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Salinity Differences in our Marsh

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St. George School
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Salinity Differences in our Marsh
Leah D.
Nature Note

Salinity Differences in our Marsh

My class goes down to the marsh just about every other day. The marsh is located in the town of Saint George, Maine, near the St. George School. The marsh is a quiet place. We see lots of birds, like geese, duck, osprey, eagles, and so much more. You can hear the sound of water trickling down the river, and the birds chirping. You can feel the warm sun shining on your skin, and the soft breeze lightly brush against your skin.

On Thursday, April 25th, 2019, at 1:03 PM, my class went down to the marsh. We go down to the marsh quite a bit to test the salinity and see the changes of salt. We measured the salinity of the marsh, and got a measurement of 0.27ppt (parts per thousand.) Our measuring site was near the dam, underneath a dead tree. There was some seaweed along the bank of the marsh, down by the cattail reeds.

This is the alewives spawning habitat. What we are wondering is, how is there so much salt in the marsh? We had 11 ft tides a few days ago, so I think that the salt water would have gotten into the marsh. I would have expected these results on that day, but not on a day like this. I was astonished, and slightly confused.

In the 1980's, the town's alewife run suddenly stopped. When the alewives disappeared, the state of Maine started restocking the marsh with alewives. That lasted from 2009 to 2013.

Lots of animals eat alewives. They are at the center of the food chain, which means many animals eat them. If the alewives were gone, then those animals wouldn't have much to eat, then possibly die of starvation. People use alewives for lobster bait as well, so if alewives were all gone then fisherman would have to use different bait, such as pogies, pig hide, and herring.

Alewives only spawn in freshwater, and lately there has been more saltwater in the marsh. And if there is too much salt in the marsh, then the alewives won't spawn. We want to measure the salinity and see the measurement, because that could be the cause of the alewives not returning.

We are wondering if a certain amount of salinity is influencing the alewives to leave. We will be taking some eggs from North Pond and the St. George run and put the eggs in tanks with different measurements of salinities and see if that may be the cause. One of my classmates made a probe that measures the salinity in the marsh, and we are going to see if we are correct, and find out if that may be the cause of the alewives not returning.

