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Illustrations by Mary Woodin

Employing a reverse alchemy founded on foresight and philanthropy, the Rotarians of Traverse City, Michigan, have transformed a fortune in black gold into an agent for achieving green goals

The miracle of the oil and fishes

Zhingwaak-ziibiing

In the still light of early dawn, the river emerges from the swamp and begins its slow descent. From 1,090 feet above sea level, it will drop 513 feet during its 50-mile journey, coursing southwest through the woodlands, marshes, and meadows of northern Michigan, increasing in volume and velocity as tributaries join it along the way.

Near Beitner Creek it turns abruptly north toward Traverse City, where, beneath a bright midday sun, it empties

into the west arm of Grand Traverse Bay. The Anishinaabe, who relied on the river for transportation, food, and spiritual sustenance, called it *Zhingwaak-ziibiing*: the river in the white pines.

Today it's known as the Boardman River. Harry Boardman and his son Horace sailed the sloop *Lady of the Lake* from Chicago in 1847, traveling up Lake Michigan and landing at the future site of Traverse City. There they built a water-powered sawmill, the first dam anywhere on the Boardman River watershed, where vast stands of white and Norway pine

grew and the clear waters teemed with what an ichthyologist at Wayne State University called "the most beautiful of our game fishes," the Arctic grayling.

In 1851, Harry Boardman sold his land and sawmill to Perry Hannah, the man regarded as Traverse City's founding father, who with his partners built a large steam-powered sawmill between the river and the bay and relentlessly harvested timber. Over the next four decades, Hannah, Lay & Co. annually sent millions of board feet of lumber to Chicago by steamer. (The company's huge lumberyard, situated immediately beyond the southern boundary of the Great Chicago Fire of 1871, survived that conflagration and was the source of much of the wood used to rebuild the city.)

By the beginning of the 20th century, the seemingly limitless pine forests across Michigan and Wisconsin were gone. "It was almost a crime against Nature to cut it," recalled one of Hannah's contemporaries, "but we lumbermen were never concerned with crimes against Nature. We heard only the demand for lumber, more lumber, and better lumber." The Boardman River, which had been used to transport logs to market, was badly degraded, its banks eroded and its channel filled with sediment, sawdust, and other debris. As for the "beautiful and queenly" grayling (a



description provided in 1879 by the state's fish commissioners), it was only a memory, gone from most Michigan streams — a victim of the logging industry, the introduction of non-native species, and, in the words of one 19th-century Wolverine State conservationist, the “piggishness of sportsmen.”

But people weren't done exploiting the Boardman; next they turned to it as a source of energy. The Boardman Dam, the river's first major hydroelectric dam, was built in 1894, and three more followed: Sabin (1907), Keystone (1908), and Brown Bridge (1921). The Keystone Dam washed away in 1961 and was never replaced, but the Union Street Dam, which was built near the mouth of the river in 1867 to power Hannah's mill, still stands, although it hasn't produced power since it was damaged by a fire in 1926.

More recently, some residents looked around the area and didn't like what they found. They wondered if the river might be restored to resemble the stream described by the region's first settlers and still revered by its Indigenous peoples. Who knows, perhaps they could even resurrect the storied Arctic grayling.

Among the core group promoting this change in perspective were some who were particularly well-equipped to help effect the changes: Rotarians. “Preservation and conservation are part of our club's ethos,” says Becky Ewing, a member of the Rotary Club of Traverse City. “It's part of the fabric of our region — especially the protection of our most precious resource: water. Rotarians take that to heart.”

A former environmental consultant who developed programs and projects for the Great Lakes Water Studies Institute at Northwestern Michigan College, Ewing served until recently as the executive director of Rotary Charities of Traverse City. Founded in 1977, that foundation has invested more than \$63 million into a wide variety of projects and programs in the five-county Grand Traverse region. Some of that money helped kick-start plans to restore the Boardman River and bring back the Arctic grayling — green initiatives that were made possible by that *bête noire* of environmental activists: oil.

The 40 percent solution

Chartered on 1 May 1920, the Rotary Club of Traverse City didn't take long to embrace the northern Michigan traditions of forest, lake, and stream. “That was part of its legacy,” Ewing says. “When the club formed, one of its first projects was getting kids outdoors.”

The club's third president, an avid fisherman named Clarence Greilick, led efforts to establish campgrounds for the area's Boy Scouts, Girl Scouts, and 4-H members. In 1923, the club paid \$1,100 for 450 acres near Spider and Rennie lakes, two of the 70-plus lakes in the watershed. The club later acquired additional land, and in 1955, all of the property was turned over to a newly created nonprofit entity, now called Rotary Camps & Services of Traverse City. The nonprofit then leased the original



Camp Greilick property to the Scenic Trails Council of the Boy Scouts of America. The scouts secured a 99-year lease for the exorbitant sum of \$1. The Rotarians had the foresight to hang on to the property's mineral rights.

One of the primary bedrock formations of the Boardman watershed is Antrim shale, which is renowned for producing oil and gas. In 1974, evidence of underground oil was discovered on land near the campgrounds; the following year, Rotary Camps & Services entered into an agreement with Total Petroleum, allowing it to look for oil on the club's land. One savvy club member, a lawyer named Al Arnold, crafted an agreement that gave the Rotary club 25 percent royalties from the proceeds of any oil or gas discoveries — and once Total's production costs were covered, that amount would jump to 40 percent. In 1976, Total found oil on the property near Spider Lake.

Rotary Charities of Traverse City, formed to manage the oil revenue, handed out its first grants in 1982. Today it's overseen by a board of trustees made up of

11 members of the Rotary Club of Traverse City; each serves a three-year term. The foundation funds programs in five northern Michigan counties — Antrim, Benzie, Grand Traverse, Kalkaska, and Leelanau — that generally fall into the categories of health, education, government, the arts, and the environment.

A commitment to preserving the region's natural resources was always a part of Rotary Charities' mission. “Almost 17 years ago, Rotary Charities was the first foundation to enter into conversation about the four dams on the Boardman,” Ewing says. The foundation contributed an initial grant of \$10,000, as well as several subsequent grants, toward what eventually blossomed into a multimillion-dollar endeavor that attracted international interest.

The foundation's board was not motivated solely by a desire to protect the environment. “Our board members are thrifty businesspeople,” Ewing notes. “They wanted to know: Is there an economic development component? And yes, there was.”

In the Traverse City area, tourists annually generate more than \$1 billion for the local economy. The

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The discovery of oil in 1976 on land owned by the Rotary Club of Traverse City led to the creation of a charitable foundation that benefits five counties in northern Michigan.

Boardman River, acclaimed as one of the state's best trout streams, has been a prime draw for decades. (The Adams fly, called by one angling expert "the most popular ... dry fly in North America," was first used on the Boardman, in 1922.) But the dams had raised the temperature in the river, threatening the cold-water habitat in which trout thrive. That was not good for the region's ecology — or its economy.

In April 2009, after 180 public meetings and input from more than 1,000 people, the county and the city voted to demolish three of the dams and modify a fourth; none were a significant source of hydroelectric power. Under the auspices of the Boardman River Dams Ecosystem Restoration Project, the dams were removed between 2012 and 2018, and the river was returned to its original channel, now cleared of excessive sediment. The project reconnected 160 miles of cold-water streams along the Boardman watershed, repaired eroding riverbanks, and restored hundreds of acres of wetlands and wildlife habitat. And with funding from Rotary Charities of Traverse

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City, the Great Lakes Fishery Trust, and other sources, civic leaders implemented a long-term Boardman River Watershed Prosperity Plan to protect the river in the years ahead.

Rotary Charities' involvement with the Boardman project is characteristic of its approach: incubate ambitious projects by investing relatively small sums of money while establishing connections and extending collaboration among other groups and individuals. That strategy is evident in another endeavor backed by the foundation that involves literal incubation — the attempt to resurrect what Ewing describes as “an almost mythical fish”: the Arctic grayling.

Thymallus arcticus tricolor

In September 1873, James Milner, an employee of the United States Commission of Fish and Fisheries who was based in the Great Lakes, plunged into the forest primeval. In the company of a legendary outdoorsman and two guides, he traveled north to the head-

waters of the Au Sable River, about 40 miles east of Traverse City. His effusive account of the expedition appeared that December in *Forest and Stream*.

“In these days of extensive pioneering and wholesale exploration,” he wrote, “the man is favored who finds himself in the midst of a really untrod-den wild. ... As we embarked in our light boats, in the early morning, and our bows broke the trailing mist that covered the river, it was as if brushing the fresh bloom from newly plucked fruit, so untouched by the hand of man did everything seem.”

He was equally rhapsodic about the object of their quest, *Thymallus arcticus tricolor* or the Michigan grayling. “There is,” he insisted, “no species sought for by anglers that surpasses the grayling in beauty.” The sun's rays illuminated “the delicate olive-brown tints of the backs and sides, the bluish-white of the abdomen, and the mingling of tints of rose, pale blue, and purplish-pink on the fins, ... a combination of living colors that is equaled by no fish outside of the tropics.”

Over two days, the party of four caught 143 “specimens” of the fish; they were to be commended for their restraint. Five years after Milner's trip to the Au Sable, in remarks delivered before the Michigan Sportsmen's Association for the Protection of Fish, Game and Birds, a Saginaw conservationist named H. B. Roney recounted the story of two groups from Chicago who caught about 8,000 grayling, with many of the dead fish “thrown back into the stream to poison the water and pollute the pure air of heaven.” He branded as “insatiate hogs” those fishermen interested only in ratcheting up their daily tally. “Everything that will bite at a hook or rise to a fly, from a three-pounder down to mere fingerlings, are taken from the streams and preserved to swell the final ‘count’ and wreath the brows of the brave anglers with unfading laurels by the number of their ‘grab.’”

The result of this unchecked plunder was inevitable. In the Depression-era American Guide Series, the volume devoted to Michigan noted that the population of the grayling “declined so sharply in the logging era that, by 1900, the capture of a single specimen was a noteworthy event in an angler's experience. By 1935 the last grayling had vanished.”

Now, an endeavor to return the Arctic grayling to Michigan rivers — one that might be deemed quixotic did it not have science and Traverse City Rotarians on its side — may change that. It will take time, cautions Todd Grischke, an assistant chief in the fisheries division of the Michigan Department of Natural Resources. “It's going to be a while before we have fish in the water,” he says. “This is a marathon, not a sprint — a 10- to 15-year success story, with a lot of small successes along the way.”

Michigan's Arctic Grayling Initiative has attracted some 50 partners, including the Michigan DNR, the Nature Conservancy, the U.S. Fish and Wildlife Service, a handful of colleges and universities, and several Native American tribes and communities. The city of Grayling is on board, as are the Anglers of the

Michigan's rivers once teemed with Arctic grayling; in the decades before the fish's extirpation from the state, its multihued beauty elicited fervent praise from ichthyologists and anglers alike.





Au Sable, which no doubt would please James Milner. The Little River Band of Ottawa Indians — with the state of Michigan, one of the project's co-founders — contributed \$100,000, the Consumers Energy Foundation kicked in \$117,000, and the Henry E. and Consuelo S. Wenger Foundation has donated more than \$300,000. Rotary Charities of Traverse City saw the potential early on. "In 2017, Rotary Charities provided a small amount of money — a \$10,000 seed grant — that would have a big impact," Ewing explains. "We wanted to give the grayling team an opportunity to explore, to build partnerships, and to experiment. And today they have raised more than \$600,000."

The effort to get the Arctic grayling back into Michigan waters will focus on research, management, education and outreach, and fish production. In 2019, the Michigan DNR obtained about 10,000 grayling eggs from the Chena River in Alaska and delivered them to Michigan State University, where they could be quarantined and given health exams; since the eggs originated from outside of the Great Lakes basin, the team needed to make sure that they did not inadvertently introduce a new pathogen into Michigan's rivers and streams.

From MSU, the eggs were moved to the Oden State Fish Hatchery, near Petoskey, which had been equipped with a protective ultraviolet filter on the outflowing water of the isolation facility. And on 17 September 2020, one of those small-success days, approximately 4,000 young grayling were moved to the Marquette State Fish Hatchery in Michigan's Upper Peninsula. This first batch of brood stock will remain there for another four to six years, when they should begin producing eggs of their own.

Meanwhile, project members are surveying Michigan rivers — among them, the Boardman — to find a suitable location where incubators with fertilized eggs might one day be introduced. They must find a site where grayling can successfully compete against the brown and brook trout that were intentionally released into rivers in the state's Lower Peninsula beginning in the late 19th century. The Michigan DNR and its partners also understand that grayling are very choosy about their habitat. Recalling a 1975 trip through a remote Alaskan wilderness, the writer John McPhee noted that grayling are indicators "of the qualities of a stream. They seek out fast, cold, clear water. So do trout, of course, but grayling have higher standards. Trout will settle for subperfect waters in which grayling will refuse to live."

As it did with just about everything else, the COVID-19 pandemic disrupted the grayling initiative's timetable. "Things aren't on hold, but it was definitely a step back," says Grischke. "We'll have to swallow hard and take it on the chin." Michigan State halted its last year of lab work, and the state's DNR postponed any in-field evaluation of potentially viable rivers and streams. Perhaps the biggest blow came in 2020 with the cancellation of the second of three planned trips to Alaska to collect more eggs, a means of achieving the wide genetic diversity that

BY THE NUMBERS

In addition to funding environmental programs, Rotary Charities supports other causes and helps provide access to services. Some recent examples:

\$150,000
Northern Michigan Community Health Innovation Region

\$130,000
Safe Routes to School

\$110,000
Grand Traverse Regional Community Foundation

Last fall, young grayling, raised from eggs originally brought from Alaska by Michigan's Department of Natural Resources, arrived at the Marquette State Fish Hatchery, where they will grow to maturity.

can ensure the grayling's survival. The project caught a break this year when a Michigan State researcher was able to travel to Alaska and collect another batch of eggs. The third and final trip is tentatively scheduled for 2022.

Grischke remains both realistic and optimistic. He fully expects that grayling will get a chance to make a comeback in the Wolverine State, though he wonders if that day may come after he has retired. "Our hair's not on fire," he insists. "Our marathon is now 27 miles rather than 26.2."

The seven generations

Among Rotary Charities' many partners and collaborators are the bands of Ottawa and Chippewa peoples who live, as they have for centuries, in the Grand Traverse region. Several of those tribes are members of the Arctic Grayling Initiative, and, as Ewing points out, "they were at the leadership table with the Boardman River project. They provided an invaluable Indigenous perspective. They helped us realize that the Boardman is not just a river, and they helped us understand what healing the river means. It was a unique blending of the spiritual with science and technology."

Another lesson Ewing learned from her Native American partners was what she calls the "ethic of the seven generations." In *The Ottawa: A River Reborn*, a 2017 documentary about the restoration of the Boardman (which was once also known as the Ottawa), a member of the Grand Traverse Band of Ottawa and Chippewa Indians explains:

"We look ahead to seven generations. We make decisions based on not today but based on the impact they'll have in the future. When you think like that and you remember that you have to honor seven generations ago because somebody thought of you that far ahead, it gives you a different perspective. ... You have to make decisions today that are going to be the best for the future seven generations, and you have to carry yourself and show honor to where you are in the here and now because somebody thought of you."

Ewing has adopted that perspective. She's enthusiastic about the big projects taking shape. Despite a temporary holdup over the removal of some trees, she's eager to see the last pieces of the Boardman project fall into place: the repurposing of the Union Street Dam as a state-of-the-art educational facility and the installation of a channel that will allow certain species access into the Boardman watershed from Grand Traverse Bay while also keeping out unwelcome intruders. All that will be down the block from a new public square built with a \$1 million grant provided by Rotary Charities to celebrate the centennial of the Rotary Club of Traverse City.

Ewing speaks proudly of the long-term Grand Vision plan launched in 2008 that helped identify and implement priorities for the region. She discusses its reimagining of Camp Greilick as GO-REC, the



Greilick Outdoor Recreation and Education Center. And she points with excitement to the recently opened, and still developing, Discovery Center Great Lakes; situated on the western arm of Grand Traverse Bay, it occupies, in part, the former site of a waterfront coal dock, purchased in 2016 with a \$1 million grant from Rotary Charities. "There are a lot of cool things bubbling up at the Discovery Center," Ewing says.

Meanwhile, the foundation has recently altered its approach for making regional improvements. In 2018, as its website explains, Rotary Charities began to shift "its grantmaking program away from funding individual organizations ... toward supporting collaborative solutions for complex problems and building up communities."

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The group is trying to address the root causes of the issues they see, says Ewing. "We need to take a look at the system as a whole and take time to really understand what's going on and how we can collaboratively change the outcome." As an example of this new way of thinking, she points to the foundation's Leadership Learning Lab and Changemaker Fellowships, which are identifying and assisting the next generation of local leaders.

"We have to be patient and take the long view," says Ewing, who retired as executive director of Rotary Charities at the end of June. "All the seeds have been sown, the ground has been prepared, things are starting to sprout, and I can't wait to see the forest that is going to grow from that empty field." ■

The Boardman River flows through Traverse City into Grand Traverse Bay; an educational facility in the city's repurposed Union Street Dam will complement the river restoration project.