

May, 29, 2010

On Saturday, May 29, from 10am until 4pm, volunteers from the Bayshore Regional Watershed Council and members of the public helped conduct the first ever Memorial Day Weekend Seine Survey of Raritan Bay and Sandy Hook Bay. Despite some light early morning showers and the threat of more showers to come later in the day, the weather was beautiful and a wonderful day by the bay was had by all.

Volunteers sampled four sites along the bay (west to east), and made four hauls at each site with a 30' seine net on an outgoing tide. All fishes, crabs, and other aquatic creatures that were caught in the net were identified, measured, and cataloged; and returned to the water. A seine is a net with a float seamline on top, a lead seamline on the bottom, and tight meshes in between. A seine net is an excellent tool for collecting aquatic animals with minimal injury to the catch.

Air temperatures rose up to 78 degrees Fahrenheit. Bay water temperatures were between 64 to 68 degrees F. Turbidity or clarity of the water was measured between 2 feet and 1.5 feet. Skies were partly cloudy and there was a light westerly breeze. High tide took place at approximately 9:30am and low tide occurred around 4pm.

Overall, water quality appeared to be free from excessive amounts of seaweed. There seemed to be a good amount of variety and population of aquatic species, especially bait fish and juvenile fish existing near the edge of the bay. The clarity or turbidity of the water was murky; and this might have been due to the buildup of phytoplankton and nutrients into the water, possibly from fertilizers or fecal coliform.

Below is the data from each site:

1) Aberdeen Township/Cliffwood Beach

Time: 10am. Water temperature = 68 degrees F. Turbidity = 2 feet in depth.

93 Mud Snails

30 Silversides or Spearing

13 Hermit Crabs

2 Bay Anchovies

1 Shore Shrimp

NOTES: There were several female Silversides that were full of eggs or roe. There was also one YOY (young-of-the-year) or juvenile Silverside fish among the catch. The average size of a Silverside was 4.5 inches long and the average size of a Bay Anchovy was 2.25 inches long. The beach and intertidal area had a good number of adult Horseshoe Crabs present.

2) Union Beach/Conaskonck Point

Time: 12 noon. Water temperature = 66 degrees F. Turbidity = 2 feet in depth

73 Mud Snails
70 Silversides or Spearing
25 Black-tip Mud Crabs
11 Hermit Crabs
1 YOY (Young-of-the-Year) or juvenile Bluefish (3/4 inch long)
1 Mummichog (3.5 inches long)
1 Shore Shrimp
1 Male Spider Crab

Lots of salps (Class Thaliacea, Order Salpida).

NOTES: The average size of a Silverside was 4 inches long. One large adult female Horseshoe Crab was present on the beach.

CRITTER NOTES: Salps can form massive aggregations of millions of individuals. They exhibit among the fastest growth rates of any multicellular organism. Salps feed on phytoplankton and they move around the water according to phytoplankton blooms. When there are many phytoplankton the salps move into the area and consume them. The species is so adept and successful when there is plenty of food that they can actually clone themselves and the clones graze upon the phytoplankton and grow faster than any other multi-cellular animals.

3) Middletown Township/ Mouth of Pews Creek

Time: 1:45pm. Water Temperature = 66 degrees F. Turbidity = 1.5 feet in depth.

155 Hermit Crabs
126 Mud Snails
68 Bay Anchovies
30 Shore Shrimp
8 Lady Crabs
4 Spider Crabs
1 Silverside or Spearing
1 Black-tip Mud Snail
1 Windowpane or sand flounder (2.25 inches long)

Lots of salps

NOTES: One YOY (Young-of-the-Year) juvenile Lady Crab was found in the 4th haul. The average size of the Lady Crabs (side to side) was 1.5 inches in width. One Lady Crab was a sponge crab or a female with eggs. Alas, also caught in the seine net was about 2-feet of wood and attached spikes from a shipwreck. No Horseshoe Crabs were present

4) Atlantic Highlands/Mouth of Many Mind Creek

Time: 3:30pm. Water temperature = 64 degrees F.

Turbidity = not reported, water was too shallow & not able to measure from waist high.

326 Shore Shrimp
77 Mud Snails
12 Hermit Crabs (including one without a shell)

7 Windowpane or sand flounders (average length was 4" long, smallest 1.5" and longest 5" long)

4 Pipefish (4 inches to 5 inches in length)

4 Bay Anchovies (1.5 to 2 inches in length)

3 juvenile Blue-Claw Crabs (an inch to less and inch in width)

1 juvenile male Black-tip Mud Crab

1 Lady Crab (3 inches in width)

1 Banded Killifish

Critter Notes: Shore shrimp are the most common shrimp living along the coastal waters. They are omnivores and will eat almost anything, though they prefer to graze on plankton and vegetation in the wild.

Thanks to all the volunteers and people that came out to help conduct the survey, including Christine Balinet, Jeff Thompson, Panse Geer, Gene Geer, Frank Huza, Alec Smith and family, Sheila & Kevin Katayama, and many other amazing people.