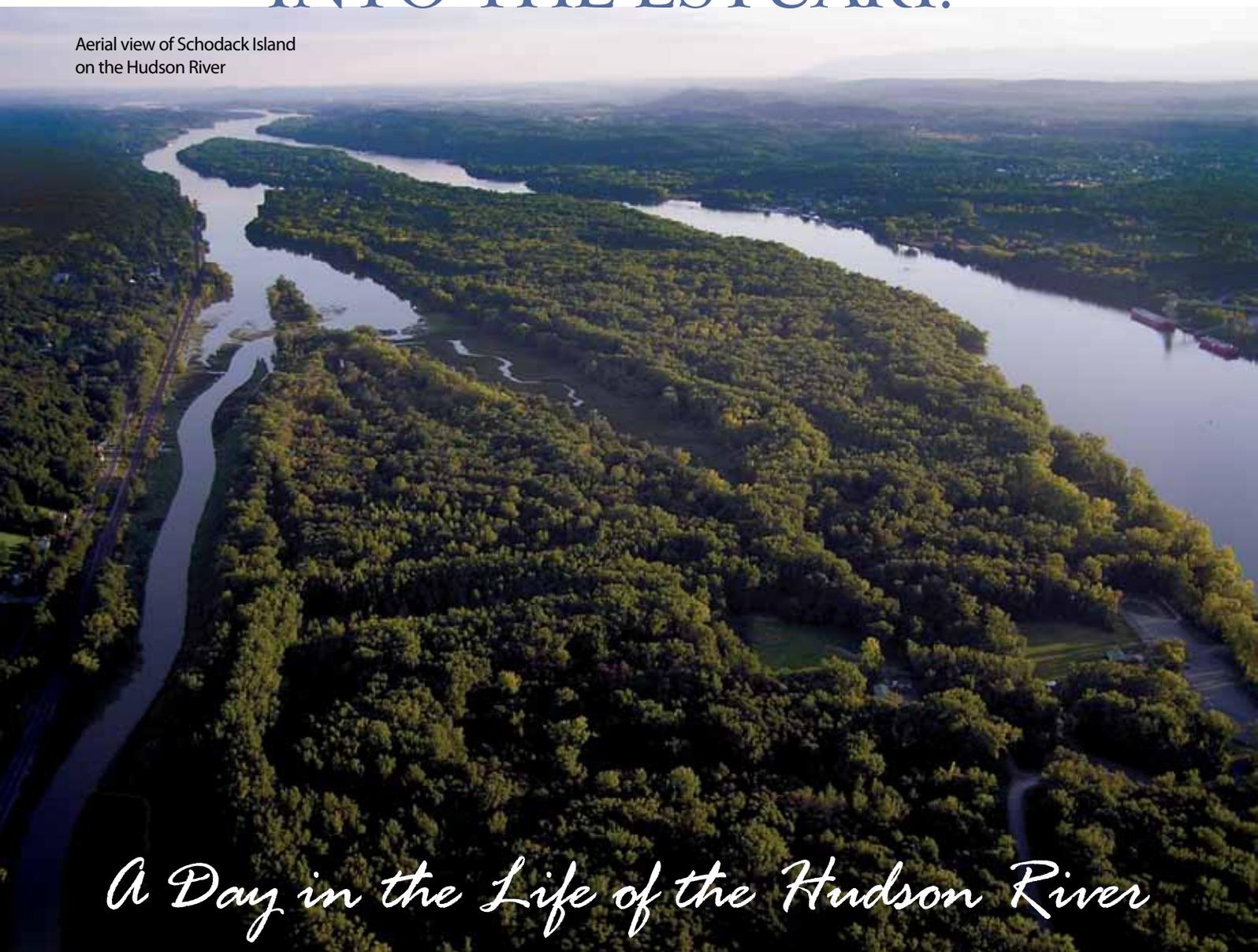


# OUT OF THE CLASSROOM, INTO THE ESTUARY:

Aerial view of Schodack Island  
on the Hudson River



## *A Day in the Life of the Hudson River*

By Chris Bowser

Photos courtesy of the Hudson River Estuary Program

*It all begins on Thursday, October 4th, 2012.*

That day, at 60 sites on the Hudson River Estuary, from the Federal Dam in Troy to the Verrazano Narrows Bridge in New York City some 150 miles downstream, you can find a diverse mix of students, teachers, volunteers and environmental educators armed with clipboards, seine nets, thermometers, water quality test kits and—most important—unbridled excitement for learning.

“It” is the Hudson River Estuary Program’s (HREP) tenth annual “Day in the Life of the Hudson River,” a one-day blitz of river study that last year brought more than 3,400 students and

teachers out of the classroom and into the river...some for their first time, and often with the help of environmental educator partners. After a day of catching fish, testing the water’s salinity and dissolved oxygen content, and describing the river in both scientific and aesthetic terms, teachers submit their classes’ data to the HREP to be posted online for all to see and use.

The event was conceived by HREP’s Steve Stanne back in 2003. “The idea was to join schools and environmental educators, in a coordinated look at the whole estuary,” Stanne





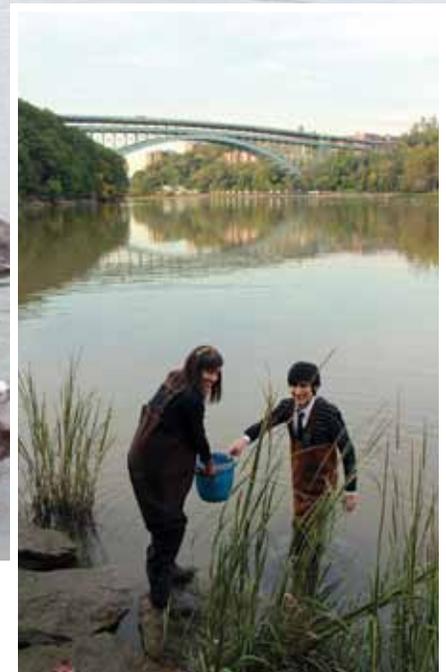
Students participating in Day in the Life of the Hudson River have fun collecting samples, while gaining a greater appreciation for the river's importance in our lives.

reflects. “By looking at their local piece of the river and comparing it to others, they would begin to understand the whole ecosystem.”

In that first year, students visited 13 sites, and Steve was able to personally visit each one. Nowadays, two dozen DEC educators and scientists visit three or four sites each to collect samples, answer questions, and reinforce the interconnectivity of the entire estuary. “Not just the river towns, but the watershed as well,” says Steve. “When you paste all the sites together, you get a real snapshot of the whole system on that one day.”

Each year exposes a new set of young citizen scientists to the wonders of the Hudson, illustrated by the following two events conducted three years apart.

*Day in the Life 2011, October 18:* The students of Ossining High School arrive at their community riverfront park and immediately start dividing into teams, assembling equipment, and figuring out who will do what. Teacher Bridget Bauman matches their energy by shuttling between groups and pointing kids in the right direction. She says all the work is worth it. “This day makes the students’ connection to the river more tangible. We do a whole unit on the Hudson...right here is where classroom lectures become reality.” One of her students comes waddling out of the river in giant rubber waders three sizes too big, holding a six-foot length of PVC pipe with a red valve at one end. “I got it!” he smiles, and proudly shows off a ten-inch cylinder of river bottom sediment—a core sample he and his colleagues can examine.





To help support Bauman and other teachers, HREP provides lesson plans and other resources to help extend the field exploration into the classroom. The seine net at Ossining, for example, revealed both brackish-water Atlantic silversides and freshwater spottail shiners, an indication that the leading edge of salty seawater was nearby. Both fish species are commonly caught at other sites; by analyzing this data students can compare these species' distributions and learn a great lesson about the link between the physical river and its biology.

"This event makes science exciting for kids," says Margie Turrin, education coordinator for the Lamont Doherty Earth Observatory of Columbia University and a lead member of the Day in the Life team. "It's not easy to get kids excited about dissolved oxygen and turbidity, but once you give them the tools and the understanding of how these important pieces fit this puzzle...you just watch the light bulbs turn on."

Part of this puzzle is how the river is changing, or might change in the future. "We're looking at a small data set, just one day out of a year," continues Turrin. "But this is real science. The kids get out here, collect data, compare sites and



years, and think of new questions to ask about a changing environment."

And if this event has proven one thing in nearly ten years, it's that the Hudson estuary is a dynamic ecosystem full of surprises. Rainy years may push the salt front all the way downstream to Piermont, while dry years see it creep north to Poughkeepsie. Sometimes the seine pulls up the "usual suspects" like white perch or striped bass; but when you least expect it there's a beautiful crevalle jack fish swept in from southern waters, or an impossibly slender pipefish, or a



Studying the river can be a lot of fun.

claw-clacking blue crab. In October 2011, students measured high levels of turbidity from suspended particles clouding the water, a firsthand lesson that the effects of a big storm like Hurricane Irene last a long time and can travel far.

#### *Day in the Life 2008, October 7:*

Genesis and Yahdi, two students from the Young Women's Leadership School in East Harlem, slowly made their way through the muddy waters of the Inwood Park tidal basin, a small inlet of the Harlem River. Yahdi tottered uncertainly (it was her first adventure wearing waders) and then sat down in the water with a theatrical splash. The wet jeans and muddy faces couldn't hide the big smiles on the girls' faces, and the nets and traps yielded a school of mummichogs, small killifish whose name means "goes in crowds." Their research revealed that this mud-filled tidal lagoon teemed with aquatic life in the midst of the big city.

While the Harlem River is not technically the Hudson, it is undeniably connected as part of the network of waterways around New York City. The estuary connects the freshwater streams running off the hills bordering the Hudson Valley and the saltwater lapping at the ocean's shore. And thanks to active interest from both teachers and environmental organizations, over the years, Day in the Life sites have blossomed on the Harlem, Bronx, and East Rivers, as well as Jamaica Bay, Newtown Creek, and seaward to Rockaway Point. In this tenth year, the event is even expanding into the Mohawk River and Long Island Sound. These regions will have to tailor their methods and protocols, but the goals are the same: students and education partners collecting useful data, and making a personal connection with their waterways.

Each Day in the Life becomes a Hudson River logbook, recording the expected and the unusual from year to year. If results



Samples collected during the event are brought back and analyzed.

from Day in the Life of the Hudson River show anything, it's that the Hudson, from the top of Mount Marcy to the Albany waterfront to the Staten Island beaches, has come a long way from environmental conditions of 40 or 50 years ago. But many challenges remain. A key solution may lie with the students who explore the river during this annual event. These students establish memories and build connections to the Hudson which will hopefully translate into a future citizenry that cares about this ecosystem; a community of stewards who understand

that an estuary is complex, dynamic, and worthy of protection.

So this October, come rain or shine, dozens of classes will once again leave their classrooms for a chance to explore the mighty Hudson...making it their river.

**Chris Bowser** coordinates Day in the Life of the Hudson River for DEC's Hudson River Estuary Program and National Estuarine Research Reserve, in partnership with Cornell's Water Resource Institute. For more information, including how to register as a participating school, partner, or volunteer, please go to: [www.dec.ny.gov/lands/47285.html](http://www.dec.ny.gov/lands/47285.html)