HUDSON RIVER ALMANAC
October 8, 2009
Compiled by Tom Lake, Hudson River Estuary Program Naturalist
New York State Department of Environmental Conservation

<<<<< OVERVIEW >>>>>

This special edition of the Hudson River Almanac covers but a single date, a unique day each year when students, educators and scientists sample the Hudson River from beyond the reach of the tides to the waters of the Atlantic at Breezy Point. This seventh Annual Day in the Life of the River brought approximately 3,000 participants to the water at more than 60 sites.

<<<<< HIGHLIGHT OF THE WEEK >>>>>

10/8 - Verplanck, HRM 40.5: Our program for the Day in the Life of the River involved students from Mahopac High School. Our net caught 70 Atlantic silversides, a young-of-the-year "snapper" bluefish, and a small striped bass. The star of the day, however, was a gorgeous, golden-yellow with black bars, young-of-the-year crevalle jack (45 mm).

- Bob Connick, Scott Rizzo


snapper bluefish & crevalle jack

[Crevalle jacks, a tropical-looking fish, are late summer and early-autumn visitors to the lower, brackish estuary, straying from more southerly waters. The jack family, Carangidae, is comprised of temperate and tropical marine species whose presence here can be attributed in part to the distributive effects of the Gulf Stream's northerly flow carrying eggs, larvae, and juvenile fish. Hudson River jacks include the crevalle, Atlantic moonfish, permit, round scad, and lookdown. This was the first crevalle jack for the Almanac since October of 2007 when, during a Day in the Life of the River program, a small school of them was spotted while seining at Little Stony Point, HRM 55. Tom Lake.]

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

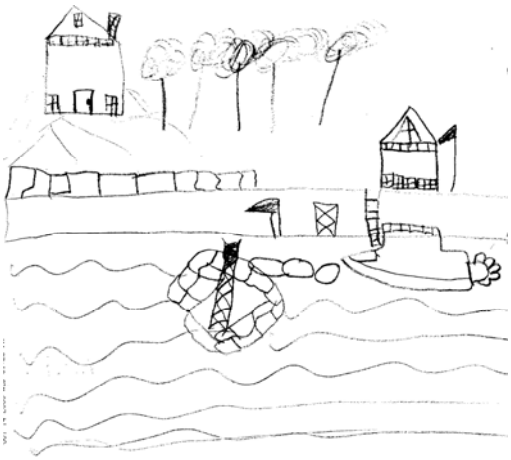

Dix Bridge, Schuylerville

10/8 - Schuylerville, HRM 186: Twenty three Saratoga County 4-Hers, Saratoga County Home Schoolers, and Adirondack School students, parents and educators met on a sunny, breezy and cool day at the Hudson Crossing Park at Lock 5 of the Hudson-Champlain Canal to participate in the northernmost upriver Day in the Life the Hudson. Underneath the old Dix Bridge the river was running fast at 70 cm per second (at the U.S. Geological Survey gauging station 15 miles upriver, it was running at 8,000 cubic feet per second). The river temperature was 57 °F. A caddis fly landed on a student's data sheet and was identified by a mother with field guide. There were many Canada geese and a few ducks floating and flying around the site.

- Doug Reed

10/8 - Schodack Island, HRM 133: When the sixth grade class from School Twelve arrived at 10:00 AM to sample the Hudson for A Day in the Life of River, the moon was still visible in the sky. This prompted one student to ask if that had anything to do with the river. What a perfect opportunity to start measuring the tides and discussing the connections between tidewater and the moon! Next we tossed in the net to haul in a catch for the students to identify with their fish keys. We caught 30 spottail shiners and 6 banded killifish. A three-quarter-inch young-of-the-year fish presented a real challenge [from the description as well as the location in the river, it may have been a gizzard shad]. It was a very successful day since the students thought they wouldn't catch anything!

- Dawn Baldwin, Ron West



Low tide at Kowawese

10/8 - Kowawese, HRM 59: The inshore shallows seem to go on forever at low tide; you can normally walk out several hundred feet and still be in water no deeper than your thighs. Today at that same distance the water barely reached our shins. It was a blow-out tide of epic proportions. When the river came back to us on the flood tide our seventh-graders from Bishop Dunn Memorial School in Newburgh caught a nice mix of young-of-the-year river herring, striped bass, white perch, and 15 blue crabs. However, the surprise catch was six four-spined sticklebacks, a small fish we rarely see that live in submerged vegetation such as wild celery and pondweed. While the fish were fun, the biggest surprise for the students was an adult bald eagle that dropped down out of a sycamore on Sloop Hill, caught a fish, and then flew back into a cottonwood feeding perch.

- Pam Golben, Carl Heitmuller

[Blowout tides are not common. They occur most frequently following several days of steady and strong north-northwest winds. However, along the Hudson winds on 10/7 were mainly from the west, not the northwest. According to Dr. Alan F. Blumberg, director of the Center for Maritime Systems at the Stevens Institute of Technology, blowout tides actually result from the winds acting on the ocean off New York Harbor, causing extremely low tides there and in turn up the Hudson. Satellite data from the National Oceanic Atmospheric Administration shows that strong northwest winds extended out from the New York Harbor and beyond the continental shelf. These winds began on October 6 and blew strongly through October 8, pushing marine waters from Maine to Delaware away from shore. The blowout tides observed on the Hudson River Estuary were a response to this larger regional event. It culminated in an ebb tide that seemed to go seaward forever, draining tidemarshes and inshore shallows to allow Day in the Life participants a glimpse of seldom seen parts of river bottom. Tom Lake, Alene Onion, Steve Stanne.]

Blowout low tide at Esopus Meadows - HRM 87

10/8 - Cornwall, HRM 57: The fourth-graders from Willow Avenue Elementary in Cornwall found a shelter from the wind on the beach and watched as our only monarch butterfly of the day fluttered past. Erin Roth pulled our seine through a shallow and muddy bay - a job made more difficult by the blowout tide. We hauled the net it onto the beach where golden shiners, spottail shiners, largemouth bass, white perch, pumpkinseed sunfish, tessellated darters, banded killifish, and a dozen small blue crabs glistened in the brilliant sunshine. Following a introduction and discussion of their life histories, they were all sent safely home. Our surprise catch was a small river herring called an alewife that was too large for a young-of-the-year (105 mm), but far too small for an adult. A mystery. The river temperature was 64 degrees F.

- Erin Roth, Arianna Drummond, Chris O'Sullivan, Tom Lake

[It has been theorized that some young-of-the-year river herrings do not follow the script and emigrate to the sea in the autumn of their first year. It is possible that a few of them stay in the estuary and become yearlings in freshwater. A competing theory is that a recent crash in zebra mussels have allowed zooplankton production (survival) to increase so that young of the year river herring have more to eat. Either situation would account for this large juvenile alewife. Tom Lake.]

10/8 - Garrison Landing, HRM 53: As part of the Day in the Life of the River, seventh grade students from Garrison Union Free School, as well as educators from the Audubon Constitution Marsh Sanctuary and the Hudson Highlands Land Trust stood in the sun along the river with sleeves pulled over their hands on a cool and breezy morning. Soon, a summer flounder dropped out of the net, splashing into our tray and startling the small, dark naked goby we had placed in a nearby jar just moments before. In all we caught a huge assortment: pumpkinseed sunfish, spottail shiner, golden shiner, banded killifish, white perch, American eel, striped bass, largemouth bass, tessellated darter, bay anchovy, and blue crab, as well as the summer flounder and naked goby.

- Cathy Bakker, Kevin Keegan, Charley Wilkinson, Rich Anderson, Eric Lind

Estuary discussion at Garrison Landing

[The students witnessed a great Hudson River phenomenon: the salt front! Scientists commonly use 100 parts per million (ppm) of chloride as the "line" marking the leading edge of dilute seawater pushing up the river. Using small titrator strips on the flooding tide this morning, we found chloride levels to be 33 ppm at 9:30, 46 ppm at 10:30, and 108 ppm at 11:30 AM. Chris Bowser]

[The U.S. Geological Survey gave the official salt front location for the day at HRM 60.3, but the computer model gives the location at the time of high slack tide. The students were taking measurements well before high slack water, the point when the current pauses as it switches from a flood moving upriver to an ebb moving towards the ocean. In addition, the model may not have taken the blowout tide into account. Steve Stanne.]

USGS science for a changing world

Visit 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, tab delimitted). The salt front is defined as 100 mg/L chloride concentration.
- Current conditions table for all USGS Hudson River salt-front gages

10/8 - Croton River, HRM 34: The Boyz at the Bridge were in awe. George Hatzmann and Midgie Taube had never seen such a low tide as we were experiencing in the second day of blowout tides. Surely the tides were the lowest that I can recall, but I am the new kid; when Midge and George concur you are privy to the combined knowledge of about a century and quarter of close observation. I had the feeling that I could, and the wish that I could walk dry-shod from the tip of Croton Point nearly a mile across Croton Bay to Crawbuckie Beach near Ossining. Last time I saw a tide close to this low, river bottom I had never seen forty years on the estuary beckoned. I filled my pockets with fishing lures, lead sinkers, snap swivels and such before I was out of tide and time.

- Christopher Letts

Fish ID at Piermont Pier

10/8 - Piermont Pier, HRM 25: It was a blustery day on the pier with the wind gusting to over twenty miles per hour. One hundred Pearl River, Tappan Zee, and Clarkstown South high school students took to the water to sample and assess for our A Day in the Life of the River program. For a while we observed and recorded, finding the shallows filled with small comb jellies (ctenophores), and the shoreline littered with small blue crabs. The seine yielded a few handfuls of Atlantic silversides, and an assortment of menhaden, striped bass, and white perch ranging from 90 cm to 220 mm in length. For a group of students who had started the day commenting on the river being polluted, this was proof that the river was still a vibrant ecosystem. The salinity hovered around 7.5 parts per thousand and the water temperature was 63 °F.

- Margie Turrin

10/8 - Inwood Park, Manhattan, HRM 14: The Young Women's Leadership School spent their Day in the Life of the River along the Harlem River in the marshy fringes of Inwood Park, setting killifish traps and seining with stunningly poor results. In prior year their traps and net have yielded a healthy assortment of mummichogs, silversides, striped bass and blue crabs. But this year they pulled in empty traps and netted only a single 12 inch-long white perch. They were stunned and disappointed, wondering what might have caused this turn of events.

- Susan Vincent

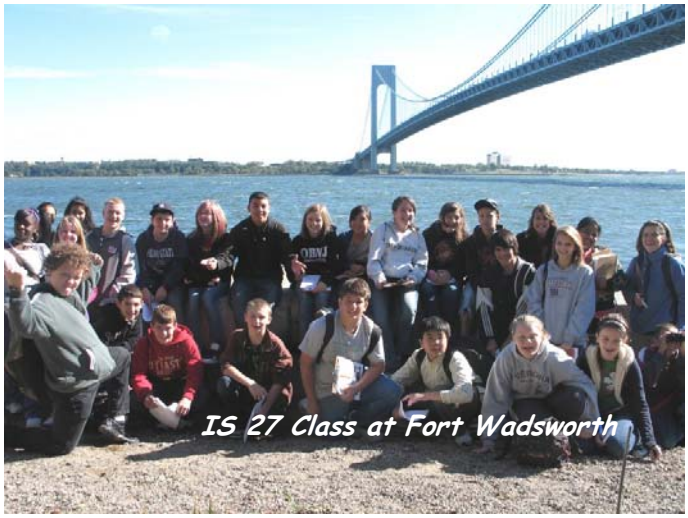
Fish ID at Inwood Park


Seining on the Harlem River

10/8 - Harlem River, Manhattan: Obed Fulcar and his students from MS 319 - part of the Sherman Creek Project - spent the afternoon exploring the precious wetlands of Sherman Creek and Swindler Cove on the Manhattan shore of the Harlem River. Students pulling core samples of the rich organic mud flats, found 3 species of crabs (mud crab, Asian shore crab, and blue crab) among the rocks, and seined up silversides and mummichogs from the shallows. Obed fascinated us with stories of wildlife "in the hood", including muskrats, raccoons and herons. As we sampled, a red-tailed hawk cruised by with a small animal grasped in its talons.

- Chris Bowser, Steve Stanne

10/8 - The Narrows, Staten Island: Before the students from IS 27 arrived at Fort Wadsworth, I spotted a flock of two dozen brant headed southward with the wind at their tails. Later, two peregrine falcons squabbled under the nearby Verrazano Bridge. Also passing under the bridge was the ship carrying the Dutch sloops home from the Quadricentennial celebrations on the river. The strong north wind confused students trying to determine which way the tidal current was moving. Waves were parading southward, and driftwood thrown in to track the current was blown south, making it appear that the current was ebbing toward the sea. But then we persuaded a teacher to give up an apple for science, and tossed it in. With most of its mass floating below the surface, and just a tiny bit exposed to the wind, the red fruit paraded north on the flood current, moving against the wind and waves.


IS 27 Class at Fort Wadsworth

- Steve Stanne


A Day in the Life at Brighton Beach

10/8 - Brighton Beach, Brooklyn: While students from Brooklyn's International High School focused on their Day in the Life tasks, a common loon fished just offshore and two northern harriers migrated above the beach. Our seine captured two northern kingfish along with 80+ Atlantic silversides.

- Steve Stanne

10/8 - Breezy Point, Queens: For our Day in the Life of the River at its outermost limits, we caught about 150 Atlantic silversides and 3 young-of-the-year bluefish. The later were no surprise except that they were no more than two inches long, about the size we see in the Hudson River in June. The students from Louis Armstrong Middle School also collected 30-50 moon jellyfish, the largest of which was six inches in diameter. The salinity was about 32.6 ppt.

- Steve Stanne

Coring at Breezy Point

[According to Dr. John Waldman of Queens College, there usually are distinct spring and summer spawned cohorts of young bluefish. The spring group dominates up estuaries like the Hudson, and the summer group along the coast. The young born later in summer would be smaller now; the tiny bluefish at Breezy Point were most likely from that group. Bluefish caught up the Hudson on Day in the Life were larger - around six inches long. Steve Stanne.]

<<<<< 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.

<<<<< TO CONTRIBUTE YOUR OBSERVATIONS OR TO SUBSCRIBE >>>>>

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Weekly issues are archived at http://www.dec.ny.gov/lands/25611.html . The DEC website's search engine can find species, locations, and other data in the archives.

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

National Ocean Service 2009 tide predictions are online at http://tidesandcurrents.noaa.gov/tides09 . Tidal current predictions for 2009 are at http://tidesandcurrents.noaa.gov/currents09 .

Information on the movements of the salt front in the Hudson estuary is presented by the U.S. Geological Survey: http://ny.water.usgs.gov/projects/dialer_plots/saltfront.html .

For real-time information on Hudson River weather and water conditions from six monitoring stations, visit the Hudson River Environmental Conditions Observing System website at 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

Copies of past issues of the Hudson River Almanac, Volumes II-VIII, are available for purchase from the publisher, Purple Mountain Press, (800) 325-2665, or email purple@catskill.net .