

## 6-30-17 Down by the Bay

While Russ Kleekamp and Craig Curtin were doing an excellent job last Thursday evening presenting to the Monponsett Watershed Association an overview of their serious Stormwater assessment grant-funded work, I was thinking of a silly song.

My children used to say that it seemed I had a song for every occasion. I could not necessarily remember the whole song or even the name of the song but one line and the tune would come to mind and I would sing it.

As I listened to last week's presentation by the engineering firm, GHD, explain the Stormwater assessment for Halifax, the song was "Down by the Bay", often sung by Raffi. The silly lyrics go like this:

Down by the bay  
Where watermelons grow  
Back to my home  
I dare not go  
For if I do  
My mother will say  
Did you ever see a baboon  
Holding a balloon  
Down by the bay!

In my head, I was adding other silly lines about a crab and a horseshoe.  
Did you ever see crab taking a cab  
Did you ever see a horseshoe looking kinda cuckoo

You might think I am cuckoo also, but my family would have understood what I meant. You see, a couple weeks ago we were at Duxbury Beach and the bay side was loaded with horseshoe crabs. These primitive, (almost primordial at 500 million years), creatures are fascinating to watch, as their spiked tail leaves beautiful patterns in the sand. One stood out amongst its peers, though, for it was sporting a white tag about the size of a quarter. I took a ton of pictures that fun day and, of course, I took a picture of the tagged horseshoe crab.

When I examined the picture, I realized it had an 800 phone number I could call or I could go to the U.S. Fish and Wildlife website. There I read about the importance of the horseshoe crab. Its eggs provide an important food source for migrating birds and its blood is used by pharmaceutical companies to detect the presence of harmful bacteria, for their blue copper-based blood clots in the presence of bacteria!

After reporting the tag online, they were kind enough to respond. Here's what I found out about our Duxbury crab:

Tag number 20723 was released by Associates of Cape Cod, Inc. on 7/8/1999 at Warren, Narragansett Bay, RI.  
Horseshoe Crab Database Manager

U.S. Fish and Wildlife Service

[Maryland Fish and Wildlife Conservation Office](#)

177 Admiral Cochrane Dr.  
Annapolis, MD 21401

This was so cool for me to learn because Halifax's Stormwater Assessment was funded by the New England Interstate Water Pollution Control Commission (NEIWPCC). The specific body of water being protected by this grant was the Narragansett Bay; the very same water from which this crab was released back in 1999!

Just allow that visual to sink in for a moment.

A little town twenty minutes inland from Plymouth Bay receives \$57,338 for engineering efforts to help mitigate Stormwater impacts to East and West Monponsett Ponds.

Now imagine the 40 outfalls (open pipes that discharge surface runoff during rain events) contributing untreated Stormwater runoff to the ponds in Halifax.

Zoom out a bit now and see where Halifax's water flows.

The receiving ocean of our pollutants from Halifax is Narragansett Bay.

What we do in Halifax affects the quality of the lives and the environment in Rhode Island. According to the National Oceanic and Atmospheric Administration (NOAA), the largest contributor of pollution (80%) to the ocean is from the land.

<http://oceanservice.noaa.gov/facts/pollution.html>.

Now zoom out even more and see all the waters connected. One earth; one water.

Just as our pollutants hurt others; our improvements help others.

The engineering work by GHD of Hyannis, MA funded by the grant began with the mapping of the drainage pipes that make up all 40 outfalls. The area was calculated for impervious surfaces leading to each outfall, such as pavement, roof tops, driveways, etc., and outfalls were prioritized by the largest contributing impervious area. This tells the Town of Halifax which outfalls to rehabilitate/modify first by installing treatment mechanisms for phosphorus reduction. The grant also funded the conceptual design of all the outfalls, highlighting the three highest priority ones with a permit-ready design. These designs can be used when applying for future grants that will help fund construction.

And we will need that assistance, for this work to protect the ponds and the bays will be expensive but it will be for the greater good of all creatures great and small, even the primitive horseshoe crab, down by the bay.

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For more information on horseshoe crab tagging, see:

<https://www.fws.gov/northeast/marylandfisheries/Fish%20Facts/horseshoe%20crab%20fact.html>