

New Brunswick Salmon Council
P.O. Box 533, Fredericton, NB E3B 5A6



Conseil du Saumon Nouveau Brunswick
C.P. 533, Fredericton, NB, E3B 5A6

August 30, 2018

Honourable Jonathan Wilkinson
Minister of Fisheries and Oceans
House of Commons
Ottawa, ON
K1A 0A6

Via e-mail: Jonathan.Wilkinson@parl.gc.ca / min@dfp-mpo.gc.ca

Dear Honourable Minister:

RE: Striped Bass a Serious Predatory Problem Affecting Wild Miramichi Atlantic Salmon

This letter is to convey the New Brunswick Salmon Council's concern about the ongoing serious population-level decline that is being experienced in recent years by the wild Atlantic salmon of NB's Miramichi River system. Salmon pre-spawner return numbers to the Miramichi system to this point in 2018 have been dismal, and the evidence suggests that poor marine survival has been recently compounded by significantly increased striped bass predation on emigrating salmon smolts. This predation occurs in the upper Miramichi estuary in May, when the smolt migration through the area coincides with the convergence there of spawning bass. The upper Miramichi estuary actually receives drainage from four separate rivers, but for simplicity, only two are commonly referred to, the Northwest and Southwest Miramichi rivers. They have a common lower estuary, and separate upper estuary reaches. The only known spawning location of Southern Gulf of St. Lawrence bass is in the Northwest Miramichi portion of the estuary.

The reason for confidence as to the cause of the increased mortality is illustrated in the attached Figure 1, and Table 1. The figure, which was produced by the Atlantic Salmon Federation (ASF) was obtained at a salmon management meeting this past spring. The numerical data in the table were interpreted from the figure. The data are from annual smolt tracking experiments during which the numbers of acoustically-tagged smolts that successfully reach various receiver lines are recorded. Since 2012, the mortality during their migration through Miramichi Bay to the Gulf of St. Lawrence has increased from 30% prior to 2012 to 55% for Southwest Miramichi River smolts, and from 18% to a mean of 58% for Northwest Miramichi River smolts. As a comparison, since the mid-2000s, the mortality rate for the nearby Restigouche and Cascapedia River smolts has remained stable at 23% during their migration through the Bay of Chaleur to the Gulf.

For 2017, your department has estimated that almost 1 million (central estimate 994,000) striped bass spawned in the Northwest Miramichi portion of the Miramichi estuary, up from fewer than 50,000 ten years previous and less than 10,000 in the 1990s. A Recovery Target of 21,600 spawners for the First Nations' fishery was established after its closure in 2000. The striped bass is the only potential salmon smolt predator inhabiting the area whose population has exploded over the past decade. It is therefore reasonable to assume that the impact these bass are having on the river's salmon population could be far greater than that experienced just a decade ago. To counteract this impact, we contend that an expanded striped bass harvest could, and should be undertaken. Ms. Sylvie Lapointe of your department has touted a "precautionary and progressive" mitigation approach (Please refer to 9:38:00 to 9:43:00 of the video clip of the June 5, 2018 Standing Committee on Fisheries and Oceans: <http://parlvu.parl.gc.ca/XRender/en/PowerBrowser/PowerBrowserV2/20180605/-1/29501>). While we appreciate caution in the expansion of most fisheries, and acknowledge the approval by your department of a harvest of 50,000 bass by Eel Ground First Nation, in the case of the Miramichi commercial bass fishery, we do not see this allocation as being effective in addressing the issue of excessive smolt mortality.



An alternative narrative with respect to the effects of bass on Miramichi River smolt survival rates, one which your department seems to endorse given the conservative response to the problem, is provided in the video clip. Mr. Pat Finnigan (MP for Miramichi / Grand Lake) and Ms. Lapointe refer to a 2% to 17% predation range that was interpreted from a tagging and tracking study by our partner organization the ASF. What this study did was track acoustically-tagged smolts and determine the percentage of tags each year that adopted a striped bass migration pattern (trajectory) in the estuary – i.e. they were swallowed by a striped bass, and the tag was now in the digestive tract of the bass. To be identified as a predated smolt, the tagged smolts had to be consumed by a bass, and then the tag would be seen, through detection at various receiver lines, to migrate in directions that bass normally do in the estuary – up and down the estuary instead of having a continuous, smolt-like, down-river trajectory. The interpreted 2% to 17% range of the “Trajectory Study” underestimates the predation rate of striped bass on smolts. Tags could be freed during the attack, regurgitated, or excreted prior to the approximate four-day period required for the acoustic receivers to record it as bass-like movements. The Trajectory Study also does not account for lethal striped bass attacks on smolts, attacks that did not result in ingestion. The 2% to 17% interpreted predation rate range does not explain the huge decrease in Miramichi smolt survival rates that are evident in Figure 1 and Table 1. The figure and table themselves better explain the decreased Miramichi salmon spawner abundance that has been documented in recent years than does the Trajectory Study.

Recently, ASF officials met with MP Finnigan and reviewed the context of the results of the tracking studies. The ASF representatives impressed upon Mr. Finnigan the magnitude in the decline of the Miramichi smolt survival rate, and explained to him the limitations of the Trajectory Study. The ASF officials informed the NB Salmon Council that, by the end of the meeting, Mr. Finnigan understood that there is a significant impact from increased striped bass predation on salmon survival, and that the salmon need help in the form of immediate, bold action from DFO. He planned on raising the issues with you. The ASF representatives suggested to Mr. Finnigan that you be invited here to NB to interact with conservation groups, to discuss pertinent issues, and to see the region. We strongly endorse this invitation.

Please also note that the NB Salmon Council supports the existence of a healthy, sustainable population of native striped bass in the waters of the Gulf of St. Lawrence. We do however feel that the current bass spawning population level in the Miramichi estuary compromises both the ecological integrity of the system, and the maintenance and recovery of the Atlantic salmon populations of the rivers that flow to the Miramichi estuary. In comparison with its present level, a lower, optimal bass spawning population target, as determined by science, would still provide substantial fishery benefits without inflicting harm to the ecology and to the fisheries for species other than striped bass. We understand your department is currently determining the Upper Stock Limit (USL) for bass using the Precautionary Approach method. (The USL is mentioned in the linked video.) We contend that the optimal spawning target level for Miramichi bass would not necessarily equate to the USL. After all, a Recovery Target of only 21,600 was established for re-opening the First Nations’ fishery for the species. When the effects of the candidate target population levels on other species are considered, the recommended target could be considerably lower than the USL, and certainly far lower than the present spawning population level.

We look forward to meeting you here in NB.

Sincerely,

John Pugh
President, NB Salmon Council



ESTIMATED SMOLT SURVIVAL

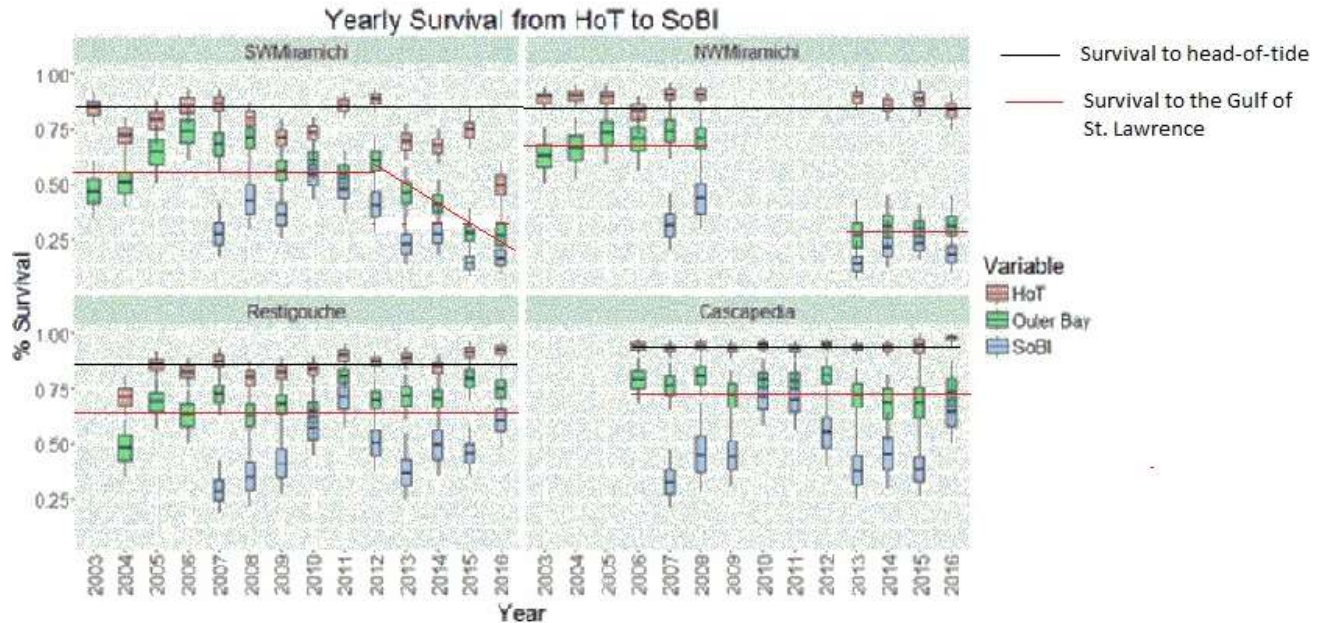


Figure 1 Atlantic Salmon Smolt Survival to the Head-of-Tide (HoT), Gulf of St. Lawrence and the Strait of Belle Isle 2000 to 2016 for Four Atlantic Canadian Rivers

Table 1. Survival of Smolts to Head-of-Tide and to Gulf of St. Lawrence

Survival Before 2012				
River...	Southwest Miramichi	Northwest Miramichi	Restigouche	Cascapedia
To Head-of-Tide (HoT)	85%	83%	85%	98%
To Gulf of St. Lawrence	55%	65%	63%	75%
Difference HoT to Gulf	30%	18%	23%	23%
Survival After 2012				
River...	Southwest Miramichi	Northwest Miramichi	Restigouche	Cascapedia
Head-of-Tide	85%	83%	85%	98%
Gulf of St. Lawrence	30% *	25%	63%	75%
Difference HoT to Gulf	55%	58%	23%	23%
% Point Survival Decrease since 2012	25	40	0	0

*: mean value for SW miramichi for 2012 and later