



# Monthly Hatchery Report

January, 2016



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A report of monthly activities and events



A New Year brings new opportunity and excitement here at EMARC. Most of our eggs have already been delivered, and we are getting things back up and running in the hatchery for the new rearing season. To date, we have stocked over 500,000 quality parr into the East Machias River using the methods developed by the late Peter Gray on the banks of the River Tyne. This coming year should give us a lot of insight into the project and how well things are going in the river. We should also see the first adults returning this fall resulting from parr we stocked in 2012. To follow up on the 200,000 parr stocked into the East Machias River reared at the hatchery in 2015, we will be smolt trapping this spring with high hopes that we will see an increase in smolts leaving the river compared to previous years.

Following the trend of non-typical weather in 2015, the start to our winter has been rather mild. We are currently seeing above average temperatures for this time of year and far warmer compared to last year. As a result, the eggs held at the Craig Brook National Fish Hatchery (CBNFH) are developing more quickly than in years past. All of the East Machias strain eggs held at CBNFH are transferred to the hatchery at EMARC. Water temperature is important as it determines when we can transfer the eggs and helps to estimate hatch timing. We had our first delivery of 104,309 eggs on December 29th, and a second delivery of 189,817 eggs on January 22nd. We got our last delivery of 51,471 eggs on Thursday, February 4<sup>th</sup> for a total of 345,597 eggs for the hatchery this year.

All of our eggs are disinfected as they come into the hatchery by submerging them in an iodine bath for 10 minutes. It is necessary to disinfect the eggs when being moved between hatcheries to prevent disease transfer between facilities. Once disinfected, the eggs are laid down into the incubation tray where they will remain until they hatch. Upon hatching, they will be transferred to the alevin incubation boxes. Given warmer temperatures this winter, we would expect this to happen a little earlier compared to last year. We should start to see hatching by early to mid March this year, compared to as late as the last week of April last year. This will likely have little impact on the fish. This may give them more time to grow before the warm temperatures of summer arrive, turning them off of food until temperatures are back near optimal feeding levels late in the summer.

In 2015, DSF took major steps in dealing with two significant fish passage barriers on Beaverdam Stream in the East Machias River. Beaverdam Stream is a very productive salmon and brook trout stream with a lot of habitat for juveniles. Right in the middle of the system are two sets of culverts, the upper most acting as a dam (see picture at left). Both culverts are impassible at most flows and are a high priority project in this region. Not only do they block adult salmon from migrating further up the stream, they block



resident fish from moving through the system, and they block other migratory fish such as alewives from making it to the head water ponds to spawn.

DSF took the lead in removing the upper culverts, opening this section of stream for the first time in over 50 years (see picture to the bottom left). The next step in the project will be removing the lower culverts, a project that will get started in 2016 in collaboration with the Atlantic Salmon Federation and others. Removing these barriers will double the amount of accessible habitat in Beaverdam Stream.

We attended the Atlantic Salmon Ecosystems Forum at the University of Maine at Orono in January. This is a forum focused on Atlantic salmon restoration efforts in Maine and New Brunswick, Canada. We had a poster presented at the forum this year and engaged with a lot of people in the salmon restoration field. We presented this project at the forum two years ago, and will be presenting an update of the first five years of the project at the next forum.

As the rearing season starts, so does the Salmon in the Schools program. This is a program coordinated by the US Fish and Wildlife Service and DSF staff work with eight local schools participating in the program. Each school is given 200 eggs to raise in the classroom. When we deliver eggs to the classroom we also give students a presentation about the Atlantic salmon lifecycle, and play a game that gets students of all ages thinking about everything the salmon endures during its life cycle, natural and anthropogenic. Education and outreach is an important part of the Project. We have over 400 students help with the project every year, and many community members as well. Hundreds of hours are served by student volunteers, and it is a great opportunity to give them an educational experience they will remember!