



## Monthly Hatchery Report

November – December 2015



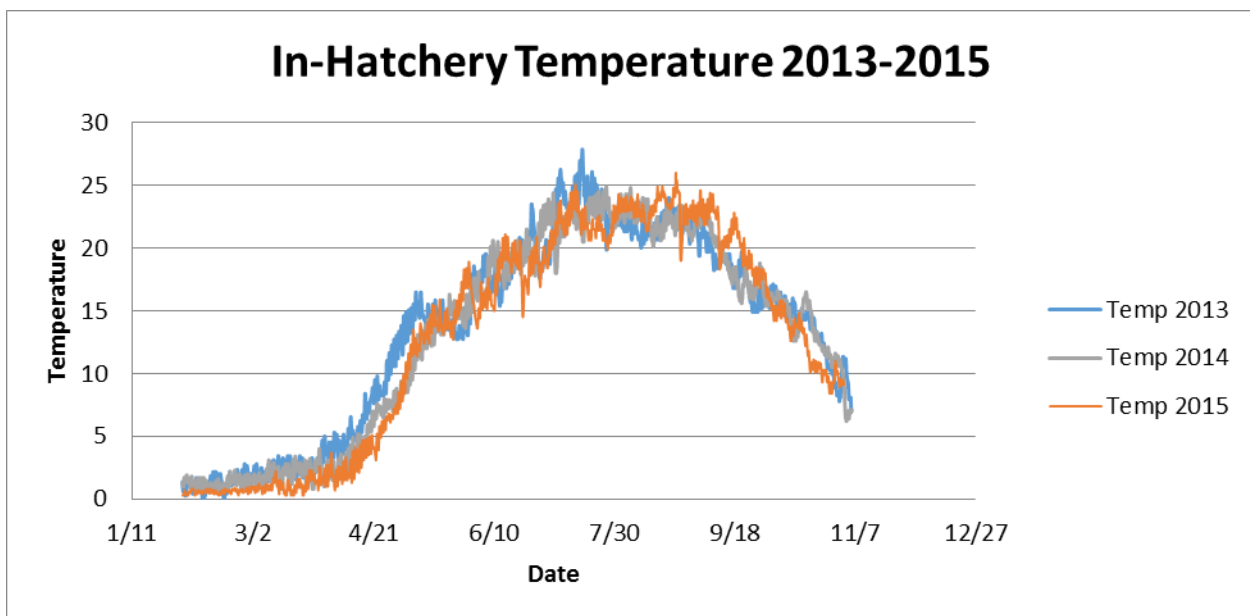
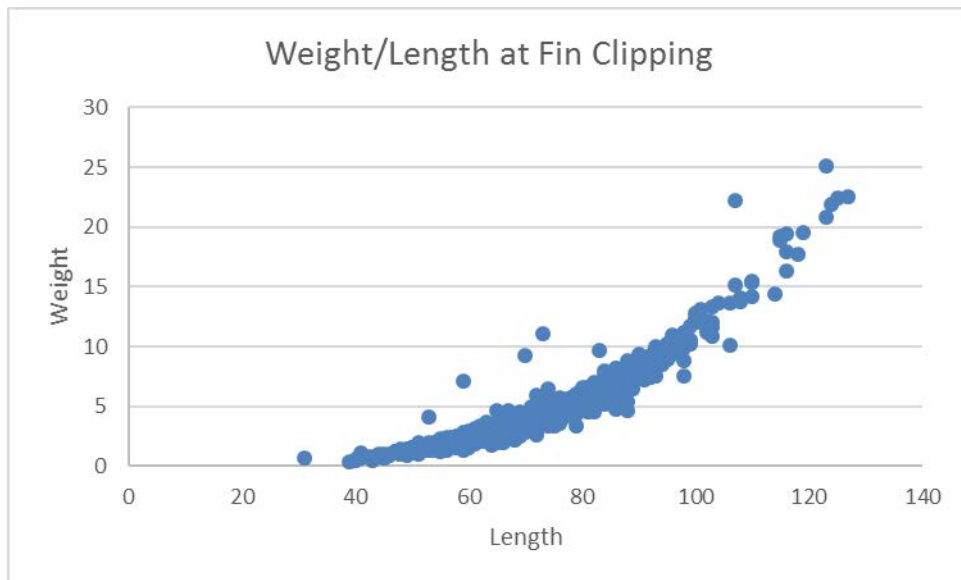
Report by: Kyle Winslow; Hatchery Manager

A report of monthly activities and events



Since stocking the fish out in November, our focus has turned to cleaning and shutting the hatchery down. We surveyed the entirety of the East Machias watershed for redds, and with record warm temperatures this fall, we were able to survey many places twice. We have been processing data and taking a look at the coming year and what we have in store, as well as taking some much needed time off.

As mentioned in last months' report, all of the fish were stocked out by November 2<sup>nd</sup>. Average length of fish at fin clipping was 69.1mm, 10mm smaller than last year and the average weight at stock out was 5.7g, also smaller than last year. This smaller size is a byproduct of extended warm temperatures into the fall and a quick drop in temperatures toward the middle of October (see temperature graph below) which slowed feeding rate, as well as increased mortality throughout the summer. The smaller sizes will likely produce fewer first year smolts than we have seen in the past, but at this point in the project, we are hoping to see more second year smolts. Even though more mortality will obviously occur if fish stay in the river longer, there has been shown to be a significant increase in at-sea survival of those fish that remained in the river for their second year, as they naturally would in our rivers. Peter Gray was a big proponent of releasing pre-smolts, which we will likely do in the future. These fish would be large fall parr held in the hatchery over the winter, and released early in the spring before the smolt out-migration. For the time being, we need to focus on proving the fall parr method here, and not confound our data with stocking another age class of fish.



Redd counts were conducted this fall and completed toward the middle of December. We had a record setting warm fall, and had a lot of great opportunities to get out and survey the rivers with most of the river remaining open into the new year. Throughout the entire East Machias drainage, eight redds were observed. The map at the end of this report indicates where those redds were observed. They were essentially split between the upper section of Northern Stream and Chase Mill Stream. This year we did not expect to see adults returning



from fish that were stocked from EMARC; we expect to see an increase in the number of adults returning next year as a result of the 2012 stocking of 50,000+ fish.

The first round of eggs have just arrived to EMARC and the Pleasant River hatchery with 104,000 and 34,000 eggs allocated to each facility respectively. This is the first batch of three and we should be looking at somewhere around 300,000 eggs for EMARC and 130,000 eggs for the Pleasant River hatchery. This batch of eggs was delivered about a month earlier than previous years due to warm temperatures at the Craig Brook Hatchery where we get our eggs. Heading into the 5<sup>th</sup> year of this project, it looks like we will be delivered less eggs than even last year. This is a frustrating trend we are seeing in many rivers reliant on Craig Brook National Fish Hatchery for fish stock. It appears that brood fish held at the facility are coming ripe earlier (three years instead of four) than they have before, and there doesn't seem to be an answer as to why. This translates to lower fecundity (less eggs). Another contributing factor is that it seems male and female spawn timing of brood fish is not aligning just right, which means fertilization rates were lower than expected.

With eggs in the hatchery we have started the new year with a new batch of fish. We are looking forward to the coming rearing season, and working toward making a difference in this restoration effort. Thank you all for your past, present and future support; however that support comes, it is so appreciated!

## Redd Locations 2015 - East Machias River

