



of the thousands of smolts produced to be released downstream of the Mactaquac dam annually with Tobique river genetics and reared to sexual maturity in the Captive Rearing Program at the MBF, they have proved their ability to reach the smolt stage in the Aroostook River, and we see them as potential broodstock for the supply of fertilized eggs. A portion of the smolts captured in the Beechwood Dam gatewells during 2016 and 2017 would have been migrating downstream from the Aroostook River.

These fish have now entered the Captive Rearing Program at the MBF and as they reach sexual maturity during the next few years, they will be released into the mainstem of the St. John River upstream of Beechwood to free swim and spawn in the portions of the watershed where they spent their pre smolt years.

As these Captive Reared Aroostook origin spawners (and the few returning adults from the ocean) move into the fish lift facility at the Tinker Dam, they could be, and we suggest should be, held for transport to Mactaquac. This should occur each year for the next few years and the fish held until they can be stripped for the production of fertilized eggs. This procedure would continue until all of the sexually-mature spawners from the 2016 and 2017 Beechwood collections have been released to free swim in the mainstem of the St. John River upstream of Beechwood.

After incubation to the eyed stage at the MBF, these eggs would be sent to the ASNMs Dug Brook Hatchery for the production of unfed fry, a procedure that happened annually for many years until it ended after 2015. NOTE: these would be the first fertilized eggs supplied ASNMs unfed fry production program that originate from parents that have proved their ability to reach the seaward migratory smolt life stage in the Aroostook River. Unfed fry from ASNMs Dug Brook hatchery would again be distributed throughout the Aroostook River watershed.

The Houlton Band of Maliseets has been working to establish a salmon restoration program on that river, and there have been some initial discussions with them and ASNM about this concept. Perhaps it would be possible over time to supply fry for the Meduxnekeag from the proposed Aroostook operation so that its untapped potential can be utilized for the production of smolt as well. Having the support of the HBMI would be valuable in moving this program forward in the US.

Long-Range Plan: It is also envisioned that unfed fry from the Dug Brook hatchery or smolts produced in the Aroostook River would be used to initiate a Captive Rearing Program at Caribou, Maine. The ASNM presently owns the land and has access to the rearing water from wells and buildings to operate such a facility, and is looking for partners to fund its construction and operation. It is hoped that the establishment of this facility would be the result of a co-operative effort between First Nations, private industry, provincial, state and federal governments. After the initiation of the Captive Rearing Program at Caribou, Maine is in place, the Aroostook program would be independent from the requirement for eggs produced in Canada at the MBF.

The operation at Caribou, Maine has so much productive capacity that it could (in addition to fish for stocking the Aroostook River) engage in production of Atlantic salmon for the commercial market and so it would serve as yet another demonstration of the commercial feasibility of on-land salmon aquaculture as we see a developing trend to remove salmon farming from salt water where it produces pollution, regular escapes of non-native spawners, and generates disease and parasite problems that are suspected of having contributed to the decimation of wild Atlantic salmon populations during the last couple of decades. The fact that the operation at Caribou is seen as a flow through aquaculture facility would necessitate provision for waste and effluent water treatment before the water is discharged into the Aroostook river.

NB Power's pledge to address fish passage problems downstream of the Aroostook gives hope that both the Aroostook and Tobique rivers, that together have the salmon production capacity of the greater Miramichi River system, will again produce salmon fishery benefits for the residents of the upper St. John River.