

What Is Seining? Tom Lake

Students frequently ask, "Why do we seine?" Seining is like a mystery. It is a doorway into a river that we cannot otherwise see or experience. We seine for understanding, for the magic of discovery. As the net comes in and the twine is unfurled, the experience can be akin to opening a present. Most of all, seining is like reading a book that is filled with knowledge.

The word seine is both a noun and a verb. As a noun, a seine is a net with a float-line on top, a lead-line on the bottom, and tight meshes in between. Seine is from the Latin *sagēna*, which means a fishing net designed to hang vertically in the water, the ends of which are drawn together to enclose fish.

As a verb, seining is an extraordinary tool used to sample an area and collect aquatic animals without undue injury to the catch. Unlike birds, butterflies, or wildflowers, all easily viewed, fish are a cryptically mysterious part of our community of life.

Along most of the river and its tributaries reaching halfway across New York State, small stone net sinkers fashioned from palm-sized pebbles can be found strewn along beaches and ancient fish processing sites. Archaeologists have excavated post-holes of fish-smoking huts along the estuary where migrating fish from the sea, such as sturgeon, shad, and striped bass, were captured, processed and smoked to extend their shelf-life.

This is an important aspect of our river's deep-time legacy. When we gather students on a beach, poised to discover what is home in the river, we like to explain that others, like ourselves with curious minds, stood here long ago. With much skill and patience, they would set their seine and hope for a rewarding haul. They were our first seiners and, unlike us, they were seining for sustenance.

Seining accounts from *The Hudson River Almanac*

The Almanac is a weekly newsletter to capture the river's spirit, magic, and science by presenting observations from many individuals who delight in the diversity of nature.

5/26 – Beacon, Hudson River Mile (HRM) 61: A strong westerly breeze pushing waves diagonally across the beach created awkward footing as we seined. With new algal growth, the bottom felt as though we were walking on "greased cannonballs." Even though the river had warmed to 67 degree Fahrenheit (F.), and the half-tide was right, our catch was meager. One surprise was young-of-year alewives (70 mm), an early arrival from spring spawning. Our net also collected several small "shoe-string" eels, a colloquial name for 9-14-inch American eels of average "shoe-string size.

- Tom Lake, T.R. Jackson, B.J. Jackson

6/19 – Beacon, HRM 61: A sharp south wind had built a strong chop that was striking the beach creating a turbid high-energy zone. When our net came in we thought we had caught a school of small white perch – the net was filled with many small bright-white shapes. Peeling back the top seam-line, we discovered a seine full of white flowers. Looking just down the beach, we saw that we had netted not far from a northern catalpa tree in full bloom. The strong wind had sent the flowers into the water. Our next haul caught the expected: eight white perch. With tacit approval from one of them, we inspected its gut. It was fairly filled with amphipods (*Gammarus* sp.). The river was 71 degrees F.

- Tom Lake, T.R. Jackson B.J. Jackson

6/23 – Yonkers, HRM 18: We held our River Explorers Program today at the Sarah Lawrence Center for the Urban River at Beczak. Seven students and their parents, many first-timers, helped us seine the river and the low tide gave us great promise. They were excited that their data would be used by DEC, and elated to be scientists for a day. High count in our seine was 51 young-of-the-year (YOY) Atlantic menhaden, a marine herring. Invertebrates included moon jellyfish, shore shrimp, and comb jellies.

- Gabrielle Carmine, Toni Jackson, Anjali John, Sam Collins-Zaluda

9/21/2017 – Kingston, HRM 92: We hauled our 30-foot seine today on Kingston Point Beach looking for fish for our fourth-grade classroom. Young-of-the-year fishes dominated our catch including river herring (200) and striped bass (9). The striped bass went to my classroom to amaze my fourth graders and then to be released after school.

- Steve Hart, Tom Mulvahil

10/22 – Brooklyn, New York City: Eighty eighth-grader students from Brooklyn Heights joined Brooklyn Bridge Park Conservancy educators on the East River at the Pier 4 beach for seining and water quality testing as a part of the annual Day-in-the-Life. Among the fishes, high count was Atlantic silverside (584), as well as bay anchovy, winter flounder, northern pipefish, and Atlantic menhaden. In addition, hermit crab, ribbed mussel, moon jellyfish, and several Beroe's and Leidy's comb jellies were collected. Though Beroe's comb jellies have likely been caught in our 12-year seining history, this marks the first time we have specifically recorded each species of each comb jelly.

-Christina Tobitsch

12/1 – Beacon, HRM 61: This was not how a morning on the beach ought to be – a test of endurance. There was no sunrise, the sky was a leaden gray, and the air was frigid 19 degrees Fahrenheit (F). But we were committed to discovering what was home in the river today, even if that turned out to be nothing. We seined with some urgency given the winter storm warning in effect – a serious storm was close. We agreed: one fish and we were out of there. Our goal was reached on the next haul, a single golden shiner (*Notemigonus crysoleucas*), a small, 48-millimeter (mm) fish that never looked so good.