Hooked on Coasters

by Sharon Moen

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In a reversal of roles, people around Lake Superior are getting hooked on fish. More precisely, they're getting hooked on remembering a unique fish -- the coaster brook trout. The chance that self-sustaining populations of this native trout can be reestablished is the lure that has caught natural resource agencies and organizations as well as university staff and ecologically-conscious citizens. Minnesota Sea Grant also took the bait and is lending its weight to the restoration cause through cooperative research and delivering information to the public.

Coaster brook trout, or "coasters," are a Great Lakes strain of *Salvelinus fontinalis* of the family salmonidae (salmon). Wanderlust, and their sheer bulk when mature, set the coaster strain apart from the "regular" brook trout that inhabit cool unpolluted streams.

Not content to live their lives between narrow banks of a stream, coasters are thought to swim into Lake Superior sometime within their first five months of life, if they do not hatch there outright. After maturing for about two years, they wait for autumn rains to swell their tributary enough to make spawning runs possible under the cover of suspended sediment.

Coasters were abundant in Lake Superior, Lake Nipigon, and in parts lakes Michigan and Huron before the region was dominated by European influence. However, the size and number of these large fish were impossible for settlers and sports enthusiasts to ignore. Anglers would travel to the newly-chartered, rough-and-tumble City of Duluth to access streams along the North Shore during coaster spawning runs. Coasters were so easy to catch that published warnings about their impending scarcity date back to 1880.

About the same time, axes were in literal full-swings. In 1900, the Minnesota lumber industry alone felled over 2.3 billion board feet of white pine, enough to build a boardwalk nine feet wide encircling the earth at the equator. In each year of the next decade, nearly equal cuts of pine were made in the state. A substantial number of these towering trees were floated into Lake Superior, altering stream characteristics enough to affect the spawning success of native trout.

The autumn spawning runs became the critical point at which sport fishing and turn-of-the-century logging practices delivered synergistic blows that reduced ample coaster populations to almost nothing. By 1930, coasters were more of an oddity in Lake Superior than a fish of any importance.

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But, the whims of culture continue to change, and a bi-national composite of organizations have rallied to preserve what is left of coaster brook trout and restore them to some of their former haunts. Remnants of Lake Superior's coaster population survive in the Nipigon River area of Ontario, on Isle Royale, and in at least three other tributaries. Thanks to Canadian protection and restoration efforts, the Nipigon area has a rather healthy coaster population. Brood stock from Lake Nipigon and Isle Royale have been put to work at four hatcheries which supply eggs, fry, and older fish for reintroduction projects.

Coaster rehabilitation is arguably more about valuing Lake Superior's coastal heritage and recognizing the way landscapes affect water quality than it is about a strain of brook trout. These themes resonate through the slogan and logo promoting the coaster cause. "Coaster Connection: Linked to the Lake, Tied to the Past" and the image of a large brook trout casting a Lake Superior shadow make a statement about this fish and why it is getting attention.

Partnering organizations are realistic about their goals. They are aware of costs, that the conditions of many streams remain poor for brook trout, and that restricted fishing in some areas might alienate a few anglers.

"One of the phrases jokingly passed around the coaster community is that coasters are 'for memory, not for meat,'" said Laura Hewitt, Watershed Programs Director for Trout Unlimited. "We, and that means all of the partners around Lake Superior, don't want to give people the impression that these historic fish will return to historic levels. Stream and landscape changes make it impossible to recreate the stream conditions of the 1800s.

"Our double-edged goal is to encourage the restoration of coasters but also focus on watershed stewardship," said Hewitt. "These fish are live-links between our land-based behaviors and Lake Superior's water."

Fisheries agencies around Lake Superior made repeated attempts to restore coaster populations through stocking for about a century with little success. Prior to 1990, stocking efforts suffered from combined problems involving the characteristics of fish used, habitat degradation, competition, and inadequate protection of stocked trout. More recently and more successfully, the Grand Portage Tribal Council and the U.S. Fish and Wildlife Service (USFWS) have been restoring coasters near Grand Portage, MN.

"We've been stocking three small streams for about ten years and know that natural reproduction is occurring," said Lee Newman, fisheries biologist with the USFWS in Ashland. "We also know that the restored population is small, maybe 50 to 75 adults, and probably not quite able to sustain itself yet."

Even though restoration is at different stages around the Lake Superior Basin, a common understanding is provided through the Great Lakes Fishery Commission's Brook Trout Rehabilitation Plan for Lake Superior. This plan unifies the shared goals of multiple federal, state, provincial, and tribal agencies, Trout Unlimited, university

researchers, and programs like Minnesota Sea Grant. It also recognizes an essential element: public support. Swift and successful coaster brook trout recovery requires the cooperation of anglers, the stewardship of property owners, and the regard of those who visit the basin.

For more information, contact Minnesota Sea Grant's fisheries expert Jeff Gunderson at (218) 726-8715 or jgunder1@umn.edu, or visit the new Trout Unlimited Web site at http://www.tu.org (after March 31).

Coaster Facts and Rehabilitation Goals

As its name implies, a coaster spends its big-lake time near the shore where it might eat half its weight in minnows within a week. Like Paul Bunyan, coasters in Lake Superior can become extraordinarily large. Unlike the legendary logger, reports of their size are not tall tales. Adults can attain lengths (about 17.5 inches), well above what is normal for regular brook trout. The heftiest coaster on record came from Ontario's Nipigon River, one of the last self-sustaining populations. It tipped the scales at 14.5 pounds. In Minnesota, the record-holding 6.5-pounder hanging in the Grand Portage Lodge was pulled from the Pigeon River and is almost certainly a product of joint reintroduction efforts by the Ontario Ministry of Natural Resources and the USFWS.

"Aside from differences in size and weight, it is otherwise impossible to distinguish coasters from the more typical brook trout," said Jeff Gunderson, Minnesota Sea Grant fisheries and aquaculture specialist. "The general rule of thumb anglers and managers use is that if a brook trout has access to Lake Superior and weighs more than two pounds, it's a coaster."

The goal of the rehabilitation program is to establish widely distributed, self-sustaining populations in original Lake Superior habitats.

Success means that populations are:

- self-sustaining
- co-existing with the current fish community
- geographically widespread in historically occupied areas
- composed of at least six age-groups (ages 0-5)
- exhibiting densities that ensure adequate gene pools
- reflecting genetic profiles similar to existing populations
- capable of supporting managed fisheries

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