

## HUDSON RIVER ALMANAC for OCTOBER 14, 2010

### A DAY IN THE LIFE OF THE HUDSON RIVER

Compiled by Steve Stanne, Hudson River Estuary Program Education Coordinator  
New York State Department of Environmental Conservation

#### <<<<< OVERVIEW >>>>>

This special edition of the Hudson River Almanac offers a snapshot of one day when students sample this estuary from beyond the reach of the tides to the waters of the Atlantic Ocean. On this 8<sup>th</sup> annual "Day in the Life of the Hudson River," 3,500 participants visited more than 60 sites, learning about their piece of the estuary and - by sharing their data online - putting it in the context of the entire system. The contributions came from students, classroom teachers, environmental educators, and "runners" who visit multiple sites to document activities and pick up samples for later testing.

#### <<<<< HIGHLIGHT OF THE DAY >>>>>

**Brighton Beach, Brooklyn:** As storm clouds crawled in from the west, I joined students from the International High School/Lafayette near Coney Island. I thought the rollers on the beach were pretty tame, but when I ventured into shallow water to seine, a wave came right up...and then down...the top of my waders. Even though water temperatures throughout the estuary were often warmer than the air, it was still a mighty cold surprise! Just as I started to show the students what we caught (two dozen silversides and a surprisingly small 1-inch long northern kingfish), a gull flew over and pooped on my head. I'm told that is a sign of good luck in some cultures. Sure.

- Chris Bowser, Hudson River Estuary Program

#### <<<<< NATURAL HISTORY NOTES >>>>>

**Upper Works Trailhead, Adirondack High Peaks:** It was exactly freezing, cold and dark at 6 AM at this uppermost Hudson River location near the old mining village of Adirondac, where the Hudson first takes its name at the confluence of Calamity Brook and Henderson Lake Outlet. All quiet except the roar of water over boulders under a thick canopy of hemlock, cedar, and maple trees. Fog was lifting off the river in great plumes of vapor.

- Doug Reed, Hudson Basin River Watch



**Hudson Shores Park, Green Island, HRM 153:** Look, a snail! We had little luck catching fish but small macroinvertebrates captured the imagination of my 2nd and 3rd graders. Peering into nets, they searched for tiny shells and wiggling creatures. Gentle fingers probed clumps of decaying leaves and gravel while seeking signs of life. Students couldn't help but wonder how their catch would be different if the tide were low. Even though one student fell in ☺ and many had wet feet, all enjoyed the day.

- Kate Perry, Robert C. Parker School

**Schodack Island, HRM 133:** The river was quiet, the kids were not, as the Susan O'Dell Taylor School joined me. There was much excitement as we found the water chemistry to be healthy for fish. Just to prove it we seined at the boat launch. We caught exactly one banded killifish but from the reaction of the kids you would have thought it was the pot of gold at the end of a rainbow! One student commented "The day was long but exciting. I learned a lot (A LOT!) But still it was awesome."

- Dawn Baldwin, Children's Museum of Science and Technology

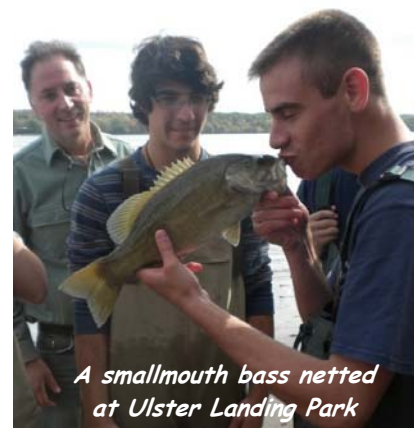
**Lasher Memorial Park, Germantown, HRM 105:** With morning mist rising off the water, 30 Hudson High School students arrived to work with educators from the Columbia Land Conservancy. For some, this was their first time exploring the river for which their city and school are named. Students suited up in waders and pulled a 40 foot seine net through the river, catching fish along the sandy beach. Each fish was identified, measured and released; the catch included spottail shiner, tessellated darter, white perch and striped bass. Other students studied tides and currents, chlorophyll and water turbidity. At the water chemistry testing station students measured pH, dissolved oxygen and salinity, key factors determining the amount and types of fish, macroinvertebrates and plants that will survive and flourish in the river. "It's easier to learn with a physical experience," said one eleventh grader. "Being here gives us a visualization," chimed in a twelfth grader. "The great thing is that they use the same tests the students use in the classroom," said teacher Jim McDarby, "The students get practical experience out here at the river."

- Jenny Brinker, Columbia Land Conservancy

**Esopus Meadows to Saugerties Lighthouse, HRM 87-102:** My mission, which I chose to accept gladly, started out at Esopus Meadows; the first thrill of the day was rounding a bend on River Road to see the river shrouded in bright white fog, the Esopus Lighthouse standing in dark contrast out in the river. By the time I reached the Esopus Meadows Environmental Center minutes later, the fog had dissipated, and a beautiful day had begun to unfold. Next I drove north to Kingston Point Beach, where among over 120 Bailey Middle School students I hooked up with one proud to be called "Peep." Peep and his friends were more than enthused to collect water samples and try their hand at checking salinity using Quantab strips. Not much NaCl to be found here. Further north, I caught up with the Kingston High School environmental science class at Ulster Landing Park. While they didn't catch a sturgeon, as several students were hoping, they did net a nice variety of smaller fish. And finally I made it to the Saugerties Lighthouse where Woodstock Day School students were busy seining, coring, measuring phosphates, and checking turbidity with secchi disks. Several swans floating on the river were a focal point of the kids' conversation. The Esopus Creek empties into the mainstem here; it was noticeably turbid, running the color of hot chocolate. Apparently water from a reservoir upstream had been released without letting sediment from recent high flow events settle out first.

The plume of turbid creek water flowing into the river water provided a vivid visual of how upstream conditions can have a significant effect on downstream environments. My run done, I headed home, chlorophyll samples in my cooler, sediment cores neatly tucked in their ziplock bags, and water samples tightly sealed, appreciating this wonderful river, and the unique opportunity these students had to experience it during another successful "Day in the Life."

- Nancy Beard, Hudson River Estuary Program



*A smallmouth bass netted at Ulster Landing Park*



*Checking out the turbid Esopus Creek*

**Saugerties Lighthouse, HRM 102:** The day was calm. In the morning, the chirping of warblers and chickadees was heard all the way down the trail. Small beetles scurried across the dirt into piles of fallen leaves. Squirrels and chipmunks scuttled through stands of invasive reed. Walking down to the water, many students commented on the large metal navigation beacon, confused about its purpose. There was one distinct difference between the river and water streaming in from the Esopus Creek. The difference was color - the water flowing into the river was light brown from all the sediment stirred up by heavy rains upstream earlier in the month.

- Woodstock Day School

**Esopus Meadows, RM 87:** Students from George Washington Elementary in Kingston were intrigued by the changing weather conditions at the Esopus Meadows Environmental Center. The 52 4th and 5th graders arrived at 9:30 AM to the last wisps of a heavy fog lifting, giving way to clear and calm conditions. The river was like a mirror (Beaufort Force 0) for an hour or so, until a light breeze from the SW began to bring in cirrostratus clouds. By 12:30 we began to see cirrocumulus clouds. When the kids left at 1:30 we had complete cloud cover, but no rain until 3:00. The students were very interested in the cloud types and what they can tell us about local weather predictions. They thought catching 120 fish in 5 seine pulls was pretty awesome too.

- Eli Schloss, Hudson River Sloop Clearwater



*Seining at Esopus Meadows*

**Norrie Point, RM 85:** Our program involved students both from the Poughkeepsie High School and Dutchess County Community College. The highlight of the day was the diversity of fish - overall 14 different species were netted. But the favorite catch of the day was a male blue claw crab that was missing one claw!

- Rebecca Houser, Jason Martin, Hudson River Estuary Program; Nicole Vente, Student Conservation Association Hudson Valley Corps

**Riverfront Park, Beacon, HRM 61:** Fourth graders reflect on "A Day in the Life":

Crystal: "The weather was really interesting. We were in a cloud for a couple of hours because the fog swirled all around us. We could see it coming toward us and covering us. It was different to hear the sounds of the river, but not be able to see anything. Then, all of a sudden the fog blew away."

Ethan: "Our water testing with Susan showed that the Hudson was healthy on Snapshot Day. It was great news! At our site, we were a little sad about all the litter and trash. We decided we needed to do something about that."

Chris: "The water temperature, I think 60 degrees, was warmer than the air temperature of 52 degrees. Nobody predicted that."

Marissa: "We predicted that the tide would be going out when we were at the river in the morning. We measured it on the side of a rock and our prediction was proven correct in a short time. We found evidence of how high the tide had been at other times. It had come right over the rocks onto the park grass."

Nolan: "Investigating our river site in the really thick fog made us use other senses than just the usual one of sight. It was a different way of having a riverfront experience."

- Tery Udell's 4<sup>th</sup> grade class, Forrestal Elementary School; Susan Hereth, Scenic Hudson

**Riverfront Park, Beacon, HRM 61:** I've been involved as a volunteer with "Day in the Life" since it began and it warms my heart to see how this program, fueled by science and curiosity, has grown. This year I went to Beacon where Assemblyman Frank Skartados joined teachers and students from South Street and Forrestal Elementary Schools and environmental educators from Scenic Hudson. The fog lifted, the day warmed, and the waterfront buzzed with activity as students measured dissolved oxygen and pH, wrote descriptions of the site, and identified fish using a key. "Day in the Life" is more than a day in the life of the river. It's an exciting day in the lives of all those people, like me, who are lucky to be part of it.

- Beth Waterman, Hudson River Estuary Program



**Donahue Memorial Park, Cornwall on Hudson, HRM 57:** The following poems are just a couple of the many contributed by 4<sup>th</sup> graders from Willow Avenue School in Cornwall.

***A Day on the Hudson***

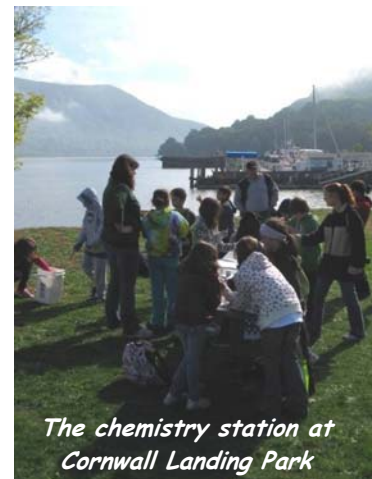
*by Morgan Hurst*

I hear the cries of the seagulls,  
I am filled with happiness.  
I feel the wind tossing my hair around,  
I am filled with happiness.  
I see the glint of the sun on the river,  
I am filled with happiness.  
I smell fresh water and salt water mixing,  
I am filled with happiness.  
I taste the tangy, salty air,  
I am filled with happiness.

***An Extraordinary Day***

*by Steven Carter*

I see seagulls,  
I am filled with excitement!  
I smell an estuary,  
I am filled with calmness.  
I heard trains,  
I am filled with amazement!  
I touched estuary water,  
I am filled with excitement!  
I taste saltwater,  
I am filled with amazement!



- Deborah Gilson, Willow Ave. Elementary School; Christopher O'Sullivan, Trailside Museums & Zoo

**Nyack Beach, HRM 31:** One highlight was a student named Remy, a third year Day in the Lifer, who told me that he still had his data sheet from two years ago on his bedroom wall. Another was seining: we had more waders and more children out in the water. We emphasized teamwork and the principles of slowing down and listening - i.e. 'listen to each other's footsteps on the river bottom.' The children, all from the Blue Rock School, caught on fast. It was great to hear them calling out listening cues, and they were proud of their accomplishments with this. We added a cool new activity, tied in with seining and core sampling, named *thelandistheriveristhelandistheriveristhelandistheriver*. It included



crushing rocks (local red sandstone mostly) to create fine pigments, covering watercolor paper with the pigments (which also included blue clay from the river bottom), and drawing images of fish into the colors with watercolor pencils. We wanted to call attention to how the river and the land are connected so that students would better understand that the river is not just a path of flowing water.

- Laurie Seeman, Strawtown Studio



**Piermont Pier to Nyack, HRM 25-30:** Participants at Piermont and Nyack Memorial Park measured salinity levels that made them question their sampling technique, their equipment and where they had placed their decimal points! Students had projected 7.0 to 8.0 ppt salinity based on prior year's sampling data, only to record salinity levels of 0.85 ppt (RM25) and 0.7 ppt (RM 30). The salt front had been driven far downriver by heavy rains and resulting runoff from the watershed earlier in the month.

- Margie Turrin, Lamont-Doherty Earth Observatory of Columbia University



Visit

[http://ny.water.usgs.gov/projects/dialer\\_plots/saltfront.html](http://ny.water.usgs.gov/projects/dialer_plots/saltfront.html)

Click on "table."

**Hudson River Salt Front Data**

Tide stage, specific conductance, water temperature, and freshwater inflow at selected Hudson River (New York) gages updated every 4-hours. Water temperature and specific conductance are measured at a depth of 10 feet below NGVD 1929 (mean sea level). *These data include PROVISIONAL DATA subject to revision.*

This information is made possible by funding from the U.S. Geological Survey *Cooperative Water Program* and the New York City Department of Environmental Protection, New York State Department of Environmental Conservation, New York State Department of Health, Hudson Valley Regional Council (representing Dutchess, Orange, Putnam, Rockland, Ulster, and Westchester Counties), and the Hudson River-Black River Regulating District.

[| Estuary Conditions](#) | [| Streamflows](#) | [| Forecasts](#) | [| Historical Events](#) | [| Project Description and Reports](#) |

[Hudson River Salt-Front Report April 1 through September 30, 2007](#)

**Hudson River Estuary:**

- Location of the Hudson River salt front ([map](#), [table](#), [too delimited](#)). The salt front is defined as 100 mg/L chloride concentration.
- [Current conditions table for all USGS Hudson River salt-front gages](#)

[The U.S. Geological Survey located the salt front at HRM 36 on this year's "Day in the Life." Last year the front was at HRM 60.3 on the day of the event.]



**Englewood Boat Basin to Nyack Beach, HRM 13-31:** Despite growing up about 4 miles from the Hudson River, as a child I knew little about it. As I spent this year's "Day in the Life" with school groups in Englewood and Alpine along the Palisades, I marveled over the learning opportunities that schoolchildren have today. My first beach seining experience was at Little Egg Harbor when I was a junior in college; at Englewood today 7th graders were netting Atlantic silversides, striped bass, blue crabs, shrimp, and jellyfish, and using a dichotomous key to identify their catch. Later in the morning, after pointing out

the beauty of the fall foliage on the Palisades cliffs, 6th grade Alpine students puzzled over the calculation of "catch per unit effort" and enthusiastically shared digital photos of their own fish captures. My last stop was at Nyack Beach, where a young student kindly offered to share her loot of river glass, found along the shoreline. As I pocketed the weathered green glass shard and took a final glimpse of the cloudy autumn sky, I felt hopeful and inspired by the students' curiosity, the teachers' commitment, and the community that gathered along the Hudson to share a day in the life.

- Laura Heady, Hudson River Estuary Program

**Pier 45, Hudson River Park, Manhattan, HRM 3:** I arrived at the Christopher Street Pier shortly after 8AM to set up for a busy day with four classes back to back. As I looked over the river, there was a cormorant landing in the water. It was a good sign, and the day went uphill from there. The kids were engaged, curious and excited (so were the chaperones). A fisherman gave us two toadfish to observe and then return to the river when the students left. The weather cooperated (rain was in the forecast but waited until the evening). After a full day, as I walked along the river back to my office, I saw another (or the same?) cormorant diving. A fantastic day, book-ended by a cormorant!

- Shino Tanikawa, New York City Soil & Water Conservation District



**Cement Plant Park, Bronx River:** With the remains of a cement plant preserved here, this park is of a piece with its surroundings of warehouses, concrete plants, and salvage yards, but also an oasis of open space centered on the Bronx River. Although great strides have been made in restoring the river in recent years, the water did not look inviting to students from the Validus Preparatory Academy, a public high school in the Bronx, who had never donned waders before. Uncertainty creased their faces as they pushed a seine net through the shallows, changing to pleased amazement as the net came up alive with dozens of wriggling mummichogs (a species of killifish).

- Steve Stanne, Hudson River Estuary Program



**Lower East River and Governor's Island:** I started my "Day in the Life" at South Street Seaport Museum, where middle school students from the Ella Baker School gathered on the pier to sample the East River. At the water chemistry station on the Museum's docked schooner "Pioneer," students threw a bucket attached to a piece of rope overboard to collect water samples. At my next stop underneath the Brooklyn Bridge on the Manhattan side, staff from the Lower East Side Ecology Center worked with 6th graders from MS 157. They found Atlantic silversides and young striped bass in the seine net as the tide came in. Their core sample was mostly sand and gravel; the site is subject to swift currents and wave action from wakes. Uptown at Solar One, located on Stuyvesant Cove on 23rd Street, 4th and 5th graders from Muscota New School were sampling the water for pH, dissolved oxygen, and turbidity. The students especially enjoyed watching the color of their sample change as they added reagents during the pH testing. My final stop was Governor's Island, the new campus of the New York Harbor School. The ferry ride to the island gave me a beautiful view of New York City, including some of the places I had just been. Harbor School students did a suite of water chemistry tests and observations, but no animals were caught in the eel pots they set out that morning.

- Sarah Mount, Student Conservation Association Hudson Valley Corps



*Day in the Life begins at South Street Seaport Museum*

**Fort Wadsworth, Staten Island:** Just south of the Verrazano-Narrows Bridge, an early morning seine with National Park Service staff and students from St. Clare's School produced a shining mass of several dozen silvery fish. Most were silversides, but one white mullet stood out from the crowd.

- Chris Bowser, Hudson River Estuary Program

**Canarsie Pier, Brooklyn:** We had rough, windy weather at Canarsie Pier. Whitecaps were breaking across the bay and the tide was so strong that it uprooted one of our tide sticks, tumbling it back to shore. Our seining catch was slim, containing only blue crabs and comb jellies - no fish. The students from Robert Van Wyck MS 217 and the International High School at Prospect Heights were more interested in the enormous horseshoe crab shell we found along the beach - nearly 16 inches wide - so large that one student asked if it was the shell of a turtle. Then there was the great egret that calmly stalked through the bending reeds. Ultimately, the forbidding clouds held off and the students enjoyed a full day of fieldwork along the water.

- Ann Pedtke, Student Conservation Association Hudson Valley Corps



*Seining at Breezy Point*

**Breezy Point, Queens:** Late in the morning I found the students of Middle School 366 busy at work with National Park Service staff studying the water, waves, and fish of Rockaway Inlet at Breezy Point, the southernmost of our "Day in the Life" sites. Seining there yielded many silversides and also moon jellies. Students were careful to avoid a lion's mane jellyfish, about 8 inches in diameter, drifting in the shallows. These species can deliver a nasty sting with harpoon-like cells called nematocysts.

- Chris Bowser, Hudson River Estuary Program

#### <<<< ABOUT A DAY IN THE LIFE OF THE HUDSON RIVER >>>>

"A Day in the Life of the Hudson River" is organized by DEC's Hudson River Estuary Program, with assistance from the Lamont-Doherty Earth Observatory of Columbia University. The event is held in conjunction with National Estuaries Day, which celebrates these remarkably productive and valuable ecosystems. Many environmental education centers along the river join in the effort, partnering with classroom teachers to help students better understand their local piece of the Hudson and then share their experiences and data to gain wider perspective on the entire ecosystem. For more information about "A Day in the Life," visit <http://www.ldeo.columbia.edu/edu/k12/snapshotday>.

#### <<<< HUDSON RIVER MILES >>>>

The Hudson is measured north from Hudson River Mile 0 at the Battery at the southern tip of Manhattan. The George Washington Bridge is at HRM 12, the Tappan Zee 28, Bear Mountain 47, Beacon-Newburgh 62, Mid-Hudson 75, Kingston-Rhinecliff 95, Rip Van Winkle 114, and the Federal Dam at Troy, the head of tidewater, at 153. Entries from points east and west in the watershed reference the corresponding river mile on the mainstem.

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#### <<<< USEFUL LINKS >>>>

National Ocean Service 2010 tide predictions are online at <http://tidesandcurrents.noaa.gov/tides10/>. Tidal current predictions for 2010 are at <http://tidesandcurrents.noaa.gov/currents10/>.

Information on the movements of the salt front in the Hudson estuary is available from the U.S. Geological Survey at [http://ny.water.usgs.gov/projects/dialer\\_plots/saltfront.html](http://ny.water.usgs.gov/projects/dialer_plots/saltfront.html).

For real-time information on Hudson River weather and water conditions from eight monitoring stations, visit the Hudson River Environmental Conditions Observing System website at [www.hrecos.org](http://www.hrecos.org)

Information about the Hudson River Estuary Program is available on DEC's website at <http://www.dec.ny.gov/lands/4920.html>

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