Findings from the Field

Volume 2 Article 14

2019

Salinity Change in the Marsh

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Our marsh is just down the hill from the St. George School next to the Jackson Memorial Library. The marsh's waters flow into Ripley Creek which flows into the ocean. In the bubbling, frothy water where the dam is, soon the alewives will return to spawn. Our freshwater marsh is a quiet calm place where we see all sorts of animals like kingfishers, osprey, eagles, herons, egrets, eels, other fish, turtles, geese, ducks and other animals. If I sit on the bank and look at the water, I hear water rushing, trees and twigs crackling and cars moving. I feel the sun on my skin, the cool wind, life's energy everywhere! It used to be the home to alewives until the 1980's when they disappeared and the run halted.

On April 25th Thursday 2019, at 1:03pm, our class took a very surprising salinity measurement of 0.27 ppt (parts per thousand) just inside the dam. There were big 11ft tides 3 to 4 days ago and we have seen some seaweed on the marsh side of the dam too, all the way past the "big rock" to the cattail reeds. There are flooding tides every month. This is the alewives spawning habitat.

In mid 1980's, our town's alewife run stopped. After they disappeared, the state of Maine started restocking the marsh with alewives from 2009 to 2013. In 2015, the old culvert was replaced because the alewives couldn't pass through it because it was too high.

Alewives are at the center of the food chain which means almost everything eats them (other fish, lobster, birds, ect.) If there are no alewives, then lots of animals lose their food source. Alewives are great as lobster bait and many lobster men have to resort to other fish such as herring, pogies and even pig hide! There are some lobster men are still very concerned about what to use as bait, especially since herring are less plentiful now.

Since the alewives can only spawn in freshwater and if there's too much salt in the marsh, their eggs won't survive. We want to see what the salinity is and if that is the reason there aren't many alewives.

We will be taking eggs from North Pond and the St. George River run and putting them in tanks with different salinities to see if a certain salinity is affecting the survival of the alewives. Also, a classmate of mine built a salinity probe to measure the salt in the marsh. We will be looking at the results and tell the town. I really really hope our marsh habitat can sustain the alewives for a good long time.