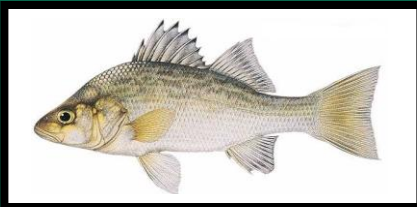


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The *Topsail Times* is designed and edited by Catherine Stankowski, and written by Clearwater's Education Staff

## SPECIES PROFILE



You guessed it! Last month's species challenge was the **white perch**, pictured above.

One of the first facts you may have found about this fish is that it is not a perch! The Percidae family contains darters, yellow perch, saugers, and walleye to name a few perch in NY waters. The white perch is in the temperate or true bass family along with striped bass and white bass. Its Latin name is *Morone americana*. You will notice the similarities of these fish with their rough silvery scales, spiny double dorsal fins, and numerous small teeth.

White perch range from the brackish water to fresh and are probably the most commonly caught fish aboard *Clearwater*. They reproduce in spring in the shallows of the river. Referred to as **broadcast spawners**, they release their many thousands of eggs to be fertilized in the water column. They do not make nests or provide parental care like the black bass. They spawn in tributaries and gravelly shoal areas of the river. The eggs sink to the bottom and attach to rocks and vegetation, and hatch in 3 to 4 days.

Small white perch will eat eggs and plankton, while the adults feed mostly on fish. They are rarely more than 12 inches long, but are still a popular sport fish.

-Eli Schloss

# CLEARWATER'S

# TOPSAIL TIMES

*Informing the Next Generation  
of Environmental Leaders*



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## CAPTAIN'S LOG

Sloop *Clearwater's* sailing season wrapped up at the end of October, and we headed into our equally important winter maintenance season. In November, the sloop is hauled out of the water for her yearly U.S. Coast Guard hull inspection. At the same time, the crew applies a new coat of **anti-fouling** bottom paint to inhibit marine growth on the hull and **recaulks** some hull seams to keep the vessel watertight. After relaunch, *Clearwater* heads to her winter dock. This year, she will moor at the new Kingston Home Port and Education Center on the Rondout Creek.

During the winter months, the sloop transforms from a working sailing vessel to a home make-over worksite. First, the crew **downrigs** the sloop—the **topmast** comes down to deck; the sails are taken off and stored ashore, as are the boom and gaff; all of the moving lines and blocks (running rigging) are removed and carefully stowed. Next, the crew builds *Clearwater's* winter shed. The 'shed' or winter cover is a wooden frame erected over the boat, covered with a layer of industrial shrink-wrap. This gives *Clearwater* the appearance of a greenhouse or marshmallow from the shore. Finally, before winter maintenance starts in earnest, Dr. Octopus- the furnace- is installed to keep the **bilges** from freezing. Over the course of the winter, all accessible surfaces on the sloop are given a fresh coat of paint, varnish, or oil; the engineering systems are examined in depth; and the **blocks** and **running rigging** are serviced. In addition many small projects are undertaken to counter the wear-and-tear of close to 12,000 students visiting the sloop each sailing season.

The Kingston Home Port and Education Center (or 'Barn', as we call it) will serve as the sloop's winter shop for the first time this year. It will house our large woodworking tools such as the table saw, band saws, drill press, planer, and jointer. It will also provide a heated workspace for painting, varnishing, block service and other winter maintenance projects. Last but not least, the Barn will give the sloop the capability of extending our educational programming into the winter months. The sloop's captains and crew look forward to working in our new shop this winter. Come see us at one of our Winter Open Boat Potlucks!

-Captain Beth Deal



Above, a new perspective on the boat:  
*Clearwater* hauled out of the water!

Left, *Clearwater's* crew stows our 3,000 square  
foot mainsail at our winter shop.

Send us your pictures and stories about *Clearwater* and the Hudson River!

Hudson River Sloop *Clearwater*, Inc. Attn: *Topsail Times*  
724 Wolcott Ave., Beacon NY 12508 sail@clearwater.org

# PLANKTON!

What comes to your mind when you hear the word “plankton”? Let me guess: SpongeBob! Actually, **plankton** are living organisms, unable to swim against a current. The word “plankton” comes from the Greek word “*planktos*” which means drifters. They are usually tiny creatures, but the lion’s mane jelly can be over 100 feet long and it spends its whole life drifting. Organisms that drift during every life cycle are called **holoplankton**. Examples of holoplankton include copepods (as in Sheldon J. Plankton), algae, and ctenophores, or comb jellies. Organisms that only spend part of their life-cycle as plankton, like sea urchins, crustaceans, and most fish, are called **meroplankton**. They begin life as drifters, but become swimmers as they grow.

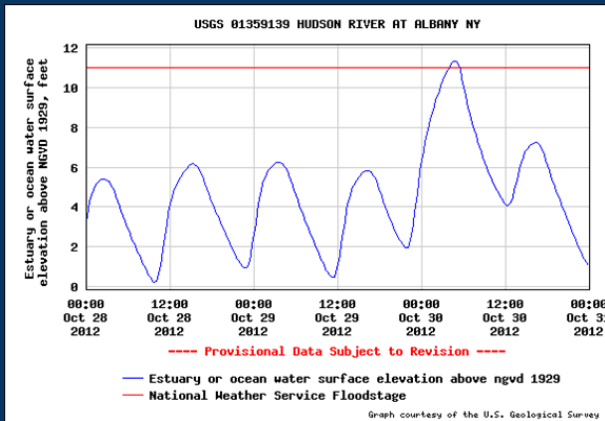
Plankton can be divided into three groups, based on their **trophic levels**, or position in the food web. **Phytoplankton** is plant plankton, such as algae, and uses **photosynthesis** to produce food from sunlight and carbon dioxide. They also release 50 to 85% of the earth’s oxygen into the atmosphere, through a process called **respiration**. They are producers, and the basis of the aquatic food web. **Zooplankton** is animal plankton, such as copepods and krill. They are consumers; they eat other plankton. They are also eaten by many species of fish, crustaceans, and mammals. The blue whale is a giant filter feeder and only eats zooplankton! **Bacterioplankton** are recyclers and are responsible for breaking down **detritus**-fragments of dead organisms and waste in the water column. These three groups play an important role in the aquatic food web and are necessary for the survival of all aquatic and much terrestrial life. And you can catch and look at them yourself!

To capture plankton, you can use a plankton net. If you don’t have one, you can easily make one with a wire clothes hanger, a plastic bottle, a rubber band, a string, and a pair of pantyhose. You can find instructions on how to assemble one online. Once you have constructed your plankton net, visit your local water front and try it out. Just hold onto the string and drop the net into the water. Allow the current to fill up the bottle, or walk back and forth with your net, keeping it just below the surface. After 10 minutes, pull the net back up and dump the contents of the bottle onto a flat white tray. Look closely, do you see anything moving around?

- Jocelyn Bertovich



**Different kinds of plankton:**  
Above, a lion’s mane jelly,  
Below, a calanoid copepod.  
Bottom, the plankton net we use  
onboard- you can make and use  
one yourself!



**Above, small boats washed aground by Hurricane Sandy’s storm surge and high winds.**

**Left, a water level chart at Albany shows the height of the storm surge 145 miles from the mouth of the river!**



## SUPERSTORM SANDY VS. THE HUDSON RIVER

Superstorm Sandy, which sounds like what would happen if your aunt became an X-Men character, really hit the East Coast hard. Most of the damage came from the storm surge (sounds like an X-Men superpower, no?) and wind damage. This is different from last year’s big bad storm with an innocent name, Irene, and her sneaky sidekick Lee, which battered us with rain and its erosive powers over land. What did Sandy do that was different from Irene?

Tropical Storm Irene was downgraded from a hurricane as it hit land and died down. It didn’t cause as much wind damage as a hurricane, but Irene and Lee together dropped enough rain to flood streams, erode riverbanks, and wash a ton of dirt into the Hudson River, along with other stuff from all over the watershed.

Checking out the “HRECOS Story” online at hrecos.org, you can see that Irene had drastic impacts on some of the parameters that HRECOS monitoring stations (like the one onboard Clearwater) study: Turbidity went up as sediments washed into the river made it murkier and murkier. Salinity dropped as large quantities of rain (fresh water) pushed the estuary’s brackish/salty water out to sea. In fact, the storm caused the river to become fresh from source to the sea for the first time in a long time- no significant salt water in the estuary at all! Irene also messed with the depth of the water, caused higher high tides and almost eliminated low tides. This is more of that storm surge we talked about before.

The storm surge from Hurricane Sandy was particularly bad. There was severe flooding along the New Jersey coastline, all over New York City, and Long Island. Flooding occurred in tunnels, streets, and basements. The storm surge even pushed all the way up the Hudson creating extra-high tides as far north as Albany. Have a look at the water level chart above to see some of Hurricane Sandy’s effects on the area. The Sloop Clearwater floated above some trees during some especially high tides, but didn’t experience any significant damage. We are thankful to be so lucky, and our thoughts are with all of the communities still recovering from the storm.

-Tom O’Dowd