

# Research on Floating Educational Science Classrooms

[https://en.wikipedia.org/wiki/Miami\\_Science\\_Barge](https://en.wikipedia.org/wiki/Miami_Science_Barge)

<https://youtu.be/TdmZsmjYJ-U> (video for kids but gives a good overview of the barge)

## Floating Classroom Info from other places utilizing floating Science classrooms

1. Initial Costs and maintenance
2. Initial and ongoing funding sources?
3. Charges/price per passenger/group

On Saturday, May 15, 2021, I spoke with Michael Petrus re: the Learning Barge on the Elizabeth River that flows into the Chesapeake Bay area of Virginia. He was the designer of the upper part of the barge and a marine architect designed the hull. Michael suggests that in the very beginning, the team needs to contact a marine architect who will know the rules and regulations of the Coast Guard for a project like this.

This is the site that shows the Learning Barge that is on the Elizabeth River

<http://www.crismanpetrus.us/projects-learning-barge.html>

It is part of the Elizabeth River Project - a non-profit organization

<https://elizabethriver.org/dominion-energy-learning-barge>

The group raised \$1million for the project. The funds were raised from private donations from corporations and wealthy donors. They were able to get \$75K from the EPA because it is environmentally oriented towards helping to study the water quality. 20 years ago, the water quality got an "F". Today it is a "C" with many species returning from heron, to bald eagles, to dolphin and otters.

The barge cost \$750K with the steel hull costing \$500K

It is 35' wide x 180' long about the size of a 1/8 acre.

They have a \$200,000 endowment for maintenance but have not used much of it because they get maintenance fees donated.

Although it has wind & solar generators, it is not self-moving. It needs a tug to move up & down the river. The generators are for heat in the winter.

After the hull was complete, the Elizabeth River Project group had lots of donated materials to build the topside, as well as many volunteers to do the building. They also had volunteer student labor.

[Saratoga barge: TAKE THE CLASSROOM TO THE LAKE!](#)

RATES \$15 per student Max 24 persons

Pontoon boat used initially in 2017 bought a fantail launch....probably not for Lake Tahoe.

In cooperation with the Saratoga Lake Association, we are proud to offer a hands-on floating classroom experience for area schools. This 90 min experience will let children and adults learn about food chains, water quality and the effects of pollution, runoff invasive species! We check water quality, temperature, Ph, and look for zooplankton in the water column!

[https://www.chesapeakebay.net/news/article/photo\\_essay\\_the\\_learning\\_barge](https://www.chesapeakebay.net/news/article/photo_essay_the_learning_barge)

Chesapeake Bay Floating classroom - Learning Barge

Elizabeth River Project's million-dollar floating classroom

Smaller than a basketball court

The Learning Barge launched in 2009 and has seen almost 60,000 students—about 10,000 a year—according to Dunbar. She floats from group to group as staff guide lessons on how to build a nest like an osprey or how to use buckets to collect water samples.

“The [Elizabeth River Project's] board was very concerned about maintenance in the beginning,” says Marjorie Mayfield Jackson, executive director of ERP. “But the ship repair community, and the tug boats—the maritime community—has adopted the barge.”

**It takes about \$200,000 a year to operate the Learning Barge**

The sum of the Learning Barge's parts, which are powered entirely by solar and wind power captured onboard, contribute to a [meaningful watershed educational experience](#) for students in the Norfolk area—including several low-income school districts—who may have never really spent time on a river despite living so close to one.

*A wind turbine provides power to the Learning Barge while evacuated tubes absorb solar energy that heats water on the barge. The Learning Barge is dubbed "America's Greenest Vessel" by the Elizabeth River Project, which owns and operates it, and other sustainable features include 1,600 watts of solar panels, 1,200 gallons of rainwater collection, and composting toilets.*

photo page: <https://www.flickr.com/photos/29388462@N06/albums/72157659791436894>

Learning Barge is part of the Elizabeth River Project <https://elizabethriver.org/>

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Summer Brown

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<https://elizabethriver.org/dominion-energy-learning-barge> Has photo of the barge at dock  
Elizabeth River Project's Dominion Energy LEARNING BARGE is the world's first floating wetland classroom and America's Greenest Vessel. It's a "steward ship," teaching how to help restore the Elizabeth River.

In partnership with the University of Virginia and Matherne Marine Design, the Learning Barge was launched in 2009 and since has educated over 96,000, K-12 students and teachers.

Powered by sun and wind and with live wetlands, an enclosed classroom, composting toilets and a rainwater system, the 120'x32' steel deck barge is designed to model and teach ecology, resilience and sustainability.

**TO SCHEDULE:** Email Summer Brown Mace, [sbrown@elizabethriver.org](mailto:sbrown@elizabethriver.org) 757-418-1042.

Hudson Valley Science Barge

<https://www.groundworkhv.org/programs/sustainability-education/science-barge/>

All of the energy needed to power the Barge is generated by solar panels, wind turbines, and biofuels while the hydroponic greenhouse is irrigated solely by collected rainwater and purified river water, thus operating completely "off the grid." The Science Barge is a public education destination and hosts school groups from the tri-state area during the week, and the general public on weekends.

Fixed asset in 2018 \$1,144,972 & 2019 \$1,166,355

**Pricing:**

40-minute program - \$250 (\$150 for Yonkers Public Schools or Title 1 schools) - Includes choice of one program above

80-minute program - \$325 (\$200 for Yonkers Public Schools or Title 1 schools) - Includes *Science Barge Tour* **AND** choice of one other program above

For more information, contact us at [sciencebarge@groundworkhv.org](mailto:sciencebarge@groundworkhv.org).

Science Barge Tour 40 minute activity (Grades 1-12) The Science Barge is an urban sustainability education center, set to the backdrop of the Hudson and the Saw Mill River, right in the heart of downtown Yonkers. The Science Barge is the living embodiment of sustainability in the urban environment, running completely off grid. The Science Barge utilizes solar/wind power and rainwater to sustain many different hydroponic systems all while recycling and composting all of our waste. The design of the barge incorporates many sustainable design features, including a green roof, a

bioremediation area, and biodigesters. The barge also lends itself to research projects focused on oyster re-population, water pollution and overall water quality. Students will get a behind-the-scenes look at what it takes to run this oasis of sustainability, and discuss the possibilities for future urban sustainable development.

Living River & You and the Estuary Organism Study 40 minute activity (Grades 5-12) The Hudson River is home to many vibrant wildlife and in this program students will learn about six of these fascinating and necessary organisms. From the regal Bald Eagle that you can see right here on the Science Barge, to Blue Crabs, one of the world's only swimming crabs and the American Eel making its way up from the Sargasso Sea! Let's dive in and see what makes the Hudson River so special!

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