

The Research Barge *Cynthia* and Early Studies Near Tuckerton

Compliments of Kenneth W. Able



Figure 1. The houseboat *Cynthia* was central to the research in Barnegat Bay and the Mullica River-Great Bay system for over six decades as a mobile laboratory (photo from J. Nelson 1913).

The fisheries for oysters and hard clams were of prime economic importance in New Jersey during the 1800s and early 1900s. This was especially true in the Barnegat Bay and Mullica River-Great Bay estuaries and this explains why these areas were the focus of Rutgers University research designed to enhance these fisheries and our understanding of how to protect habitats for these shellfish. These studies were some of the earliest conducted on these species in the U.S., and are still referred to today.

The most extensively used research "station" in the study area was a mobile one, the houseboat *Cynthia* (Carriker 1961) (Fig. 1). This flat bottomed, and

thus shallow water compatible, vessel was constructed under the direction of Julius Nelson in 1909 and first put into service in the summer of 1910. The well organized and carefully constructed vessel included berths for scientists and students and kitchen facilities (Fig. 2). The interior also featured a laboratory bench space with microscopes, vials, filters and dissecting equipment for processing samples of adult and larval shellfish (Fig. 3). Various power boats or garveys, such as the *Venus*, were used to move the *Cynthia* between moorings or provide access to other research sites for field collections. At frequently visited locations, such as at Thompson Creek near Tuckerton, a va-

riety of permanent gauges and water circulating facilities were maintained in the creek or on the marsh. Typically, during the winter the *Cynthia* and the power boat were moored in fresh water, often near Tuckerton, to prevent colonization of the hull by shipworms and fouling organisms that would occur in higher salinity waters (Carriker 1961). During the summer, the *Cynthia* was towed to that summer's study site and anchored for the season's work. This location varied from year to year but included Turtle Island, near the mouth of the Mullica River, Thompson Creek and Edge Cove near Tuckerton, and Bayville and Cat Islands in Barnegat Bay.

The *Cynthia* was used by both Julius and Thurlow Nelson, as well as a succession of managers and Thurlow Nelson's students (notably Hal Haskin and Mel Carriker) over the next several decades. Once moored for the summer research season (both Nelsons had regular faculty teaching positions on main campus in New Brunswick during the rest of the year), the *Cynthia* and her crew focused on oysters and hard clams. The work on the biology and ecology of oysters was the central focus of most of these studies. These included some of the first observations of spawning and the influence of temperature on its timing. Other detailed observations emphasized oyster larvae and the effects of salinity on their distribution while they lived in the water column, as well as their attachment behavior as they settled to the bottom. They paid special attention to the settlement sites because the "cultch" was central to how many small oysters, or "spat" survived to provide seed oysters. Other less intense studies included bay scallops and shipworms (a highly modified shell-

Elevation and
Horizontal Plans
of
Floating Labor-
atory for
Oyster Studies

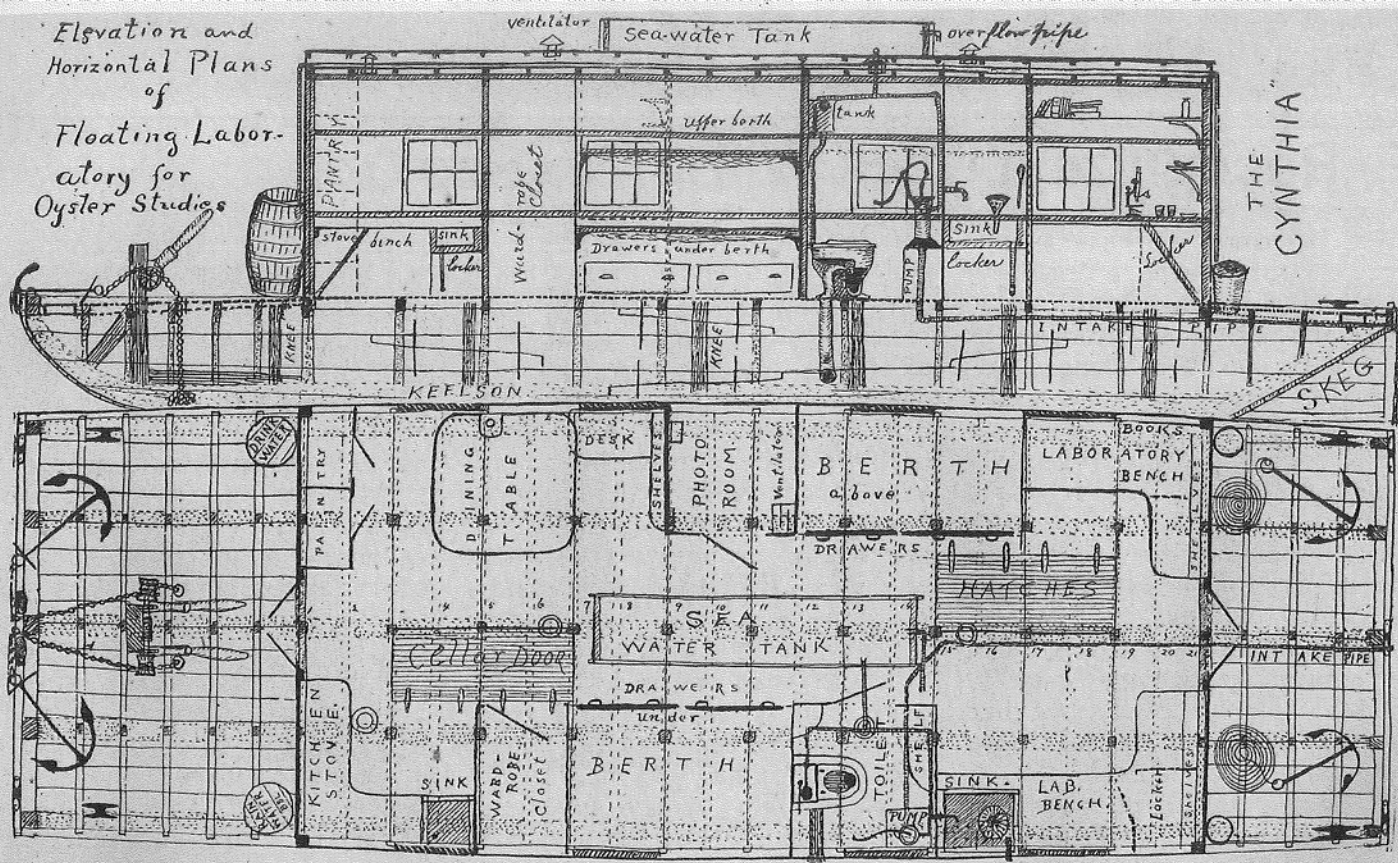


Figure 2. Plans for the houseboat *Cynthia*, a floating laboratory for shellfish studies (additional details from J. Nelson 1911). The vessel was built by Samuel Van Sant of Port Republic for \$800 and had a hull length 38 ft with a width 12'6".

fish that bores into wooden ships and docks).

While serving admirably, there were occasional setbacks in the work of the *Cynthia*. In the winter of 1917-1918 the *Cynthia* sunk at her mooring in Tucker-ton Creek, but she was raised six weeks later and was relatively unharmed (T.C.

Nelson 1917-1918). On a later occasion the *Cynthia* was struck by lightning near Bayville, which entered one of the roof ventilators and nearly cost the life of the biologist (T.C. Nelson 1924). Near the end of her days, in the early 1970s, the *Cynthia* was moored exclusively in Cramer's Hole, a barrow pit located near the Garden State Parkway bridge over the Mullica River. When she became less than seaworthy she was landlocked at the New Jersey Department of Environmental Protection facility on Nacote Creek where she served as a dormitory for some Rutgers University graduate students.

Sometime thereafter, in recognition of her importance to research in New Jersey, the *Cynthia* was housed at the New Jersey Agriculture Museum on the Cook College campus of Rutgers University in New Brunswick. The last available account indicated that she dry rotted there and was hauled away to a landfill, an unfortunate end for such a productive vessel.

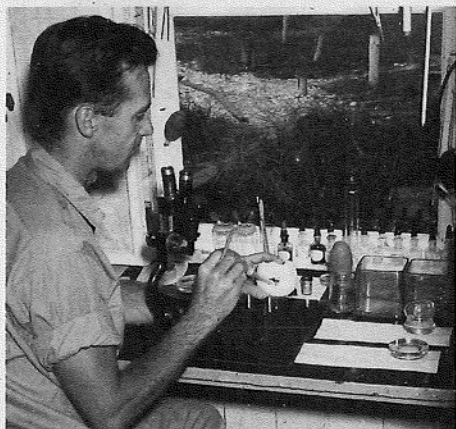


Figure 3. Rutgers University Professor Melborne Carriker at a laboratory bench in the *Cynthia* processing shellfish samples while tied up next to a salt marsh.

Cynthia Exhibit

See photos and items from the *Cynthia*, from the NJ Museum of Agriculture, on display in Kelly's Oyster House at the Tuckerton Seaport

Literature Cited

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