

# Netting new insights into LI's fish



IN THE FIELD

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**S**alt spray flew off the Great South Bay as Peter Malaty towed a 45-foot fishing net through choppy waves off Blue Point.

Closer to shore, fellow Queens College biology student Ezra Frager held the other end of the seine net vertical as he walked, letting the current sweep fish inside. He moved 1,000 feet to the east, then signaled to Malaty, who headed back in. The two pulled the net onto the sand, aqua mesh aquiver with crabs and gleaming anchovies.

Malaty, 23, a graduate student from Lindenhurst, was after more than just baitfish on that recent summer day. Armed with a GPS locator and a team of undergraduates, he was retracing the steps of biologists who, over one summer in 1938, created a landmark survey of Long Island's salt-water fish population.

Malaty's goal: to create an updated snapshot of the fish now present in local waters and see how the population may have shifted since the region's dramatic suburban transformation. Unlike the stock assessments that federal scientists use to estimate total fish populations, this survey is intended to show the range of species that are here and their relative abundance. Malaty's full data analysis should be completed by winter or spring.

## Recreating 1938's method

During their month of fieldwork in August, Malaty's team used nets similar to those from the 1938 survey. They collected samples at the same 150 or so locations and at the same times the state biologists had done, traveling from North Shore to South Shore and along the region's bays and estuaries.

"Long Island has changed drastically in the past 70-odd years," said Malaty, whose project will serve as his master's thesis. "It was an incredibly fertile fishery back then."

Researchers conducting the 1938 survey reported 80 fish species in nearshore water. But even then, pollution from duck



farms and other sources raised red flags for fisheries biologists. They noted that some local areas had been "seriously damaged" by drainage projects, runoff, dams and other alterations to the shoreline.

"Fortunately," wrote state ichthyologist J.R. Greeley, "environmental conditions in the shore waters have remained, on the whole, very favorable for fish production." Since then, wetlands have been filled and shorelines girded with bulkheads. Storm water runoff that flows over pavement and through storm drains pollutes streams and bays.

Some of the bigger aquatic changes are well known. Juvenile fish still thrive in some estuaries, but clams and oysters have disappeared from many of

the bays they once dominated.

## Growth and decline

Other trends are less obvious. For instance, Malaty has found that the small, slender bait fish known as silversides now appears to dominate many inshore fish communities. It's not clear why — one theory is that the shellfish decline has reduced competition for the tiny marine organisms silversides feed on. In 1938, Greeley caught at most 200 silversides at one time. Malaty routinely got hundreds this summer, at one point netting 3,000 in one go.

Anchovies also remain plentiful. At the Blue Point site, the students pulled up 250 bay anchovies in the first seine, along with 42 silversides and one juvenile bluefish measuring 5½



Kevin Jhun of Woodside, Queens, and Peter Malaty of Lindenhurst net fish in Great South Bay in Blue Point.

NEWSDAY PHOTOS / JENNIFER SMITH



Peter Malaty, left, holds a juvenile bluefish. Above, he holds bay anchovies. Malaty is recreating a 1938 survey of LI's coastal waters for his thesis.

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inches long.

"It seems like it's a factory for bay anchovy," said John Waldman, Malaty's adviser and a Queens College biology professor.

After pulling in the net, the students shake out the crabs and eelgrass, then dunk the fish in a bait tank that circulates oxygen to keep them alive. Junior Kevin Jhun, 20, of Woodside, sat on a bucket and set a wooden measuring board across his knees. He reached into the bait tank and grabbed a handful of fish, then smoothed one out straight along a ruler embedded in the surface. "Anchovy, 83 [millimeters]," Jhun said, tossing the tiny fish back into the surf. Frager, 19, a sophomore from Jamaica, jotted down the number. And so it went, dozens of 2- to 3-inch bait-

fish measured and noted. Students also recorded the water temperature and measured salinity and dissolved oxygen levels.

Both a scientific and a historic endeavor, the project also provides a window into a watershed moment in New York conservation. "The survey trained many of the fisheries biologists that later became the statisticians and managers and professors throughout the country," said Robert Daniels, curator of ichthyology at the New York State Museum in Albany.

He said the full 1938 survey has attained a kind of cult status among fishery managers and biologists, who sometimes circulate tattered photocopies of the original work.

"They love it," Daniels said. "It ties them to the past."