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> Miracle on the MIRAMICHI

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Miracle on the Miramichi

•Stripers are moving farther north due to changing ocean

JOHN FIELD

AST MAY, BOBBY Norton of Upper Oxbow Adventures and I fished in his camouflaged Tracker boat in the middle of hundreds of thousands of surface-feeding striped bass.

It gave us the exhilarating feeling of being part of an immense natural event-like the blitzes off Montauk, but in a river 800 miles farther north.

It was like Chesapeake Bay 20 years ago. You could hear the tails of striped bass slapping the water and their mouths gulping rainbow smelt.

The frantic baitfish were spraying everywhere, and the air smelled fishy. One, maybe two million striped bass were making their way upriver in waves to spawn, and the smelt were dropping back to the salt water of the Gulf of St. Lawrence at the completion of their spawn. We caught stripers until there wasn't enough light. This modern recovery miracle wasn't predictable decades ago, when things didn't look so bright for Miramichi striped bass.

Due to commercial fishing and bycatch mortality, Miramichi striped bass numbers fell to around 5,000. In 1993, the Canadian government closed commercial fishing for them. This did not result in the expected rebound in numbers, because there were still the impacts of bycatch and Native allocations. After these were halted in 1998 and 2000 respectively, the bass were free to multiply, and their numbers exploded.

The proposed recovery target from the Department of Fisheries and Oceans Canada (DFO) in 2011 for considering reopening the commercial fishery was 31,200 or more spawning stripers in three of six consecutive years. In 2012 there was a big year class, and fishing was reopened in 2013. Since then, striped bass numbers have continued to skyrocket in one of the most successful gamefish recovery stories ever recorded.

In 2016, the DFO estimated the striped bass population at around 304,000. In 2017, female bass recruitment increased spawner abundance, and DFO revised the number to around 994,000. In 2018, some anglers thought there could be as many as 2 million! Striped bass haven't been this plentiful in the Miramichi in modern records.

When striped bass numbers in the Miramichi dropped to around 5,000 spawners, the Department of Fisheries and Oceans (DFO) closed the fishery. In 2017 the DFO put the annual migration at nearly one million fish.







Most of the striped bass fly fishers catch on the Miramichi are small males. They are fat, and average about 24 inches long.

Evidence from tag returns indicates that groups of the southern Gulf of St. Lawrence striped bass population migrated farther north in 2017 than in previous years. These extended migrations reached the northern coast of the Gulf of St. Lawrence in Quebec, and northward to southern Labrador.

The causes of this extended migration are theoretical and unpredictable. There are currently several plausible theories. First, there has been an increase in the average temperatures of both the climate and the water in the Gulf of St. Lawrence. The striped bass is a temperate species with a historic range that extends south to Florida.

Using data collected by the United States National Oceanic and Atmospheric Administration (NOAA), Malin Pinsky of Rutgers University has shown that marine species in the northeast Atlantic Ocean have moved generally north and east in the last few decades. According to NOAA, "Temperatures increased about 1.5 degrees Celsius (2.7 degrees Fahrenheit) overall, with the northern end of the ecosystem in the Gulf of Maine and on the Scotian Shelf showing temperatures well above average from summer into fall."

This could mean that the ranges of baitfish species that striped bass consume are also moving northward with warming sea temperatures. Warmer conditions may have an effect on striped bass growth rate, longevity, and total growth. The 2003 assessment showed few bass collected were over 23 inches and more than 7 years of age. In warmer locations, the bass

are capable of achieving a greater size and age. If this warming trend continues, we could see more bass from the Miramichi attain greater size.

Another factor that may be contributing to increased striper numbers is the improved spawning conditions after the closing of a large pulp and paper mill that once discharged effluent into tidal waters of the Northwest Miramichi. I will also add my own unsubstantiated reason to the mix. With low numbers of salmon parr and smolts in the river, more striped bass eggs and larvae survive. There could be an unimputed amount of predation of historically greater salmon populations. I also think there is another, lessknown fundamental behavior causing striped bass expansion. Scientists say that competition for food among individual fish in a highly populated striped bass stock makes them move and spread farther along inshore areas in search of adequate forage.

I decided to experience this fishery at different points in the season and at different locations to understand it better. My plan was to fish prior to the spawn, when a million fish were in the Miramichi, then in the Gulf of St. Lawrence in the summer when the stripers were in salt water, and finally when they returned to the river in fall to spend the winter. I accomplished only two of these objectives this season, the spring and fall, which appear to be the best times for fly fishing.

I got to make friends with some of the locals associated with the salmon and striper fisheries. I now know where to get great lobster, that curling

is a big winter pastime, and that people stop working at their regular jobs temporarily just to fill a moose tag. My friend, who has hit three moose with a car—with three different cars—discourages the uninformed from driving along the river in the fall. No matter how often they tell me how good poutine is, I'll probably never find out.

Natural History

Striped bass are native to Canada and have undergone ups and downs in numbers—much like Atlantic salmon—due to commercial fishing, industrial and agricultural impacts, and some natural predation. Currently, there are only two Canadian striped bass stocks with naturally sustaining populations, one in the Bay of Fundy and the other in the southern Gulf of St. Lawrence.

The Gulf of St. Lawrence holds the bigger stock, in terms of habitat and productivity, and the Miramichi—currently the northernmost spawning river for stripers—is where they spawn. The Bay of Fundy, with its extreme tides, is limited to one spawning river, the Shubenacadie–Stewiacke watershed in Nova Scotia, which does not have sufficient suitable spawning habitat to produce high numbers of striped bass.

Other rivers and bays on Quebec's Gaspé Peninsula, in New Brunswick, Prince Edward Island, and Nova Scotia have sparse non-reproducing populations of striped bass. Some stripers from the Chesapeake Bay stock reach Nova Scotia or farther north, and intermingle.

The Miramichi is one of the most productive spawning rivers in the striped bass range. There is only one very specific place that fills all their requirements in the southern Gulf of St. Lawrence, on the Northwest Miramichi starting at the Red Bank Bridge and continuing approximately 4 miles downstream. This stretch has all the requirements for successful striped bass reproduction: good water quality and stable flows, along with sufficient depth, water temperature, and salinity.

The striped bass overwinter in the river when the water temperature is just above freezing. Ice forms in winter and doesn't go out until late April. In spring, the open Northwest Miramichi warms faster than the water coming in on the tide from the Gulf. Large moon tides facilitate their travels upriver.

On the Miramichi, the bass move up- and downriver, testing the water temperature and seeking food. Stripers spawn in fresh water when the water temperature is approximately 60 degrees F. for several days. To spawn, females broadcast their eggs on the surface while the males discharge milt to fertilize them. Most of the other habitat requirements are necessary to help the hatching and development of the offspring. Although they might wander along the coastline to other estuaries as "young of the year," male stripers don't reach reproductive age until 21/2 years of age, and females around age 4.

The bass don't feed during winter. After ice-out, the water warms rapidly and stimulates voracious feeding. Stripers consume several different species of finned prey that move through the Miramichi estuary during the roughly 45 days that stripers are in the river to overwinter and spawn. Smaller males, which are the vast majority of the stripers, arrive to the spawning area first.

Rainbow smelt comprised between 25 and 50 percent of the stomach contents of striped bass examined in DFO collections in May and June. This percentage would be higher if the sampling occurred in April and May, when more rainbow smelt are in the river. Rainbow smelt migrate in and out to spawn in April and May and are the predominant prey for the stripers before and just after spawning.

The smelt are vulnerable when they are swimming upstream to spawn, and also when they are dropping back to the Gulf of St. Lawrence afterward. The smelt population is estimated as high as a half a billion. The adults I saw averaged about 5 inches in length. At the same time, almost two million Atlantic salmon smoltsfrom 4½ to 9½ inches in length—try to migrate downriver toward salt water through all those striped bass. According to a study published in 2018 in the Canadian Journal of Fisheries and Aquatic Sciences, Miramichi striped bass consume between 2 and 20 percent of the salmon smolts. Since the smelt are so much more abundant than the salmon smolts, you'd think it unlikely the bass would consume many smolts. The bass switch over and eat the salmon smolts when the rainbow smelt run is nearly over and smelt numbers are reduced.

When the bass are actually spawning, stomach content surveys indicate

virtually no feeding. At this time, you can observe bass splashing as far as the eye can see when the more numerous males surround spawning females and froth the water with their tails while discharging milt to fertilize the eggs. I've heard people speak about seeing similar scenes on the Chesapeake after the moratorium, when you could "walk across the bay on bass."

When DFO scientists observe the first spawning of the year, they close all angling on the Northwest Miramichi River below the Red Bank Bridge for 4 miles (6.5 kilometers) to protect the spawning bass. The period of the closure has historically been between five and nine days. Anglers continue to fish both above and below the restricted area.

In June, as the striper spawn finishes, the available forage species change to primarily alewives—which French Canadians call gaspereau—anadromous fish in the herring family. They are harvested commercially for lobster bait, as are smelt. Gaspereau are only present in the river in June when they make their round trip to spawn. Most bass are gone by mid-June, but some bass stay as long as the baitfish are present, and some stay all summer.

One thing that is noticeable to anglers who have experienced prespawn striped bass fishing elsewhere is that the vast majority of fish you catch in the Miramichi are small males. They are fat and average about 24 inches in length.

Fabled River

The Miramichi is one of Canada's best Atlantic salmon rivers, and fly fishers have been traveling to this river for more than 100 years. For those who haven't fished the Miramichi, it's a 6½-hour drive from Freeport, Maine. It is a large river, draining more than 3,000 square miles of land. The water is tannic and colored light brown. It has a long (44 miles) tidal section that reaches northwest to Sunny Corner. Upstream, two main branches, the Northwest Miramichi and the Southwest Miramichi, each consisting of six major tributaries, are home to brook trout and salmon.

Most fly anglers fish from aluminum boats and salmon canoes owned by fishing camps that accommodate striper fishing. Local anglers also use aluminum johnboats, and many of them prefer spinning gear and swimbaits. I enjoy talking to the gear guys and observing what they do, then translating that into my flyfishing strategies. Though most fishermen prefer the mobility and comfort of fishing from boats, there are good wading spots that no one seems to bother with. The bottom in most of the tidal area is sandy, with a few areas of small, smooth rocks.

On the Miramichi, you're going to catch mostly young stripers under 30 inches. Bigger fish started to show up in 2016. A friend caught one around 24 pounds on a fly that year. On my visits, I saw some other fly-fishing guests catch a couple in the high teens, and a spin fisherman caught



▶ When striped bass spawn, the more numerous males surround spawning females near the surface while discharging milt to fertilize the eggs.

noto Darren Calabrese

one about 22 pounds. I told my guide, Bobby Norton of Upper Oxbow Adventures, that I would try catching bigger fish by using oversized flies, a 10-weight rod, and sinking lines in the channels, or else by finding segregated schools of older females.

Despite using big flies, I mostly caught average-size bass. One evening at sunset, we did find a segregated school of bigger fish around 15 pounds blitzing on smelt in a foot of water. We beached our boat on a midriver island and had a blast catching them on every cast at close range.

Instead of chasing unicorns, my strategy next year will be to try to catch 50 bass a day. Statistically speaking, one of those should be a large one. This new strategy will allow me to use appropriately sized outfits like an 8- or 9-weight rod, an intermediate line, and a 5-inch Deceiver or popper. If you hook a 20-pounder, hold on!

Trip Timing

Although you can catch bass right after ice-out, the fishing peaks just prior to spawning. Although the striped bass pre-spawn and spawn overlap the salmon season, you won't be fishing the same water with salmon anglers, though you might share a lodge with them.

In the mornings you fish the channels and use sonar to check deep holes for schools of bass. The best bite is after 6 P.M. in May and early June. Schools of bass move up and down with the tide until conditions for the spawn are stable for a few days. Four days before spawn, some fish move into pools on the Little Southwest and Northwest branches, then drop down into the tidal area. The majority of the spawn takes just two days.

Rainbow smelt are nocturnal and start moving at twilight. There is a collection wheel in the Little Southwest Miramichi, and the people who empty it say there are no smelt in the wheel until 7:30 P.M. each evening in the spring. Bass will sometimes blitz on the smelt and drive them into the shallows at last light and first light.

If you happen to see spawning fish outside the closure area. I recommend leaving them alone. I don't think sight fishing to big female bass being chased by males is all that sporting.

After the spawn, the fish drop back to the ocean and the fishing wanes like the tide. I was told not to bother striper fishing in the fall but I had to see firsthand.



While most of the fish in the river are small males, about 1 in 50 is a large female like this one. The females are fair game pre- and post-spawn but you should avoid casting to them when they are actively engaged in spawning.

Last year my friend Macauley Lord and I made the trip in late October after the salmon season had closed, and we found the weather too windy for good boat control in the open estuary, where most of the striped bass were holding on bottom structure in about 16 feet of water. Unfortunately for us, the weather was rough and fly fishing was impossible.

Local Intel

Most of the striped bass in the Miramichi overwinter in the main reach of the river, in or adjacent to deep channels. Ice doesn't break and go out until late April. As the sun warms the open water, the river's striped bass start another season with food and reproduction hardwired into their plans.

The fishing starts low on the river and progresses upstream until the spawn. There are no pools or rapids in this stretch, but there are islands, bars, and curves in the river. One of the early spots is adjacent to the town of Loggieville. Upriver is a small shallow at the cove at Douglastown that can hold bass early. The channels off Chatham Head are good spots in May before the bass commit to the spawning area a few miles upstream.

The most heavily fished area in May lies off the town of Miramichi. The key locations holding fish are the Nelson Channel, the Mazda Channel (unofficial name), and the rock piles on either side of Beaubears Island. The channel just downriver from the launch at Enclosure Provincial Park on the way to Beaubears Island is a

very good spot. If you'd rather wade, Wilson Point at the east end of the park is next to a deep hole and channel between the point and the island.

In the middle of May, most adult stripers start moving upstream on the incoming tide and down during the ebb to test the water conditions for spawning. During these moves they eat as much as possible. Anglers can intercept bass anywhere from the Anderson Bridge to the spawning area, but holes hold fish and channels act as highways. There is a hole at midriver off the confluence of the Millstream and a channel on the outside bend of the river that sometimes holds thousands of bass.

Upstream from this area starting in Whitney, sand islands and bars in the middle divide the flow into channels. Locals call this area the Whitney sand flats. If you beach a boat on one of the sandbars or islands, you can wade and fish a one-hander and make overhead casts, or cast a oneor two-hander using Spey techniques. Opposite Whitney is the village of Cassilis, where the channel hugs the bank in places.

Between Cassilis and Redbank is one of the most reliable spots to catch bass before the spawn. It is also the beginning of the length of the river DFO closes during the spawn for approximately five days. This extends from Williamstown Road upstream to the Red Bank/Sunny Corner Bridge.

You can launch your boat to fish these locations at Lower Newcastle, Loggieville, Douglastown, Chatham, Richie's Wharf, Nelson, and Enclosure Provincial Park

Striped bass are not classified as gamefish in the Province of New Brunswick, and so no license is required to fish for them. You are not required to hire a guide on the Northwest Miramichi to fish in the tidal area, which begins at the downstream end of Scott's Rapid Pool. The area from the Red Bank/Sunny Corner Bridge downriver is tidal and not guide-required water.

The current season's regulations for striped bass on the Miramichi can be finalized and posted at the last minute. Please observe the closure of the striped bass spawning area on the Northwest Miramichi, posted on the DFO webpage: glf.dfo-mpo.gc.ca/Gulf/FAM/Recreational-Fisheries

Single barbless artificial flies are allowed downstream from Red Bank/Sunny Corner Bridge on the Northwest Miramichi and downstream from Doyle's Brook on the Southwest Miramichi River. There are sections designated as fly-only water, which means no weighted flies, bait, or lures. In New Brunswick, a fly must be unweighted. If you accidentally catch a salmon, it must be released.

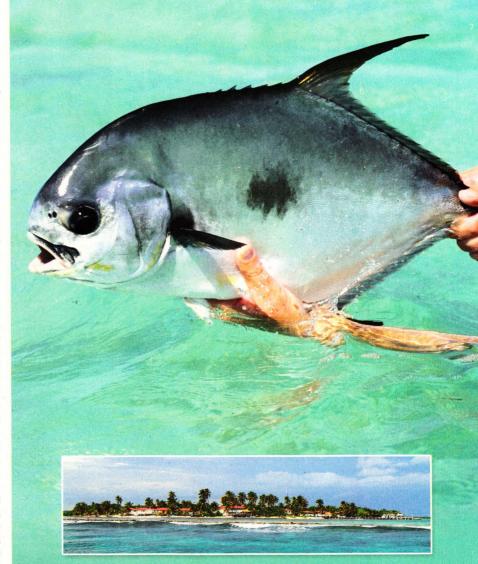
Untouched Territory

When I first heard of the booming striped bass population in the Miramichi, I planned to also explore the Gulf of St. Lawrence during the summer to find segregated schools of larger bass, but there are scarcely any boats along this coast outfitted to do so. Since this is a new sport fishery, there are few recreational anglers or charter captains fishing out there. Striped bass sampled by the DFO in the Gulf mainly contained shrimp, Atlantic silversides, and sticklebacks. Since thousands of pounds of Miramichi stripers have been caught in Labrador in herring nets, you can assume their diet also includes herring and other Gulf species. If I can find someone with a center console to trailer up there, I'll let you know what we find, but right now this is untouched territory.

John Field is a fisherman, author and conservationist. He's explored from the jungles to the arctic with Larry Dahlberg filming *Hunt for Big Fish* and has written many magazine articles. He has written two fly-casting books, and his next book project is *Trophy Striped Bass on the Fly.* See what he's up to at *fieldflyfishing.com*.



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