



Headwaters to Greenland

Update on Miramichi Activities

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Summer 2020

From the Penobscot all the way to Labrador, salmon returns this year have been generally better than in recent years, and this goes for the Miramichi as well. The positive reports from outfitters, camps, guides, and people on the river who have seen more salmon this year on the Miramichi is encouraging. However, we recognize that the bright light of improved returns in 2020 has been overshadowed by the hot, dry, weather and terribly warm water conditions. Climate change is being felt on our salmon rivers and many of the programs we discuss below are aimed at helping the Miramichi become more resilient to the changing climate.

Covid-19 has presented an incredible challenge for us all, in many ways, whether it be outfitting, guiding, running the fly shop, or carrying out conservation projects. While some of ASF's field work was cancelled this spring in Quebec and Labrador due to travel restrictions, we carried out all of our Miramichi activities, which we will summarize in this update.

Smallmouth Bass Eradication

Our working group of stakeholders and Indigenous groups has been working around the clock in recent months toward eradication of smallmouth bass from Miramichi Lake, Lake Brook, and a 15 km stretch of the Southwest Miramichi River. We have been diligently working through DFO's Aquatic Invasive Species permitting process for the past 18 months and are nearly complete; we are currently in the First Nation consultation phase.

Our goal was to carry out the eradication in 2020. However, the DFO process has not moved quickly enough and the province is now requiring the project to be registered for an Environmental Impact Assessment (EIA) determination review. Although this means the project is now delayed until next year, the EIA will ultimately strengthen the project from a public perspective. We welcome the opportunity to demonstrate to the public the importance of this project and how well we have it planned.

DFO's permitting process is very similar to an EIA, so we have all the information needed and are currently working on the EIA registration. There are 3 possible outcomes of the review: (1) the project is released with conditions, (2) the project is rejected, (3) a full EIA is required. We are working



through all of the regulatory processes with perseverance and urgency and our goal is to have the major permits in place this fall so we can order equipment and rotenone for eradication next August/September, 2021.

In the meantime, it is important to have aggressive control efforts in the river to reduce the number of smallmouth bass and reduce the risk of spread until eradication can happen. To accomplish this, we have been on the river at McKiel Pond Pool (where the bass appear to be most concentrated based on eDNA sampling and physical surveys) with provincial DNR staff in the electrofishing boat 3 times over the past month. This summer we have removed 58 bass from the pool, 55 via boat electrofishing and 3 via angling. Boat electrofishing will continue throughout the fall.

We have carried out extensive public engagement on this project, and we appreciate all of your support. There will be an opportunity for public input during the EIA and the support of the Miramichi salmon community is critical. This will be your chance to tell government how important it is to save the native ecosystem of the Miramichi river system from smallmouth bass establishment. **We will let you know how and when you can show your support in the EIA process.**

Cold Water Enhancement

ASF, MSA, the North Shore Micmac District Council, Anqotum, and the University of New Brunswick have teamed up to enhance cold water pools to provide better thermal refugia for salmon during warm summer periods. Over the next 3 years, 9-11 sites will be enhanced. This is a \$1 million, multi-year program and we have been successful in receiving significant federal grant funding. The project has begun this year with the first 3 sites surveyed and designed, and ready for construction this fall:

- Sutherland Brook (NW Miramichi)
- Wildcat Brook (NW Miramichi)
- McKenzie Brook (SW Miramichi)

The permits have been approved for two sites and we are waiting on the third. Construction will take place prior to the September 30 deadline. This work, combined with the cold water work of the MSA since 2015, will significantly increase the quality and quantity of thermal refugia for salmon on the Miramichi.

Natural Protected Areas

The province of New Brunswick has committed to increasing natural protected areas from 4.6 to 10% of the province by 2020, in line with the federal government's *Canada Target 1* initiative. This is an increase in protections amounting to approximately 500,000 hectares (nearly the size of PEI), a significant step in the right direction. ASF was one of many conservation groups advocating for this



commitment from the province. This is a win for conservation, but there is still work to be done to ensure there are benefits to wild salmon.

We have met with the provincial team working on this program, and have presented a nomination for land protections in the Miramichi watershed to protect important cold water sources. We are encouraged by the team's approach to choosing new conservation areas and that they recognize the importance of protecting cold water features and headwater areas – critical for temperature and flow protection in rivers. The province will choose candidate areas in 2020/2021 and we will continue to work closely with their team to see that more forest is protected in key areas in the Miramichi watershed.

Smolt Tracking & Striped Bass Predation

Striped bass predation continues to be an issue for salmon smolt migrating out of the Miramichi and into the Gulf of St-Lawrence on their way to the North Atlantic feeding grounds. ASF and MSA's joint tracking program has demonstrated that prior to the explosion in striped bass numbers around 2012, Miramichi salmon smolt from both the Northwest and Southwest had a consistent 60-70% survival rate through the river and estuary to reach the Gulf. Smolt survival through the river and estuary has dropped to 10-30% since striped bass spawners exceeded approximately 250,000 (every year except once since 2013). Smolt survive very well in the river portion of their journey, most of the smolt loss occurs in the estuary where striped bass are aggregated for spawning.

Smolt survival results aren't yet available for 2020; the research crew is currently out on the Bay de Chaleur collecting acoustic receivers. They will download the data and produce survival estimates in the next few weeks. Since the very low smolt survival in 2017 when striped bass spawners numbered nearly 1 million, smolt survival in 2018 and 2019 was much better through the estuary when stripers were down to ~300,000 spawners. Smolt survival through the estuary is still low at less than 30%, but there have been improvements in the last two years.

We are advocating for DFO to manage striped bass to have a sustainable population, and continue to provide the great fisheries that it does, while reducing numbers to find balance with salmon and the rest of the ecosystem. The best mechanism to reduce numbers is Eel Ground First Nation's commercial striped bass fishery. Last year they fished 2 trapnets but it was not enough to achieve their quota of 50,000 bass. It is a learning curve and this year, they have doubled their effort to 4 trapnets. We are optimistic that harvest will be closer to the 50,000 quota this season.

ASF and other stakeholders like MSA have advocated hard at the regional and Ottawa levels of DFO to implement changes to the striped bass recreational fishery to help find balance with salmon. We have requested that DFO remove the upper slot limit of 65 cm for retention in coastal waters, and allow any sized striped bass to be retained in inland waters (for example, in salmon pools). Combined



with the commercial fishery, these measures if implemented will help reduce bass numbers while maintaining a healthy striped bass population.

Assessing Year Two of the Greenland Conservation Agreement

Reducing the harvest at Greenland remains one of the most effective, direct actions that we can take to save salmon. The fish at Greenland are large salmon on the home stretch, approximately 70% of salmon leaving Greenland complete their homeward journey.

Greenland's most recent salmon fishing season, the fall of 2019, was the 2nd season of our 12-year conservation agreement. The agreement eliminates the commercial salmon fishery and limits food fishery catch to 20 tons (about 6,000 salmon). The three partners include ASF, the North Atlantic Salmon Fund, and KNAPK, the association of fishers and hunters in Greenland.

The Greenland government set up new reporting and monitoring systems to improve their ability to monitor catch throughout the season, and now requires that every single fisher obtain a license. Fishers who do not report their annual catch will not be eligible for a license the following year. The communities in Greenland are incredibly remote, with limited access and communication capabilities, and so setting up a fast and reliable monitoring system is difficult. There have been challenges, but we have worked aggressively to amend the agreement and address the issues. The positive results show with a reduced harvest and significantly better reporting than prior to the agreement. Below is a summary of the first two years of the agreement:

2018 – The season ran its normal timeframe from 15 August – 31 October. Late reports continued to trickle in after the season and through the winter and total harvest ended up being 39.5 tons, nearly double the 20 ton quota. This was the first year of the agreement and there were challenges to setting up an effective real-time reporting structure in such a remote northern region. However, the good news is that a record high 70% of fishermen reported their catch. Prior to the agreement only 20-30% of fishermen reported so the estimate of actual harvest was very uncertain. This means we had the most accurate picture of harvest we have ever had, and actual harvest was likely way down compared to, for example, 2015 when there was 58 tons reported catch and 30-35 tons of estimated unreported catch for a total of 90 tons (27,000 salmon).

2019 – In year 2, partners worked with the Greenland government to improve reporting and carried out extensive public engagement with fishermen to educate them about the agreement and new rules. The government shut down the fishery 5 weeks early on 25 September when reports indicated that 80% of the quota had been caught. Again, late reports came in but not as many, and not as late compared to the first year. Total catch was 28.8 tons, with 81% of fishermen reporting. These are major improvements in year 2 – more than 3,000 fewer salmon harvested compared to year 1 and improved reporting. Based on the overharvest, the Greenland government will delay the start of the 2020 season by two weeks and has stated the fishery will close when 75% of the reduced quota has been reached.



ASF and its partners in the agreement have also launched a new Greenland Salmon Coordinators program where up to 10 former commercial salmon fishermen will be hired and trained to inform fishermen in remote communities about the reporting requirements and serve as a liaison between fishermen, the Greenland government, ASF and NASF. This should further improve reporting and strengthen relations between the fishermen, ASF and NASF.

The reporting reforms that the government of Greenland has implemented as a result of our agreement are impressive and are in fact much more comprehensive than our own salmon reporting systems here in Canada. ASF worked with a researcher at Dartmouth College to survey Greenland salmon fishers to better understand their reporting behaviour and the constraints they face. The information is being used to make further improvements. We will continue to foster this agreement, making adjustments where necessary, with partners and the Greenland government toward achieving the 20 ton limit and ensuring more multi-sea-winter salmon return to our rivers to spawn.