilantes was published in book form in 1866, making it the first book to be published in Montana Territory. Henry IV, 5.3.201, Hamlet, 1.5.28, Measure for Measure, 2.2.179-80. Macbeth, 2.2.61-62 (though Dimsdale omits the
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[^0]:    A day's catch of trout, ca. 1900. Sportsmen and Montana's Fish and Game Commission divided the state's fish into categories: game fish and coarse fish. As game fish, trout and grayling could be caught only by pole or rod, but regulations did not protect coarse fish (such as suckers, minnows, and catfish) from indiscriminate slaughter, although for many decades all fish could be caught in unlimited quantities.
    F. J. Haynes, photographer. MHS Photograph Archives, Helena H-03872

[^1]:    Montana's prominent naturalist Morton J. Elrod (right, 1904) championed the grayling as the "pride of the angling fraternity." In contrast, he viewed fish that competed with grayling and other game fish for food as undesirable. The lack of scientific understanding of the interdependence of fish species within their own ecosystem enabled human value systems-rather than facts-to determine which species were worthy of saving as fish populations declined in the midcentury. Archives and Special Collections, Mansfield Library, University of Montana, Missoula 84.0184

[^2]:    Opposite, a man holds up four bull trout (often mistakenly called Dolly Varden), ca. 1920s. Mature bull trout could weigh more than twenty pounds and were good to eat, but their reputation as a voracious piscivore made them the enemy of many anglers. Sportsmen's groups encouraged their extermination by holding killing contests, and for much of the twentieth century Montana's Fish and Game Commission did little to prevent the species' eradication.
    Morton J. Elrod, photographer. Archives and Special Collections, Mansfield Library, Unversity of Montana, Missoula 84.0196

[^3]:    Fish hatchery employees near Anaconda pack harvested grayling eggs between layers of wet moss and damp cloth before transporting the eggs on ice to indoor hatchery facilities, where they were incubated and hatched for stocking streams and lakes. This image was taken from an angling-promotion film by the Montana Fish and Game Commission, ca. 1930, called Raising Trout for Montana Anglers. Montara Fish and Game Commission, creator. Public domain.

