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

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

February 24, 2020

Mr. Serge Doucet
Regional Director General
Gulf Region
Department of Fisheries and Oceans
Gulf Fisheries Centre
343 University Avenue
Moncton, NB E1C 9B6

Dear Mr. Doucet:

RE: Advice from the NB Salmon Council (NBSC) on Issues Related to Atlantic Salmon Management on the Greater Miramichi River System

This letter is intended to reinforce and clarify the views of the NBSC on issues related to Atlantic salmon management on the Miramichi River system. However, first we want to emphasize that the NBSC will vehemently oppose a plan to partially or fully close the catch-and-release recreational salmon fishery on the Miramichi. The path to mitigating and reversing the steep decline of Atlantic salmon populations on the Miramichi will not be achieved through the redundant management of recreational anglers. The first eight of the following points provide direct input to the corresponding points in the Miramichi Salmon Association's recent submission to you – i.e. The Miramichi Salmon Association's Wild Atlantic Salmon Recovery Plan. Where we are silent on the points made in this document, we feel no further input from us is required.

1. On Smolt/Post-Smolt Predation by Striped Bass: We agree that the number of striped bass spawning annually in the Miramichi estuary should be decreased. This assertion is supported by data which indicate a severe down-turn in the greater Miramichi's salmon populations following the increase in bass spawning numbers from ~70,000 to more than 200,000. This increase occurred in 2011, and bass spawner numbers have remained in excess of 100,000 ever since. Since and including 2011, this increase in the bass population has been accompanied by a more-than doubling of the annual mortality rates of post-smolts in Miramichi Bay. The disastrous salmon egg deposition rates on all of the rivers comprising the greater Miramichi drainage is a result of the bass population level's reaching almost one million spawners in 2017. A target bass spawner number of approximately 100,000 will provide sufficient recruits to support all consumptive and recreational fisheries for the species. If the increased commercial allocation that is proposed by the MSA cannot be achieved in the First Nations' (FN's) fishery, we feel that there is an opportunity for them to sub-contract a portion of the harvest to commercial, non-FN's gaspereau fishermen.

2. On Grey Seals: We agree on the necessity for a grey seal harvest, which should target the "standing stock" of seals in the Gulf of St. Lawrence, a stock which, in the summer is comprised of resident as well as seals from other populations that over-summer in the Gulf. A market for the proposed grey seal harvest will take time to develop. Meanwhile, the potential for a targeted seal cull should be considered.

3. On Illegal Removals / Proposed Solutions #2: The idea of placing gill-net entanglement and salmon cover devices in coldwater holding pools during warm-weather closure periods has been advanced by the NBSC at the Provincial level, but with no response by the government or its agencies. It is our understanding that this idea was implemented a

few years ago, but then abandoned because of public safety concerns. The methods proposed by the MSA would seem to alleviate or at least mitigate these concerns. Your support as expressed to provincial authorities for methods such as those proposed by the MSA would be welcomed by all salmon conservation groups.

We are aware that there were three major pools on which poaching via sweeping with gill bets occurred in 2019. We propose that the tree placement protection plan be implemented on these pools as a pilot project in 2020.

4. On Best Angling Practices: Published literature is clear that barbless or pinched-barb hooks benefit the survival of released salmonids. However, the number of hooks is not shown to have an effect on survival. We support a requirement to pinch the barbs of hooks, and the definition of a pinched barb hook should be well defined in regulation. However, we do **not** support the banning of double hooks in the recreational salmon fishery. The methods to better "educate" anglers as proposed by the MSA needs to be fleshed out.

5. On Stock Supplementation / Interim Solution: We support the implementation of a Smolt-to-Adult Supplementation (SAS) program on the Northwest/Little Southwest (NW/LSW) Miramichi River composite. The cancelled program was intended to be only a test of the method, and, by our calculations, would have increased egg deposition by only slightly less than 0.2 eggs per m^2. (We do however point out that this would have increased the published deposition rate for the composite by 40%.) We understand that instead of using the NW/LSW Miramichi as the setting for experimentally testing the efficacy and deficiencies of a proposed SAS program, the Atlantic Salmon Federation and DFO would like to use the results of the Tobique River Captive Adult Rearing (CAR) Program and extrapolate these results to the NW/LSW system.

   We understand that there are three years of Tobique data that are available for consideration, but only one year has been analyzed to date. During the year that was assessed, 80% of the smolts produced in the Tobique were from CAR fish, but that only 50% of the adult returns to Mactaquac were from these smolts. The others were progeny of wild fish (R. Jones, DFO, personal communication). Therefore, one wild fish is worth four CAR fish. Still, if it is assumed that the mortality of the fish while they are in captivity is very low, this represents a virtual return rate of 25% for captively-reared smolts (20%/80%). This is much better than the low single-digit percentage rates currently being experienced by wild salmon on the rivers of the greater Miramichi drainage. A proposed strategy to release only female captively-reared salmon would seem to offer hope for increasing this virtual survival rate.

   If analysis of all three years of Tobique data is required to provide comfort to regulators of the net benefits of an SAS program for the NW/LSW, we urge that the required analyses proceed immediately. If the benefits are as substantial as we anticipate their being, we urge that the SAS program be rapidly implemented, and the number of captively-reared smolts substantially expanded from the level that was being produced under the cancelled experimental program.

   Two implementation strategies are discussed in the MSA document, releasing the adults to spawn naturally, or spawning the mature fish artificially and releasing the progeny as unfed fry. Although we favour the former because it seems to comply with recommendations in the proceedings of the Atlantic Salmon Federation's "What Works" workshop, an effective approach is needed to discuss these two options and to evaluate their pros and cons.

6. On Warming Waters: We have concerns with the MSA's statement: "The easiest way to make improvements is to dig out the pools and strategically place boulders to keep the water deep over time providing greater protection". Greater thought needs to be given to this topic and the physical modification of holding pools should not be taken lightly. Financial and human resources may be better spent elsewhere.

7. On the Transformation Program (Transformational Process): An opportunity to review and discuss the most effective model for the committee is required. The NBSC has proposed a Liaison Committee to have major input on fishery management decisions. The structure of this proposed committee has been shared with you. Numerous jurisdiction in North America have developed management models that involve key stakeholders and have described the roles of the players. We believe that, as major stakeholders in the salmon fishing pastime, representatives of the angling community (along with First Nations, DFO and the Province of NB) should be a participant on such a committee.

8. On Invasive Species: We strongly feel that DFO should take more of a leadership role towards eradication of smallmouth bass in the greater Miramichi system.

9. Additional: Similar to our opposition to the closure or partial closure of the catch-and-release recreational salmon fishery, we do **not** favour the total or partial closure of the First Nations' Food, Social and Ceremonial (FSC) fishery. We do not presume to dictate to them as to how they should conduct their fishery. However, with salmon population levels being critically low, we encourage the Food and Social aspects of this fishery to be conducted through the targeting of grilse. Grilse contribute only a small proportion of the egg deposition on the greater Miramichi River system, and the survival of salmon produced from grilse eggs is only one-half that of salmon produced from multi-sea-winter (MSW) eggs. A few MSWs could be targeted to satisfy the Ceremonial function of the FSC program.

Many of these points could be incorporated into the management of salmon stocks on other NB rivers. Please note that firm time lines for rapidly implementing each strategy should be developed. We note there are many similarities in the decline of Atlantic salmon in the Miramichi to what was observed in the late 1980s and early 1990s on the St. John River. We strongly encourage the Gulf Region to reach out to their counterparts in the Maritimes region and benefit from any insight they might bring to mitigating and reversing the population decline. Otherwise, the Miramichi salmon populations will follow the path to oblivion of the St. John River's salmon. Thank-you for considering this advice during the preparation of your decisions on the management of the greater Miramichi River's wild Atlantic salmon populations. Please promptly reply to us as to how our recommendations will be implemented.

Sincerely,

John Pugh

President, NB Salmon Council