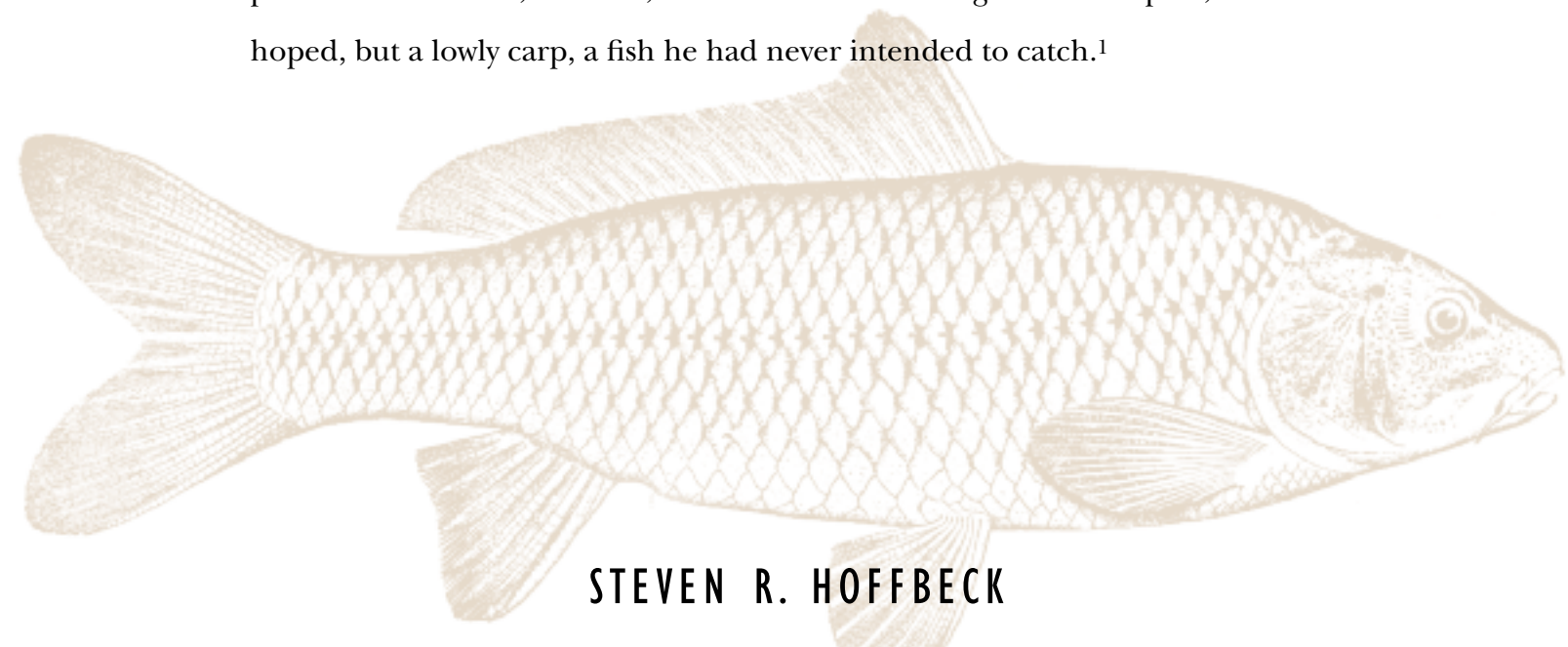




# “WITHOUT CAREFUL *Why Carp Swim in Minnesota's Waters* CONSIDERATION”

**I**N JULY 1952 Frank Ledwein, an angler from Annandale, was fishing for northern pike in Clearwater Lake. When a fish grabbed his four-inch-long sucker minnow, Ledwein let out some line and set the hook. He could tell that the fish was big; reeling it in felt like pulling in a log. At 55 pounds 5 ounces, it became a Minnesota record—even a world-record fish for a time. Ledwein never publicized his catch, however, because it was not a huge northern pike, as he had hoped, but a lowly carp, a fish he had never intended to catch.<sup>1</sup>



STEVEN R. HOFFBECK

Previous page top: A postcard showing commercial seining on the Wisconsin side of Lake Pepin, 1915; bottom, the scaled (German) carp

Ledwein would never have caught a carp had not the State Fish Commission introduced the non-native species into the state some 70 years earlier. From 1880 until 1890 the commission stocked many lakes and rivers with carp, hoping to improve angling. But carp proliferated beyond imagining, taking over the underwater habitat of other local fish, and soon anglers turned against carp as “unwelcome intruders” responsible for the decrease of native game fish.<sup>2</sup>

Minnesotans came to believe that carp were neither truly game fish nor truly forage fish (food for predatory game fish) but belonged in the class of bottom feeders and ugly-looking fish called rough fish—or even trash fish. Although carp had been highly valued as food in Europe and Asia for centuries and had their own market in the United States, sport anglers came to despise the species after 1900 and demanded action by the state government to eradicate the nuisance that it had brought to Minnesota. But by then it was too late. That painful lesson in the dangers of introducing non-native species lives on more than a century later.<sup>3</sup>

**ORIGINATING IN ASIA**, carp were cultivated for food in rice paddies and ponds as early as 800–300 B.C. Carp are also native to Eastern Europe, where they were considered a tasty and valuable food fish. After carp had been transplanted in England, Izaak Walton lauded the fish as the “Queen of Rivers” in his classic treatise, *The Compleat Angler*.<sup>4</sup>

Carp are the big brothers of the minnow family. Not inherently unpleasant to look at, they are dark olive in color on their backs, with lighter olive sides and yellowish lower bodies. Two pairs of long barbels (“whiskers”)

*Steven R. Hoffbeck, assistant professor of history at Minnesota State University Moorhead, is the author of The Haymakers: A Chronicle of Five Farm Families (Minnesota Historical Society Press, 2000), winner of a Minnesota Book Award. A native of Morgan, Minnesota, he caught his first carp in a dredge ditch at age 10 using a bamboo pole, braided cloth line, and angleworm bait. He is a frequent contributor to the magazine.*

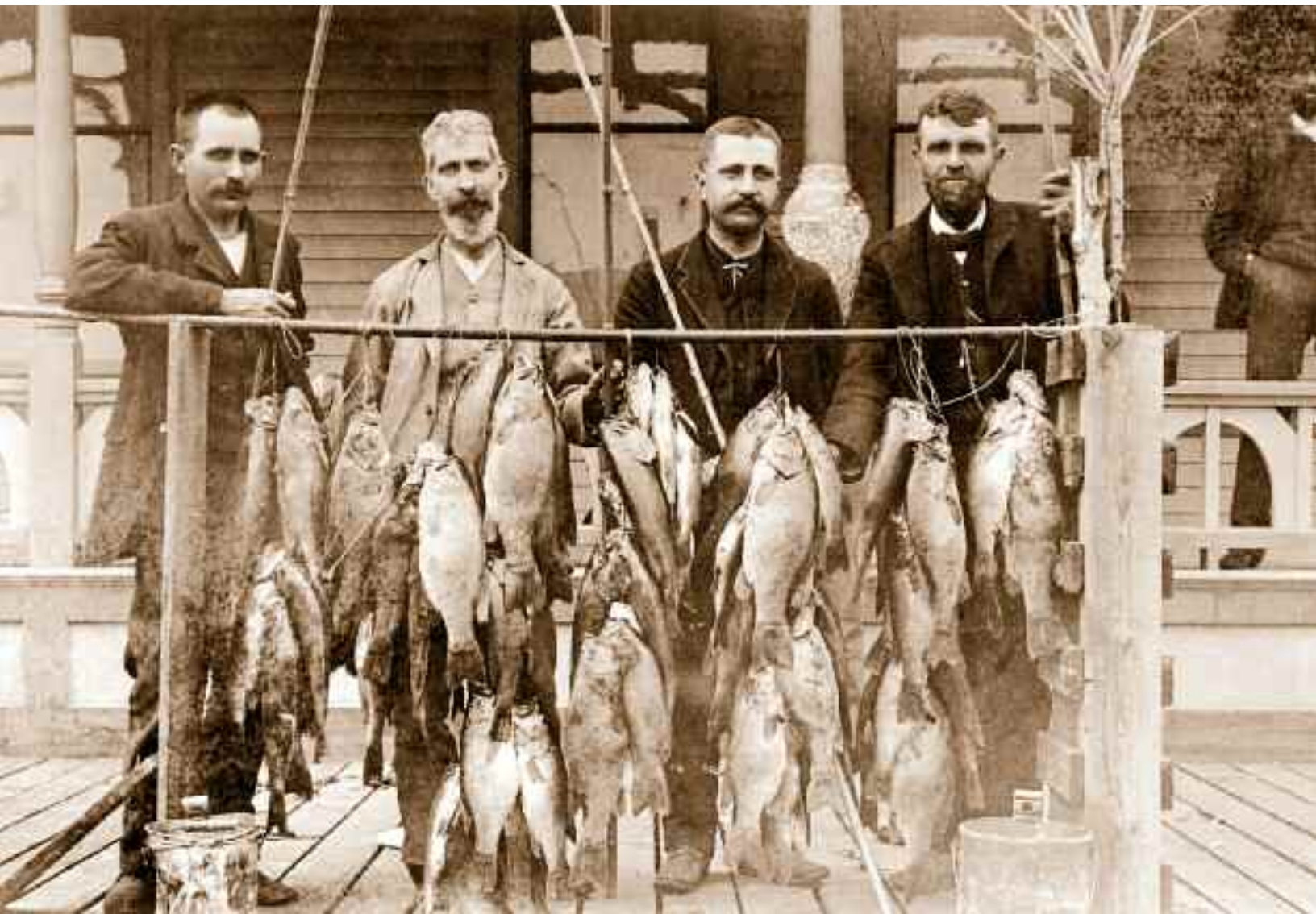
on their upper lip help them taste or sense food. Their flexible mouths protrude and work like a drinking straw as they suck in organic material from muddy lake bottoms. Sharp spines on their long dorsal and anal fins discourage predators. Among the three types of carp brought to North America, the most distinguishing feature is the presence or absence of large scales. The scaled or German carp, the most common in Minnesota, has large scales covering its body. The mirror carp has only three or four rows of large scales, which resemble mirrors. The leather carp has no scales at all but a leather-like outer skin.<sup>5</sup>

The carp’s most remarkable characteristic is its rapid rate of growth: a young fish gains 1 to 3 pounds yearly, and fish of 5 to 10 pounds are common. Carp are also hardy, frequently living to be 20 to 25 years old and 50 pounds in weight. Unlike many fish, they can survive water temperatures as warm as 96° F. for a 24-hour period. Carp enjoy almost all fresh waters, including lakes, rivers, and ponds, but do not like colder water environments. Carp thrive where more oxygen-sensitive species cannot. Significantly for the Minnesota story, carp are able to withstand being transported from one place to another, thus making them peculiarly adapted to artificial propagation and stocking. Carp are also prolific: a 20-pound female can produce as many as two million eggs annually.<sup>6</sup>

**BY THE TIME THE SCALED CARP** was introduced to Minnesota, the state had gained a reputation among residents and visitors alike as a sporting paradise. As early as 1866 the *New York Times* noted that Minnesota was “famous for its lakes and rivers.” In 1884 a newspaper reporter called it “the fishiest State in the Union.”<sup>7</sup>

Because of the widely held opinion that the supply of fish in Minnesota was “inexhaustible,”<sup>8</sup> most Minnesotans had no reservations about hunting and fishing without limit. Game and fish were to be consumed just as white pine would be cut until no more could be harvested economically.

With the advent of a scientific world view in the nineteenth century, educated Americans also believed that science could be used to improve life. If science could produce railroads for better transportation, telegraphs for better communication, and sewer systems for better sanitation, scientists could surely augment natural fish stocks with imported species to provide even better fishing.



**With the catch-and-release concept many years away, a Minnesota “boatman” (at left) and three sport fisherman from Louisville, Chicago, and Detroit display their day’s cane-pole catch of about three-dozen hefty smallmouth bass from Detroit Lake, 1884**

The natural environment of the United States had already witnessed numerous changes from introduced flora and fauna. Some transplanted species came inadvertently, as in the spread of bluegrass (even in advance of white settlement), while others were brought in intentionally, as in the case of timothy grass for animal fodder. English sparrows had been introduced deliberately in 1850 to clear American skies of mosquitoes and other noxious insects. Other transplants proved to be

more beneficial, such as Holstein cows, which are capable of increased milk production.<sup>9</sup>

These factors—unbridled consumption of natural resources, faith in the power of science, and successes in improving animal and fish propagation—all contributed to the state’s decision to introduce carp to its lakes and rivers in the 1880s. The resulting tale of optimism that quickly turned to regret holds significance even in our own time.

**EAST OF MINNESOTA**, non-native fish had long been introduced to waters depleted by indiscriminate fishing, pollution, soil erosion, and habitat decline. Commercial fishing with gill nets, in particular, had harvested more fish than could be replaced by natural means. To increase the dwindling fish count, the first experimenters tried stocking fish eggs, young fry, and adult fish into lakes and streams. By 1810 northern pike had been introduced to Maine and New Hampshire, where they had formerly been unknown.<sup>10</sup>

In 1831, young foreign carp were raised in New York ponds and then placed in the Hudson River. Sporadic shipments of carp were stocked in the Hudson throughout the 1840s, but large-scale stocking awaited advances in fish culture.<sup>11</sup>

In 1853 two Ohio doctors, Theodatus Garlick (known as the father of American fish culture) and H. A. Ackley, successfully completed the first artificial fertilization of brook trout eggs in the United States. Shortly thereafter, Massachusetts became the first state to create a fish commission responsible for reporting on the overall conditions of fish and fishing in the state. When the commission found that unrestricted fishing was depleting the state's resources, it advocated stocking to restore the fishery.

Other states founded fish commissions, and a national body, the American Fish Culturist Association, came into being in 1870. When the national group and the state commissions called upon the federal government to create a nationwide authority on fish propagation, Congress established the U.S. Commission on Fish and Fisheries in 1871.<sup>12</sup>

At its inception the federal fish-propagation program operated with the philosophy that it was advantageous to "stock any promising species of fish in any accessible body of water." Advocates of liberal fish-stocking policies gave little consideration to how well a foreign fish would suit the waters or if it was advisable to add a new species to an environment. Action was deemed better than caution, and most nineteenth-

century naturalists were unaware that the fragile balance of nature in any ecosystem was easily upset.<sup>13</sup>

Minnesota's Fish Commission, which became a reality in 1874, agreed with the national fish-stocking policy. The body immediately set out to change the makeup of the fish population in the lakes, streams, and rivers under its jurisdiction. Its first annual report recognized the importance of sport fishing to the state's economy and expressed a desire to improve the fisheries by introducing even better fish than were naturally produced in Minnesota's waters. The commissioners regarded the widespread existence of the naturally abundant northern pike, for example, as a particular "calamity" of nature and wanted the species "outlawed," being "fully convinced that every pickerel of the state simply occupies the room of a better fish." (The report's authors stated that the northern pike's only redeeming feature was the "remarkable facility with which he eats his fellow pickerel.") Although some anglers killed any northern pike they caught and threw the carcasses overboard to be eaten by other fish, the commission noted that northerns might be allowed to remain in a few Minnesota lakes set aside for those who were "fond of pickerel."<sup>14</sup>

Minnesota's Fish Commission advocated engineering a better system of fish culture than nature could contrive. Its first fish-stocking effort came quickly in 1874, when employees placed 80,000 young herring-like shad, obtained from the U.S. Fish Commission, in the Mississippi River at St. Paul. The effort failed.<sup>15</sup>

The state commission discussed other improvements, such as making the waters of Red Lake, Otter Tail Lake, and Detroit Lake "fertile with salmon" as quickly as possible. It tried to introduce Minnesota whitefish, a highly valued food fish abundant in Leech and other northern lakes, into White Bear Lake and Lake Minnetonka, so that it could be broiled for breakfast at local tourist resorts.<sup>16</sup>

The Fish Commission's vision of Minnesota's fishy future coincided with the interests of the state's major railways. Both wanted to improve fishing to benefit would-be tourists who enjoyed lakes and angling. Thus began a partnership between state agencies and the state's major railways.

In 1875 the Northern Pacific Railway began transporting Atlantic salmon for stocking lakes along its tracks near Brainerd and Detroit Lakes. The St. Paul,



Minneapolis and Manitoba Railway afforded space in its rail cars for carrying 1,000 Atlantic salmon, 1,000 landlocked salmon, and 500 Pacific salmon to Lake Minnetonka, the prime resort destination located along its route. But the salmon did not adapt well to Minnesota. Of those stocked on the Cannon River in Rice County, “nearly if not all died” within the year.<sup>17</sup>

The introduction of salmon nevertheless continued, with the managers of eight different railways providing “free transportation and innumerable kindnesses” to fish commissioners through free railway passes and free transportation of barrels containing young fish and eggs. Many fertilized salmon eggs perished even before they reached Minnesota, however. Some 15,000 eggs sent by rail were marked “Don’t Freeze,” but a well-meaning worker interpreted the sign to mean “keep near the stove,” with the result that they were poached beyond recovery or perished soon after hatching.<sup>18</sup>

The fish commission naively hoped the stocked ocean salmon would learn how to reach the Gulf of Mexico or Hudson Bay and then return to Minnesota to spawn. The salmon did not catch on, however, and the experiment was deemed a failure. In the four years after the arrival of the fish, anglers caught no more than three. (In 1879 two fishermen brought in a five-pound salmon from Lake Elmo that they had speared, not hooked.)<sup>19</sup>

Other introduced fish fared better in Minnesota. In the 1880s brook trout flourished in streams where they had been placed, as did non-native rainbow trout. Lake trout did well in deep, cold lakes. In 1879 the Fish Commission put mature three-pound walleye pike in Lake Minnetonka and other lakes that lacked connection to the walleye’s original range, the large tribu-

taries of the Mississippi and St. Lawrence River systems. Improvements in the state-operated fish hatcheries established at St. Paul and Red Wing in the late 1870s resulted in successful procedures for hatching young walleye and black bass, species that proliferated in Minnesota’s lakes in the 1880s. By 1890 Duluth had gained a U.S. Fish Hatchery that produced whitefish, perch, and lake trout.<sup>20</sup>

**BUT THE FISH THAT PROVED** the greatest triumph—and greatest agony—for the state’s fish commission was the carp. Regarded by many today as a four-letter word, the carp entered the country as a much-desired invited guest.

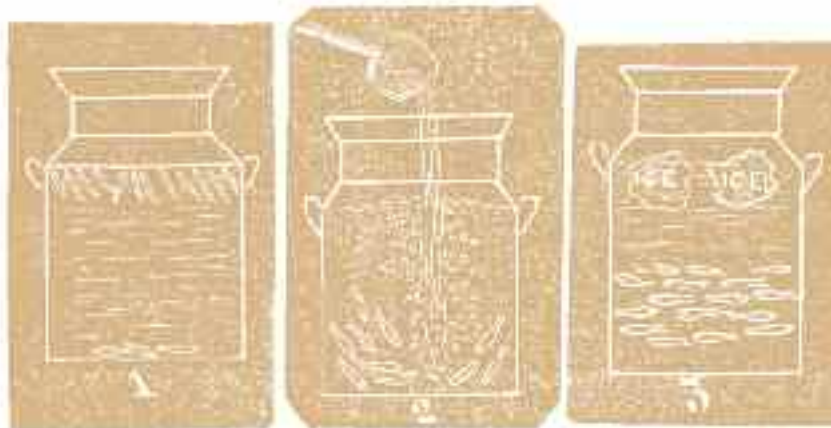
The U.S. Fish Commission had begun promoting carp as a food under the leadership of Spencer F. Baird, the U.S. Commissioner of Fish and Fisheries and Secretary of the Smithsonian Institution. That national society first acquired

450 large German or scaled carp, which were transported by steamer across the Atlantic Ocean in 1877. Soon the commission began a systematic effort to bring carp in large numbers to many states, “from Maine to California.”

When the first breeding stock for the federal fish hatcheries at Baltimore and Wash-

ington, D.C., began producing a multitude of young fry, Professor Baird enthusiastically predicted that carp would become “widely known throughout the country and esteemed in proportion.”<sup>21</sup>

That carp would be a valuable addition to North America appeared obvious to fish scientists of the day. The U.S. Fish Commission labeled carp a “desirable species” as early as 1874, enumerating eight “good qualities,” including its “adaptability to conditions unfavorable to any equally palatable American fish and



The Minnesota Fish Commissioners’ instructions to residents for keeping fish alive while transporting them to local stocking sites, 1878



Excerpts from

WILLOWBROOK STATE  
FISH HATCHERY DIARY, 1886

*August 1st*—Sunday, we began our new year with a bright and beautiful day and a large number of visitors from the city and some others from the neighboring camps less welcome by far—but all received due attention.

*Tuesday* and the following days we were all busy at construction of a new hatchery building and fences, whitewashing, waiting upon visitors and hurrying on the work as fast as practicable.

*Saturday, 7th*, we delivered to Chas. Wintermute at Morris, 4,000 Lake Superior trout, taken there upon the application of Andrew Slossons, who for some reason was unable to be there, so the fry were given into other, but good hands for a proper planting.

*August 9th*.—We received from Commissioner A. W. Aldrich, of the Iowa Fish commission, a pair of golden Ides, a beautiful addition to our ornamental and attractive fishes kept for the pleasure and gratification of visitors. They are a pale creamy golden tint and quite like in shape to the golden carp or gold fish so universally admired.

*August 16th*.—Began finishing the fence about the grounds to keep out the railroad marauders and protect our property from depredation. . . .

*December 29th*—Spawned the last of the brown or German trout, the fry of which we will keep for breeders, until we have a stock from which to raise for general distribution.

*December 30th*—Delivered to Ben Nelson, Glenwood, Pope county, 5,000 Black Bass in good condition, for waters near that place.

*January 1st, 1887, to 6th*—All hands busy in hatcheries, picking over and caring for the rapidly maturing spawn. On this day we shipped by United States Express as follows:

To Chris Nebel, Wyoming, Chisago county, carp	40 . . .
To Henry Gatson, Wyoming, Chisago county, carp	40 . . .
To George Freen, Lake Elmo	40
To G. C. Stout, Lake city, Wabasha county	40
To D. D. Storms, Clearwater, Wright county	40
To T. J. Feltzer, Lewiston, Winona county	40
To L. A. Skinner, Clear Lake	40
T. G. W. Skinner, Clear Lake	40

*January 8th*—Thermometer indicates 38° below zero; worked in hatcheries all day, the water giving out enough heat to make the rooms pleasantly comfortable. Twelfth, received 15,000 ova of the German or brown trout from the United States Fish commission; unpacked and put on the gravel by 9 a.m. On thirteenth found only fifty-three bad eggs in lot.

*January 20th*—Large mortality among the carp, which have had to hold on account of the extreme rigor of the weather, hoping for a mild spell to be able to ship them. . . .

*February 6th*—The springs supplying the new hatchery broke away through a new channel, cutting off the entire supply of water to the troughs. Fortunately it was daylight and at once discovered. All hands and determination and skill in two hours had all things secured and water running through the troughs as before, and you may be sure neither pains or labor were spared till assurance was felt that all was secure from a recurrence of similar accident. . . .

*February 14th*—St. Valentine's day; began filling ice house for summer use in distribution.

*Reproduced from* Fourteenth and Fifteenth Annual Reports of the Minnesota Commission of Fisheries, 1886–1888

to very varied climates,” its “harmlessness in its relation to other fishes,” and its “ability to populate waters to their greatest extent.” The report noted that the carp’s “largely . . . vegetable diet” made it advantageous over “carnivorous” fish, which could increase in numbers only by decreasing another fish population. Carp, the commission believed, would serve as an inexpensive source of protein for the benefit of all Americans. The logic of growing carp as a “food fish” seemed to make perfect scientific sense.<sup>22</sup>

Few could have dreamed how well carp would flourish in the United States. By 1880 the U.S. Fish Commission carp ponds in Washington, D.C., hatched so many young fry that carp became a political gold mine. Congressmen willingly distributed carp to eager constituents in their districts as a form of political patronage—a sort of carp-barrel politics. The national fish commission shipped young carp by railway to the state fish commissions, which then arranged for “gratuitous distribution” to those who applied. Some 300 individuals from 25 states (including Wisconsin) and territories received a total of 12,265 carp in 1879, and the number of applicants increased year after year. In 1880 Minnesota’s Fish Commission announced with great pride that a “good thing has come to us this year.” Its annual report continued, “We have at last received a lot of small carp.” On October 21 the commission distributed its first 15 in lakes near Buffalo in Wright County.<sup>23</sup>

By 1882 Minnesota’s commission had secured 69 of the “much coveted German carp” from Washington: St. Paul’s Lake Como got 6, and 8 went to western Minnesota’s Stevens County. To assist fish culturists in raising carp, the commission reprinted a 39-page article entitled “Carp and Carp Culture” in its annual report. The shallow lakes in southern Minnesota, often inhabited only by native buffalo fish and suckers, seemed particularly likely to benefit from imported carp.<sup>24</sup>

By 1884 the carp crusade gained more momentum. The state agency stocked another 9,000 from Washington in 90 different places in Minnesota. The largest batches went into several lakes in Ramsey County, most notably 500 in Lake Como. Most applicants seeking carp received 20 fish for introduction to local lakes. Carp had saturated the state.<sup>25</sup>

Adaptable to many types of water, fair or foul, carp became common inhabitants of Minnesota’s lakes and

rivers south of a line drawn from Moorhead to Duluth. They also lived in but did not dominate colder lakes north of the line. Carp could live in low-oxygen waters and even tolerate some sewage.<sup>26</sup>

A typical Minnesota carp enthusiast was Wadena County’s John Wesley Speelman. In the railroad town of Verndale, Speelman had a tree nursery that he had started upon his arrival from Nebraska in 1882. In that state he had sold trees to farmers who needed to plant them on their “tree claims.” (Under provisions of the Homestead Act, claimants who planted 10 acres in trees could get a second 160-acre homestead.) In Minnesota, Speelman sold fruit trees—apple, crab apple, plum, and cherry—to help farmers diversify their farms. One variety he favored was the Russian mulberry tree, a foreign import that he thought could improve the fruit-growing prospects of Wadena County. If a Russian tree could grow in Minnesota, he reasoned, surely the German carp could also flourish in the waters near Verndale. This would diversify the fish populations of local rivers and lakes and help settlers reap a bounty of fish. A tinkerer by nature, Speelman also raised different breeds of chickens in order to find the fowl that could best adapt to local conditions. The logic of discovering the best fruit trees, chicken breeds, and fish stocks for Verndale was elementary to a man who worked closely with nature.<sup>27</sup>

In the spring of 1884, Speelman explored local rivers, including the Shell and Crow Wing, to determine the feasibility of launching a steamboat enterprise. At the same time, he discovered places that seemed suitable for stocking German carp into the



**John Wesley Speelman of Verndale, one of many carp enthusiasts who tried to improve on the state’s natural species of fish**

watershed, and he ordered his first shipment of twenty from the state.<sup>28</sup>

In 1885 Speelman, described in the local newspaper as a “good and reliable” man, secured 40 more carp from the fisheries commission for further distribution around Verndale. His carp were a small part of a total of 3,105 stocked in the state that year. Two other varieties—mirror and leather carp—also appeared in the commission’s annual report of stocking activities.<sup>29</sup>

**THE HIGH POINT** of carp-stocking in Minnesota came in 1887, when the state distributed a total of 2,695. Their numbers diminished afterward, with 522 listed for 1888, 1,385 for 1889, and only 154 for 1890. By that time the species had proven so “prolific” that it had established a permanent presence in the state and required no further assistance. According to the commission’s annual reports, consumers could readily “buy either the dead or living fish in the markets of St. Paul or Minneapolis,” and carp was especially popular among “foreign-born citizens,” who extracted “great satisfaction and gustatory enjoyment” from it.<sup>30</sup>

Carp apparently showed up on many dinner tables, aided by a spate of published recipes. In 1880 New York’s fish commission had publicized carp as the “fresh-water fish of the future,” possessing “delicate” flesh “with a taste peculiar to itself.” It was judged excellent when boiled and dipped in melted butter or a white sauce, “admirable [when] baked,” and “wonderful when stewed.” In 1881 the *New York Times* reprinted recipes from *Food and Health* magazine for broiled, stewed, and stuffed carp served with a brown gravy. The “savory, aromatic” fish went well with potatoes, salad, parsnips, stewed cabbage, or mushrooms. Some more finicky sources suggested that the white flesh was good for cooking but the narrow streak of brown (sometimes called the “mud vein”) running down the middle of each side should be removed lest it ruin the taste.<sup>31</sup>

Central and eastern European immigrants, in particular, were happy about carp-stocking and relished the fish. Carp had been raised in ponds in Europe since the twelfth century, and carp culture was well known in Germany, Poland, and Austria-Hungary in the nineteenth century. Commercial fisherman harvested the fish from the Mississippi River and other places, shipping great quantities to Chicago and eastern markets. Minnesota’s railways were happy to assist in trans-

porting carp east. They also had a financial interest in helping stock the fish in areas that benefited immigrant settlers carried west on their trains.<sup>32</sup>

Some Minnesotans were not as pleased about carp stocking, however, and by the late 1880s complaints about the fish became almost as plentiful as their offspring. People swore that the fish tasted muddy, and the Fish Commission admitted that “carp, like pigs, will stand much abuse; either will survive being kept in a mudhole, but it spoils the flavor of the meat of both.” To counteract this problem, the commission recommended that carp be raised in “plenty of water,” noting that at least one carp-raiser tried (unsuccessfully) to keep his fish in a “wash tub full of water in the warm cellar all winter.” Others criticized carp for their wariness around hooks and “sluggishness,” which made it difficult for anglers to catch them. (Spearing and netting were another story, of course).<sup>33</sup>

**BY THE 1890S IN MINNESOTA**, popular attitudes about game and fish resources began to change. As professional market hunters killed and shipped out great masses of meat from the state and as residents speared, netted, and caught fish without limits, the state began to suffer a shortage of wild game in its more settled areas. Anywhere that the railways took upper-class sporting tourists, market hunters, or newer immigrants, the lakes were becoming fished out. Newspapers reported that netting seemed to be a “principal cause for the deficit in game fish.” Sporting anglers added to the problem, taking long strings of bass, walleye, and trout, fish that did not quickly reproduce.<sup>34</sup>

Finally acknowledging that overfishing was a great problem, concerned sportspersons decried the sad fact that the game reserves of the former sporting paradise were “fast becoming depleted through the indiscriminate hunting and fishing both in and out of season.” A call came forth from upper-class outdoor sports enthusiasts such as William L. Tucker of the Voluntary Minnesota Game and Fish Protection Association for new state laws that would protect wildlife from this depletion. Accordingly, in 1891 the state government began to limit its citizens to taking only as much wild game and fish that “can be used immediately for food purposes.”<sup>35</sup>

This movement coincided with the growing national demand for conservation of trees and protection of natural scenery in parks. The effort to preserve some of



the north's remaining great white pine stands through creation of the first state park at Lake Itasca in 1891 brought forth a corresponding effort to preserve other aspects of Minnesota's natural resources.<sup>36</sup>

By the 1890s, meanwhile, the newly named Board of Game and Fish Commissioners had turned its attention to stocking other fish with greater promise both for angling enjoyment and as high-quality table fare. Walleyes had proven amenable to artificial fish culture in hatcheries, and authorities began to stock them by the millions (as opposed to thousands of carp). The fish commission distributed 625,000 young walleye

pike in 1885, and the numbers grew to 3.9 million in 1887 and 15 million by 1892. The state had given up stocking Atlantic and Pacific salmon by 1885, switching its efforts to large-mouth bass, stream trout (brook and rainbow), and trout from Lake Superior.<sup>37</sup>

Nationally, the U.S. Fish Commission stocked carp in great numbers throughout the 1880s, but efforts diminished by 1890 and ceased by 1897 because the fish had clearly "taken" in all of the states and even in Canada. Years later a spokesman for the national commission contended, "It was not the intention of the Fish Commission to introduce the carp into waters that were

Visitors enjoyed inspecting the ponds at the state's successful Willowbrook Fish Hatchery in St. Paul, about 1910



already stocked with good native species.” The indiscriminate distribution of the fish guaranteed the proliferation of the species.<sup>38</sup>

**ALTHOUGH MINNESOTA ABANDONED** its carp-stocking program, carp did not abandon the state. The species continued to roil the state’s watersheds, rousting out nutrition from muddy lake bottoms. In the early-twentieth century carp were increasingly held responsible for depletions in desirable fish stock because they supposedly crowded out the better species and ate food that might better go to walleyes, bass, and crappies. Carp were also blamed for clouding lakes and streams as they rooted out seeds and insects from the bottoms. Although the suspended soil in the water actually resulted from runoff from plowed fields and clear-cut forests, the “insidious advance” of carp was falsely deemed responsible.<sup>39</sup>

Anglers and duck hunters who noted the depletion of game fish, the disappearance of aquatic vegetation favored by waterfowl, and the “excess of carp” now began demanding state intervention to exterminate all carp. As early as 1910 Minnesota wildlife officials designated carp its “deadly enemies” and declared that the state was “fighting with all her might to rid the inland waters of German carp and suckers.”<sup>40</sup>

The Game and Fish Commission’s primary weapon for fighting carp was nets, the deadly efficient tool that had already been used by unscrupulous or unthinking Minnesotans to deplete the sport fishery. Beginning in 1909, the state issued winter seining licenses to chosen contractors whose assignment was removing rough fish, chiefly carp, from key lakes and rivers. Netters were allowed to sell the fish to market buyers in Chicago, New York, and other eastern cities. Most fish were shipped live to New York in specially constructed railway tank cars. The commission then received a percentage of the profit from sales.<sup>41</sup>

From a small beginning, the rough-fish removal plan grew, and by 1918 the state issued more contracts to provide fish for consumption during World War I. Even though the commission realized that netting

**Commercial fisherman harvested carp for local and eastern markets from the St. Croix River south of Stillwater, 1914 (John Runk, photographer)**







**SPRING BREAKUP** is the time our rough [fish] removal crews are busy installing carp traps in streams and channels as carp begin their annual spawning runs.

Generally the carp runs begin about May 1, but this year [1960] some large runs started early in April.

Some traps have produced 50,000 to 75,000 pounds within two or three days after they were installed. Over one-half million pounds have been taken in a few traps in the past two weeks. Over 180,000 pounds were taken in a trap between Buffalo and Deer lakes, Wright county; over 100,000 pounds in German lake, Le Sueur county; 50,000 pounds in Green lake, Kandiyohi county; 85,000 pounds in Lake Waconia, and there are an estimated 100,000 pounds in a trap at Big Kandiyohi lake at the present time. Working under the ice last winter our 5 state crews and 25 private contract operators removed 7-1/2 million pounds of rough fish from Minnesota lakes. . . .

The Paynesville Sportsmen's Club is extremely interested in the carp control program, knows the game and fish division is short of funds, and has an enthusiastic member, Mr. Haynes, who is an electrician. This happy combination resulted in the invention of a new device for catching carp. . . .

This device is installed just above the dam at the outlet of Lake Koronis where there are concentrations of carp during the spring. Below the dam a trap waits but the carp hesitate to make the fatal jump. The shocking device is turned on five or six times an hour, and the waiting carp are stunned, turn belly up and float over the dam into the waiting trap.

The ingenuity and manpower of such clubs is especially appreciated at a time like this when we are short of money and men but long on carp.

— JIM KIMBALL, Director of Game & Fish, *Fulda Free Press*, May 12, 1960, p. 4



could never wipe out the state's entire carp population, it recognized that carp fishing employed 50 to 60 men, provided money for Game and Fish programs, and helped improve game fishing. Much of the netting took place in southern Minnesota, where carp were most numerous, especially in waters connected to the Minnesota or Mississippi Rivers, or in larger lakes.<sup>42</sup>

After 1927 the state's portion of the rough-fish-removal sales was placed in a Fish Lakes Improvement Fund used to build bass-rearing ponds and place carp screens between lakes to prevent migrations to hitherto uninfested lakes. (Later, state crews constructed carp-control dams on waterways between lakes.)<sup>43</sup>

In 1942 the state Department of Conservation began hiring crews to remove rough fish from smaller lakes not suitable for commercial fishing operations. This program



Fish trap blocking the passage of jumping carp on Six Mile Creek near Lake Minnetonka, 1965

grew in size throughout the 1940s, becoming the main component of the state's carp-eradication program for several decades after World War II.<sup>44</sup>

Science provided another option for killing carp, and in the early 1960s the Conservation Department began using the fish poison rotenone (first used in the United States in 1934). Chemical eradication of rough fish became a new technique of fish management that offered a chance to start fresh in small lakes. After rotenone produced "total mortality," lakes could be restocked with sport fish. At least 79 lakes were treated with fish poisons from 1962 through 1968. This mentality was little different from the interventionist mindset that had created the problem in the first place.<sup>45</sup>

Even with the miracles of chemistry, total elimination of carp from Minnesota waters was recognized to

be impossible. By 1905 a knowledgeable observer had announced that the problem was as intractable as exterminating English sparrows or the "green grass of the fields." Eventually Minnesota settled for controlling the number of carp in the state, much as a farmer controls weeds. Carp have spread so extensively that the species is the most abundant fish in the inland waters of North America.<sup>46</sup>

Attitudes toward carp among sporting anglers have begun to change somewhat. By the 1950s and 1960s, fishing magazines began to promote bow-and-arrow fishing for carp and even recognized the value of carp angling. Still categorized as rough fish, carp are now protected by the Department of Natural Resources from spearing, archery, harpooning, and netting—practices previously allowed—between mid-February and May 1. Nonetheless, anglers are limited to 100 bullheads and 50 suckers, while there are no limits on carp that can be killed, kept, sold, smoked, or eaten.<sup>47</sup>

**THE CARP EXPERIMENT** of the late-nineteenth century changed the fisheries of the United States for all time. Carp stocking is regarded by most sporting anglers as one of the greatest mistakes ever made. As a result, modern fisheries policy wisely stipulates that "new fish species should not be introduced into waters of North America without careful consideration of the effect on the indigenous population" of fish.<sup>48</sup>

Oddly enough, however, the story of carp came full circle after the 1970s, when immigrants from Asia and Southeast Asia, long accustomed to eating carp, began providing a ready market for the fish others would not touch. Admiration of carp among other groups such as enlightened anglers and town promoters has made carp a cultural icon, and the Internet contains a massive linkage of carp information in the website "Carpnet." Residents of southwestern Minnesota's Fulda have made carp the centerpiece of the town's annual "Fish-A-Rama" since 1955; participants pay \$5 for all the smoked carp they can eat. Beginning in the 1970s, however, consumers were advised to eat only small amounts of bottom-feeding fish such as carp, which accumulate heavy metals (especially mercury) and PCBs (polychlorinated biphenyls). This has greatly reduced the commercial market.<sup>49</sup>

For the state's Department of Natural Resources (DNR), management of the sport fishery is a massive responsibility entirely in keeping with the state's



By 1925, the state and groups such as the Izaak Walton League (some members shown here in about 1925) stocked lakes and rivers with sport fish considered desirable—stream and lake trout, walleye, and bass.

image as an angler's paradise of 10,000 lakes. The DNR currently tends about 4,500 lakes as "fish lakes," micromanaging water resources and fish populations in an effort to combat problems such as overfishing, the declining average size of game fish, and the increasing use of sophisticated electronic gear by anglers. Each year the DNR raises and distributes

about 325 million fish—mostly walleyes, muskellunge, northern pike, and trout but no carp.<sup>50</sup> It continues to use science to study, interpret, and intervene in the natural order to the point that no truly natural order remains. For good or ill, Minnesota's outdoors has become another resource, like taconite, to be managed by state government. □

## NOTES

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1. *Minneapolis Tribune*, Aug. 12, 1973, p. F2; Minnesota Department of Natural Resources (DNR) website: [dnr.state.mn.us/fish\\_and\\_wildlife/fish/staterec.html](http://dnr.state.mn.us/fish_and_wildlife/fish/staterec.html).

Ledwein's carp is Minnesota's second largest catch; a 94-pound, 4-ounce lake sturgeon caught in Pine County's Kettle River is the largest.

2. Minnesota Game and Fish Commissioner, *Biennial Report for the Period Ending July 31, 1918* (Minneapolis: Syndicate Printing Co., 1918), 32.

3. Game and Fish Commissioner, *Biennial Report, 1918*, 32; Peter B. Moyle, "America's Carp," *Natural History*, Sept. 1984, p. 48-49.

4. Edwin L. Cooper, ed., *Carp in North America* (Bethesda, MD: American Fisheries Society, 1987), 1, 2; Moyle, "America's Carp," 43; Wesley Marx, "Plug-Ugly Minnows or 'Living Jewel,' Carp Stir Emotions," *Smithsonian*, May 1980, p. 57.

5. Cooper, *Carp in North America*, 5; Thaddeus Surber, *A Preliminary Catalog of the Fishes and Fish-Like Vertebrates of Minnesota* (Minneapolis: Syndicate Printing Co., 1920), 40-41; Moyle, "America's Carp," 48-49; Jim Fitzsimmons, "From China With Love," *The Conservationist*, Sept.-Oct. 1976, p. 32; *The Audubon Society Field Guide to North American Fishes, Whales, and Dolphins* (New York: Alfred A. Knopf, 1983), 412-13.

6. Leon J. Cole, "The German Carp in the United States," in U.S. Department of Commerce and Labor, *Report of the Bureau of Fisheries, 1904*, 58 Cong., 3d sess., H. Doc. 118, serial 4897, p. 536; Moyle, "America's Carp," 43; A. J. McClane, "The Enigmatic Carp," *Field & Stream*, Sept. 1968, p. 112.

7. *New York Times*, Sept. 9, 1866, p. 5, July 9, 1884, p. 2 (reprinting *St. Paul Pioneer Press* article, July 5, 1884).

8. *New York Times*, July 9, 1884, p. 2.

9. W. M. Smallwood and Mary L. Smallwood, "The German Carp, An Invited Immigrant," *Scientific Monthly* 29 (Nov. 1925): 394.

10. Randi Sue Smith, "Collecting Slime: Cultural Resources in the Federal Fish Hatchery System," *Cultural Resource Management* 20 (1997): 27; Norman G. Benson, ed., *A Century of Fisheries in North America* (Washington, D.C., 1970), 1, 73.

11. Cole, "German Carp," 540; Smallwood and Smallwood, "Invited Immigrant," 394; Smith, "Collecting Slime," 27.

12. Smith, "Collecting Slime," 27; Benson, *Century of Fisheries*, 1, 72. The American Fish Culturist Association, renamed the American Fisheries Society in 1884, exists today as a 9,000-member professional society.

13. Benson, *Century of Fisheries*, 83.

14. Minnesota Fish Commission, *First Annual Report, 1874*, 21; *New York Times*, Aug. 25, 1889, p. 14.

15. Fish Commission, *First Annual Report*, 23; Harriet Bell Carlander, *History of Fish and Fishing in the Upper Mississippi River* (Des Moines, IA: Upper Mississippi River Conservation Committee, 1954), 26-27.

16. Fish Commission, *First Annual Report*, 12, 14, 16, 24.

17. Fish Commissioners, *Second Annual Report, 1875*, 6, 9, 10, 11. The Atlantic salmon spawns in fresh water, returns to the sea, and may spawn in fresh water again. Landlocked salmon live in freshwater lakes and spawn in a freshwater tributary stream.

18. Fish Commission, *Sixth and Seventh Annual Reports, 1879 and 1880*, 714, *Third Annual Report, 1876*, 5, *Fourth Annual Report, 1877*, 6. Railways used special cars designed to haul fish, an example of which is displayed at the Booth National Fish Hatchery in Spearfish, SD.

19. Fish Commission, *Sixth and Seventh Annual Reports, 1879 and 1880*, 734, 735, 736; June Drenning Holmquist, "Fishing in the Land of 10,000 Lakes," *Minnesota History* 33 (Summer 1953): 253.

20. Fish Commission, *Sixth and Seventh Annual Reports, 1879 and 1880*, 6; Fish Commissioners, *Fourth Annual Report, 1877*, 9, 10; *New York Times*, June 8, 1890, p. 10; Fisheries Commission, *Twelfth and Thirteenth Annual Reports, 1884 to 1886*, 18.

21. *New York Times*, June 18, 1877, p. 5, Mar. 24, 1894, p. 2; Benson, *Century of Fisheries*, 85. The number of carp imported in 1877 was 345, according to Cole, "German Carp," 545.

22. Cole, "German Carp," 544.

23. *New York Times*, Oct. 31, 1880, p. 10, Nov. 4, 1882, p. 8; McClane, "Enigmatic Carp," 112; Fish Commission, *Sixth and Seventh Annual Reports, 1879 and 1880*, 27, 30; Cole, "German Carp," 545, 547. The story of carp in Wisconsin is summarized in George C. Becker, *Fishes of Wisconsin* (Madison: University of Wisconsin Press, 1983), 20-21.

24. Fish Commission, *Eighth and Ninth Annual Reports, 1881 and 1882*, 17, 26, 45-84; Surber, *Preliminary Catalog*, 22, 23; William Lass, conversation with author, Mankato, Oct. 2, 1998, notes in author's possession.

25. *New York Times*, July 9, 1884, p. 2.

26. *New York Times*, Oct. 31, 1880, p. 10; Fitzsimmons, "From China With Love," 31; Moyle, "America's Carp," 47-48. Cold-water lakes of northern Minnesota hosted other rough fish such as burbot (eelpout) and suckers.

27. *Verndale Journal*, June 30, 1882, p. 5, Aug. 18, 1882, p. 5, Sept. 22, 1882, p. 6, Nov. 24, 1882, p. 5, May 4, 1883, p. 5; and the following from John W. Speelman scrapbook in the Earle S. Dickinson Collection, Bemidji: unidentified newspaper ad for Atlantic Nurseries, p. 4; unidentified newspaper article, "A Fine Grove," p. 18; Speelman to editor of the *Atlantic [Iowa] Messenger*, Jan. 1, 1882, p. 16, 17.

28. *Verndale Journal*, May 30, 1884, p. 5, July 4, 1884, p. 5.

29. Fisheries Commission, *Twelfth and Thirteenth Annual Reports, 1884 to 1886*, 7, 41; *Wadena County Pioneer*, May 10, 1895, p. 4, May 24, 1895, p. 4, May 31, 1895, p. 1; Speelman scrapbook. Speelman later became engaged in a number of enterprises that promoted and cashed in on the state's natural bounties. He sold Northern Pacific Railroad lands, operated a business that cut timber and sold wooden railroad ties, published the *Verndale Sun* newspaper (1894-95), and ran a tourist hotel north of Bemidji from 1898 until his death in 1909.

Intriguingly, he mounted a campaign to become the commissioner of Itasca State Park in 1895 but failed to convince the powers-that-be that he was the right man for a position that involved the conservation of Nature. See *Verndale Journal*, July 20, 1888, p. 5, and ad, June 13, 1890, p. 8.

30. Fisheries Commission, *Fourteenth and Fifteenth Annual Reports, 1886 to 1888*, 10–11, *Sixteenth and Seventeenth Annual Reports, 1888 to 1890*, 6.

31. *New York Times*, May 16, 1880, p. 9, June 19, 1881, p. 9; Marx, “Plug-Ugly Minnows,” 59.

32. Marx, “Plug-Ugly Minnows,” 57; Deborah Lyon, University of Nebraska-Lincoln, interview with author, Sioux Falls, SD, Oct. 2, 1998, notes in author’s possession.

33. Fisheries Commission, *Fourteenth and Fifteenth Annual Reports, 1886 to 1888*, 12; *New York Times*, Mar. 24, 1894, p. 2.

34. *New York Times*, Sept. 9, 1888, p. 13.

35. William L. Tucker to James J. Hill, Nov. 30, 1894, p. 1, 2, 3, General Correspondence, James J. Hill Papers, James J. Hill Reference Library, St. Paul; C. B. Bylander, “Fishing With Hook, Line, and Gun,” *Minnesota Volunteer*, Sept.–Oct. 1992, p. 49–50; “The First Century in Review,” *Minnesota Volunteer*, Nov.–Dec. 1987, p. 8.

36. *New York Times*, Dec. 3, 1899, p. 6, Jan. 8, 1899, p. 16; Steve Hall, *Itasca: Source of America’s Greatest River* (St. Paul: Minnesota Historical Society, 1982), 24.

37. Fisheries Commission, *Twelfth and Thirteenth Annual Reports, 1884 to 1886*, 7, *Fourteenth and Fifteenth Annual Reports, 1886 to 1888*, 10–11, *Second Annual Report, 1892*, 975, *Twelfth and Thirteenth Annual Reports, 1884 to 1886*, 7, 39.

38. Cole, “German Carp,” 544, 546–47; Marx, “Plug-Ugly Minnows,” 58.

39. Cole, “German Carp,” 614; Game and Fish Commissioner, *Biennial Report, 1918*, 32.

40. Game and Fish Commissioner, *Biennial Report, 1918*,

32; *Crookston Times*, May 4, 1912, p. 5. H. A. Rider, executive agent of the Minnesota Game and Fish Commission, stated in 1910 that his agency was “anxious to rid the lakes of carp”; see *St. Paul Pioneer Press*, Aug. 4, 1910, p. 7.

41. Game and Fish Commissioner, *Biennial Report, 1910*, 9, and *1918*, 33.

42. Game and Fish Dept., *Biennial Report, 1927–1929*, 72.

43. Game and Fish Commissioner, *Biennial Report, 1929–1930*, 19; Minnesota Department of Conservation, *Biennial Report, 1956–1958*, 12.

44. Department of Conservation, *Statistical Report, Biennium Ending June 30, 1942*, 15, 117; *Seventh Biennial Report, 1944*, 117. The DNR stopped using rough-fish removal crews in the 1970s, preferring to employ workers in fish-management activities. Local sportsmen’s clubs, however, continued to hire commercial netters to seine rough fish from selected lakes.

45. Minnesota Conservation Department, *Biennial Report, 1960–1962*, 13, *1962–1964*, 21, *1966–1968*, 11; Benson, *Century of Fisheries*, 134; George W. Bennett, *Management of Lakes and Ponds* (New York: Van Nostrand Reinhold Co., 1970), 196, 197.

46. Cole, “German Carp,” 636; Moyle, “America’s Carp,” 47.

47. See DNR, *2001 Minnesota Fishing Regulations*.

48. Benson, *Century of Fisheries*, 324.

49. Becker, *Fishes of Wisconsin*, 10–13; Cooper, *Carp in North America*, 28; *Minneapolis Star-Tribune*, Apr. 11, 1999, p. 9S.

50. C. B. Bylander, “Big Fish Are Dwindling,” *Minnesota Volunteer*, Sept.–Oct. 1996, p. 10, 12–17; Doug MacCleery, “When Is A Landscape Natural?” *Minnesota Volunteer*, Sept.–Oct. 1996, p. 44–52; Pat Miller, “Fish Management Has Two Major Components,” and “State Fish Resource Management Becomes Specialized,” *Bemidji Pioneer*, June 20, 1993, p. 4, 10; [www.dnr.state.mn.us/fish\\_and\\_wildlife/fishhatch.html](http://www.dnr.state.mn.us/fish_and_wildlife/fishhatch.html) (DNR website).



The carp engraving is from the *Report of the Bureau of Fisheries, 1904*, p. 524; the photo p. 316 (left) is from the *Minneapolis Tribune*, May 26, 1950; fish-culturist association graphic from Benson, *Century of Fisheries*, p. 78; Speelman portrait courtesy Earle Dickinson, Bemidji; stocking instructions from Minnesota Fish Commission’s *Fifth Annual Report, 1878*, p. 23. All other images are from the MHS collections.





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