

Curriculum Units by Fellows of the Yale-New Haven Teachers Institute 1979 Volume III: Remarkable City: Industrial New Haven and the Nation, 1800-1900

New Haven-Maritime History and Arts

Curriculum Unit 79.03.02 by George Foote and Richard Silocka

The primary objective of the course in New Haven's Maritime History and Arts is to give students some feeling for life on New Haven's harbor through direct contact by visiting City Point, Grapevine Point, the Quinnipiac River, etc.; by seeing a set of slides showing life around the harbor in the recent past and by constructing a small fishing boat using traditional boat building skills. A secondary objective is to have the class become familiar with the maritime history of New Haven so that they will feel that their experience fits into the continuum of this history once their small boat has been launched.

For the purposes of this institute the unit will focus on the history segment of the Marine Arts and Sciences course taught by the High School in the Community. The reader should recognize that the actual course is interdisciplinary in nature, covering navigation, carpentry, marine biology and New Haven history and is taught at Schooner Inc., City Point (Oyster Point).

New York, Boston. and New Haven?

The history of New Haven's harbor has been a great disappointment to some who had visions of a great port of the magnitude of New York or Boston. Captain Charles Townshend, whose magnificent home sits on 50 acres overlooking the harbor and who was responsible for the breakwaters at the mouth of the harbor, was one of the most disappointed. But to the objective observer the limited promise of the harbor would have been clear. Being tucked behind Long Island took New Haven out of the main channels of commerce. Ships in the coastal trade wouldn't naturally sail by New Haven when heading either north or south. The harbor, while it appears to be broad and deep, is very shallow. With dredging the channel was still narrow and even the completion of Long Wharf only briefly solved the deep water anchorage problem. Both New York and Boston have deep stone-lined harbors where large ships dock practically in the center of the city.

In addition to the limitations of the harbor, New Haven had other problems. The farms of Connecticut never produced a large enough surplus to support direct trade with Europe. Even with the Farmington Canal, New Haven couldn't begin to compete with New York, whose Erie Canal had opened the entire mid-west to that port. When New Haven's industry did reach a point in the 19th century where products such as guns and carriages might have been a marine export, the carriers of the day, large coastal schooners, only carried bulk cargoes such as coal and lumber, leaving the rest of the freight to the more expensive but reliable railroads. New Haven's harbor has always been busy, but has only brought modest incomes to most who have worked it.

Coastal and West Indies Trades

In 1647 a group of local merchants built a ship of about 100 tons and filled it with a cargo of hides, skins and grain. It represented New Haven's first attempt at establishing direct trade with England. The "Great Shippe" was probably poorly constructed and was lost at sea with much of the colony's wealth and seventy of its citizens. This marked the end of our direct trade with Europe, with the exception of a brief period between 1790-1812. While the glamour trades of the world were not to be important to New Haven, the coastal and West Indies trade were to be a steady source of income.

Small sloops were generally used in the coastal trade and, at times, more than 100 sailed out of New Haven. These vessels generally had crews of two or three local men and traveled along Long Island as far as New York or Boston. Leaving New Haven carrying agricultural produce, livestock and lumber, they would travel to, for example, Boston. Here the captain would sell his cargo of consigned goods and then purchase a return cargo of goods imported from Europe. Goods not produced in New Haven such as pewter, wheat flour, some candles, nails and other ironware, fine furniture, pepper and other spices, were in demand at home. After the Revolution when all coastal cargo had to, according to maritime law be carried in U.S. ships, some New Haven vessels pushed out and became coasters. These ships worked the entire coast from the Gulf of Mexico to Calais, Maine, seeking out cargo going from one U.S. port to another. Coasters gradually increased in size during the 19th century, evolving from two to as many as seven masted schooners. In 1880 dozens of three and four masted schooners made regular trips from the coal docks of Newport News, Virginia or the forests of North Carolina and Georgia to New Haven. A young New Havener could start at the age of 11 or 12 working on a coastal sloop as a ship's boy and within a few years become a seaman of considerable skill. By his 20th birthday he might be able to purchase shares in a local sloop and in that way become her captain. Working as a coastal captain out of New Haven would provide a comfortable income with which to support a home and family. Large investors such as the Townsends, Atwaters and Trowbridges, who owned shares in many vessels, became wealthy. Large coastal schooners were still apparent in New Haven harbor through World War I but few were locally owned and none had local crews. Today, while most of Connecticut's oil comes from ships that enter New Haven's harbor (some U.S. flag vessels), none are even remotely owned by local investors.

Trade with the West Indies was, for nearly 250 years, New Haven's major foreign commerce. In what was an extension of the coastal trade New Haven shipped food, livestock and timber to the Caribbean Islands from the 1640s to the 1890s. For more than half of the 250 years, the existence of slavery in the sugar fields of the Caribbean and the need to feed the slaves provided a certain market for New Haven's agricultural produce. Small sloops and some two masted schooners carried livestock on the deck and flour and vegetables in the hole. As profit margins decreased with competition these small vessels were frequently overloaded and dangerous. Deck cargoes of horses and cattle would be jettisoned during storms, rather than have top heavy vessels roll over and sink. As to the quality of the produce sent to places such as Barbados and Antigua from New Haven, one can only guess based on the general practices in New England. For example, it was the tradition among New England fishermen to send the best of their catch of cod to the Catholic countries of Europe, the second grade was sold in Boston for home consumption, and the poorest sent to the Caribbean to feed slaves. There isn't any reason to believe that New Haven farmers didn't follow the example set by the

men of the fishing fleets.

The most important family associated with the West Indies trade was Trowbridge. During the 18th and 19th century the Trowbridge family owned and commanded sloops, schooners, and the large bark "Trinidad", all employed in the West Indies trade. It is claimed that they were the largest West Indies trading concern in the United States. This firm continued to do business until 1887 from their offices on Long Wharf and were dissolved in 1891.

Great Profits

During the period from approximately 1790 to 1815 extraordinary profits were made by New Haven ships. This is the only period when New Haven ships worked the world market-places. Continuous warfare between Great Britain and France opened up opportunities for neutral shipping, While the risks were high of being seized by either nation, the profits were so great that marginal ports such as New Haven became involved. Goods that normally would be purchased from New York and Boston were now being imported directly into New Haven from Europe. Smaller vessels such as those owned in New Haven made a profit due to the high freight rates. With the War of 1812 and the Treaty of Paris in 1814, New Haven found that it again could not compete with New York and Boston.

The other exception to the normal marine business of New Haven was the Canton seal trade. Hearing Of the success of a Boston ship, New Haven's Elijah Austin outfitted two ships for a sealing voyage to the Falkland Islands in 1790. During the next 27 years New Haven developed a fleet of twenty ships which sailed first to the South Pacific to catch and skin seals and then to Canton to sell the cargo. A return cargo of porcelain, teas, silk, spices, etc. was purchased and brought directly to New Haven. The most famous and profitable of these voyages was that of the "Neptune" owned by Ebenzer Townsend Sr. According to the Colony Historical Society's publication *Shallops, Sloops and Sharpies.* the Neptune left New Haven in 1796 and proceeded to the seal islands where 80,000 seals were killed and later sold in Canton for \$280,000. With the sale of the return cargo the profits were as follows: Ebenzer Townsend Sr. \$100,000; Ebenzer Jr. \$50,000; the captain and others \$70,000; and the import duties \$74,000. No wonder that the Townsends have been such an in influential family, with the profits of this voyage and considerable profits from other trades during the 19th century. The Canton trade died with the final extermination of the South Pacific seals by 1817. New Haven didn't participate in the slaughter of the Alaskan seals and sea otters which followed.

Long Wharf

Any discussion of New Haven's maritime history is incomplete without at least a brief description of the development of Long Wharf. As mentioned before, New Haven's harbor, while rather impressive to look at, is very shallow with the exception of a narrow channel running near the east shore. Three major steps were taken to improve the harbor: building Long Wharf, dredging and building breakwaters.

The first wharf was built in 1644 somewhere in the vicinity of State and Water Streets. By 1736 Long Wharf extended 400 feet into the harbor. In 1771 an eighty foot square pier was built in the harbor which allowed large vessels to dock even at low tide. (A pier similar in construction was recently completed at Mystic Seaport.) In 1810 Long Wharf connected with the pier and extended 2,000 feet into the harbor. During the 1820's Long Wharf was completed and extended 3,500 feet. It was the center of New Haven's commercial and

maritime life and housed the business offices, sail lofts, ship chandlers, rope walks, blacksmith shops, bars and boarding houses, etc. which are unique to a seaport community.

In the 1880s the first breakwater was constructed, the remains of which can be seen running from Sandy Point. While it was not effective in protecting the harbor during heavy storms, it did reduce the build-up of sediment which flows toward the harbor along the West Haven shore. The current system of East, Middle, and West breakwaters was the design of Captain Charles Townsend and was completed shortly after the first effort. This system is very effective and makes New Haven a safe harbor in most circumstances, the major exception being hurricanes.

The harbor was dredged for the first time in 1887 and brought to a depth of twenty feet. This permitted all but a few ships to enter. The channel has periodically been dredged since and now is maintained at a level of approximately 45 feet.

End of an Era

By the end of the 19th century the West Indies trade was gone and most imported goods were being brought by rail. Only a few bulk cargoes were carried by ship to New Haven and hardly anything was leaving. However, these bulk cargoes, coal and lumber, were very much in demand, resulting in the harbor's being filled with schooners, ranging in size from 2-4 masts. (The only instance when a 5 masted ship seems to have been in New Haven was during the 1930's when the Cora Cressey was docked near the Tomlinson bridge. She was being used as a restaurant.) By 1920 the schooners disappeared and were replaced by steam vessels. While lumber continued to be a major New Haven import, coal was gradually replaced by oil. A large east shore coke manufacturer which went out of business in the early 60s was the last coal consumer in the area. Today, 50,000 ton tankers bring oil to New Haven which is distributed through out the state. Recently New Haven has become a major exporter of one product scrap metal which is sent to Japan to produce cars and televisions for possible use in New Haven.

Shipbuilding in New Haven

New Haven was never an important shipbuilding center like New York, Boston or almost any coastal community in Maine. The reasons seem apparent. Both New York and Boston were heavily engaged in world trade, being major funnels for American exports and imports. Local yards in both cities were not only encouraged to produce large numbers of ships, but competition pressured them to steadily improve their vessels. Great marine architects such as McKay in Boston and Webb in New York competed to produce the fastest and most beautiful clipper ships and packets for the California goldrush trade and the London/Liverpool passenger business. Coastal Maine, characterized by deep harbors and tremendous forests, quite naturally turned heavily to the sea and shipbuilding. While producing few of the glamour ships of the age of sail and incredible number of the large cargo ships, barks, schooners (2-6 masted), and sloops did come from Maine. They were certainly as well built as any produced in America, and what made them competitive was that they were cheap. During the 1890s Maine yards could produce a comparable vessel for 40% less than the best Fair Haven or West Haven yards.

New Haven did produce ships throughout its history and even developed its own class of working vessel, the New Haven Sharpie. The first known yard in the 18th century was located on Water Street at the corner of Olive. On the east side of the harbor there was another yard owned by Samuel Forbes located near the Tomlinson Bridge. Shipbuilding was centered around Water Street and the Tomlinson Bridge until the 19th century, when the railroad took over Water Street. It then moved to Grapevine Point, the land between the mouth of the Mill and Quinnipiac Rivers. As the century progressed, yards opened on both sides of the Quinnipiac, moving up to Fair Haven. By the end of the 19th century most shipbuilding was done in Fair Haven, with the only important competition coming from the West Haven shipyard of Gesner and Mar. Shipbuilding reached its peak during the 1880s when more than twenty 3-4 masted schooners were launched. In addition, several steamboats were built for the New York to New Haven passenger trade, including the "New Haven" and "Northhampton".

Throughout New Haven's history oysters have been plentiful in the harbor and rivers which feed it. Centering in Fair Haven, the oyster business reached its peak in the early 1900s, when a hepatitis scare injured the industry to such a degree that it never completely recovered. while oysters were available within the inner harbor, nothing more than log canoes were needed to harvest the crop. But as demand grew and the oyster beds spread miles beyond the breakwaters, a more sophisticated boat was needed. The New Haven sharpie was primarily an oyster tonging boat developed in hull (broad and flat) and rig (simple but fast) for this work. The boat was steady, had reasonable carrying space, had low building cost, rowed well, and had good sailing qualities. The sharpie's graceful appearance and speed has led yachtsmen to continue to be interested in the model. Sharpies are occasionally built and are available through several brokers. (Cruising World, June 1979.)

Teacher Notes for New Haven Marine History and Arts

The preceding pages contain a brief maritime history of New Haven. It covers the essential areas that students should become familiar with. More details are available in the book *Shallops, Sloops and Sharpies*, published by the New Haven Colony Historical Society, 1976. This book is only some 60 pages long and should be read by those students able to read at a high school level. An outline of the prominent points made in the book, when combined with brief teacher lectures, should give all students sufficient background information to make the following lessons meaningful.

The real point of each lesson is to take the students from a textbook understanding of New Haven's marine history to an understanding based on having actually experienced a small, bit of that history.

Lesson I

Objective: Students will be able to read a blueprint drawn by a marine architect and translate that understanding into a wood half model (3/4" or 1/2" scale).

Lesson Outline:

1. Using the book *Shallops, Sloops, and Sharpies*, have each student identify one class of vessel that was built and worked out of New Haven.

2. Using any two of the half dozen books written by *Howard Chapelle* (all available at the New Haven Library—downtown), help the students find one example of the type of ship mentioned in *Shallops, Sloops and Sharpies*.

Alternative: The teacher may decide to only focus on New Haven sharpies,. If this decision is

made, there are four excellent plans available in Howard Chapelle's *American Small Sailing Craft*. 3. Using a 35mm. camera, photograph each of the ship's plans. Project the slides on a piece of white paper so that each lift corresponds to the selected scale (probably 1/2 inch). Have the students trace the entire plan.

4. Have the students trace each lift and template onto fairly stiff paper and cut out. They will need to use carbon paper and very sharp scissors.

Alternative: An X-acto knife is more dangerous but easier.

5. Now trace each of the lifts onto 1/2 inch select pine and cut out with a jigsaw. Students will now have from four to fourteen individual 1/2 inch lifts that when glued together will give them a rough half model. Note: Ship plans only show half of the hull because the other half is a mirror image.

6. Once the lifts have been glued, use the templates, which give the configuration of the hull at given points, to finish off the model. A surform tool, sand paper and wood chisels will do an excellent job.

7. Have the students either stain or paint their half models.

Additional Follow-up

Show the slides which give examples of some of the more common classes of vessels seen in New Haven (see slides included with unit). Take the students to Mystic Seaport to see their selection of half models. Then take the class to the gift shop so that they can see just how much their model is worth (generally \$20-80).

Lesson II

1. Using the book S *hallops, Sloops and Sharpies* have each student select one shipyard which is mentioned.

2. Using a map of the city have the students draw a circle around the area on the map where their particular yard is located. Note: The locations are only approximate, i.e., corner of Water and Olive Streets.

3. Select a team of students who are responsible for photographing each location. When possible compare the contemporary picture with the same location at the turn of the century (see accompanying slides).

4. Show the student produced slides to the entire class and have each student name the yard and list the ships produced in that yard. Note: Ship lists for each year are available in *List of Merchant Vessels of the United States*, Bureau of Navigation, Department of Commerce.
5. The final activity is to take the students on a walking tour of each site.

Additional Follow-up

This activity should leave the students with a real feeling for how the city has changed during the last 80 years. However, a trip to Mystic and its rope walk, ship's chandlery and shipyard, followed by a return to the Quinnipiac should make the contrast more clear.

Lesson III

Objective: Students will be able to perform competently at least one operation associated with the actual building of a small sailing work boat.

Note: I selected a skipjack rather than a sharpie because the former is a little easier to construct bud excellent instructions, with plans, are available in Peter Stevenson's *Sailboats You Can Build*, (Chilton Books, 1977). The skipjack and sharpie are very similar boats in the oyster business. Incidentally, a group of High School in the Community students produced a skipjack during the spring of 1979. She was launched in June and sails beautifully.

Lesson Outline:

1. Lofting: This is the process by which the lines of each part of a boat are translated to wood. Once the lines have been lofted the wood is cut and made ready for assembly. Rather than repeat Peter Stevenson's instructions in *Sailboats You Can Build*, I will only add comments associated with teaching. Lofting involved the use of basic math in particular, fractions. We found it to be an excellent tool for teaching fractions. Everyone should, and can, participate so that they begin to feel a real sense of involvement and ownership about the boat. Students will clearly see that inch does make a difference; this will set a tone of accuracy, team work and patience essential to doing anything well in a group including building a boat.

2. Assembly: This is the process by which all the pieces (stem, keel, bulkheads, etc.) are glued and screwed together in the proper order and way. Again Peter Stevenson's instructions are more than adequate. I will make a few supplementary comments. If the lofting was done carefully, the skipjack will come together slowly but well. There are more than 1,000 screws, plenty of glue and putty to be applied, caulking and complete sanding to be done, holes to be drilled, sails to be cut and taped and four coats of paint to be applied. Everyone can participate a little in each job and become an "expert" in at least one or two. As the teacher, be certain that you have read and understand the process completely and that you spend your time directing, encouraging, and supervising, not building. It is their class and their boats, so, as much fun as it probably would be for you to get in there and work, resist the temptation and let them do it.

Bibliography

Albion, Robert G. and Others. *New England and the Sea*. Middletown, Connecticut: Wesleyan University Press, 1972. 300 pages.

Very readable merchant marine history of New England.

Burroughs, Polly. Zeb, A Celebrated Schooner Life . Riverside, Connecticut: Chatham Press, Inc., 1972. 159 pages.

Life of an interesting schooner captain.

Chapelle, Howard I. *American Small Sailing Crafts*. New York, New York: W.W. Norton and Company, 1951. 364 pages.

Excellent source of ships' plans with explanations.

Chapelle, Howard I. *The Search For Speed Under Sail, 1700-1855*. New York, New York: W.W. Norton and Company, 1967. 451 pages. Excellent source of plane for the larger classes of vessels.

Department of Commerce. *Merchant Vessels of the United States*. Washington: Government Printing Office, 1868-1979.

Complete list of all fairly large vessels under U.S. flag.

New Haven Colony Historical Society. *Shallops, Sloops and Sharpies*. New Haven, Connecticut: New Haven Colony Historical Society, 1976. 62 Pages.

Excellent little volume that covers all of the essential points. Should be read by most students.

Stevenson, Peter. Sailboats You Can Build . Radnor, Pennsylvania: Chilton Book Company, 1977. 124 pages.

Simple step by step instructions for building a skipjack.

Images of the Past—The Harbor

The objective of presenting this series of slides taken from vintage post cards, historic photographs and maps, both antique and modern, is to show the physical changes which have occurred in the New Haven Harbor area from 1614 to the early 1900s.

The slides of this series cover the following areas:

1. A set of sixteen maps illustrating the physical changes in and around the Harbor area from 1640 to 1976; 2. Twenty-eight slides covering the development of Lighthouse Point, Fort Hale, Savin Rock and other Harbor recreational areas; 3. Six slides showing the history of Union or Long Wharf on the west side of the Harbor; 4. Twenty slides illustrating eighteenth and nineteenth century houses, such as Benedict Arnold's home on Water Street, commercial establishments such as the Pavilion Hotel and the old Sargent plant on Water Street, as well as many shipyards of the Harbor area that no longer exist; 5. Eighteen historic photographs and paintings illustrating the type of ships that sailed the waters of New Haven Harbor, from Captain Adrian Block's *statenjacht* to the ships of New Haven's West Indies Fleet and grand two, three and four masted schooners that carried coastal cargoes well into the 1930s; and 6. Fourteen slides showing the development of New Haven's Fair Haven section along the Quinnipiac River and her once famous and still flourishing oyster trade.

The slides of this series are intended to supplement a unit on the history and environment of New Haven Harbor. It is hoped that the pictorial and graphic materials of this set of slides would prove useful to any student and teacher of New Haven's past.

The Slides

1. Vander Dock' s map of New Netherlands . Note early Dutch name for New Haven—"Roodenbergh" for the "red mounds," East and West Rocks. Named in 1614 by Captain Adrian Block, a Dutch explorer. Quinnipiac River called "Roodenbergh River" on this early Dutch map. From Valentine's History of New York , 1853.

2. *New Haven region before 1640*. Note West Creek, approximate location of the Oak Street Connector; East Creek, approximate location of railroad cut near State Street. See *The Four Rocks* by James D. Dana, New Haven, 1891.

3. *New Haven in 1644* . The way John Brockett planned and laid out New Haven between East and West Creeks—they haven since been filled in. See *Attwater's History of New Haven* .

4. Eighteenth Century map of Connecticut, Long Island Sound, and Rhode Island. Map in the Silocka Collection.

 Plan of New Haven, 1775. Ezra Stiles's map of New Haven showing Long Wharf in 1775 and the pier to which the wharf was eventually connected. See G. D. Seymour, New Haven, p. 646.
 Map of the British invasion of New Haven in Julv 1779, by President Ezra Stiles of Yale College.
 Plan of the City of New Haven in 1838. Note route of the Farmington Canal to Union Basin and Long Wharf. See History of the Colony of New Haven by Edward R. Lambert, New Haven, 1838, p.54.

8. *Map of the City of New Haven, 1849*, by J. W. Buckingham. Note Long Wharf, now called Union Wharf, and the rope walk located between Putnam and Spring Streets. Map in the Silocka Collection.

9. *Map of the City of New Haven*, 1852. By 1852 West Creek (to the left of George and Meadow Streets) had become too small to be useful and East Creek had completely disappeared under the tracks of the New Haven and Northampton Railroad. Map in the Silocka Collection.

Map of New Haven and its Harbor. 1870, by J. W. Barber. Map in the Silocka Collection.
 Map of the New Haven region in 1891. See The Four Rocks by James D. Dana, New Haven,
 1891, Plate I, p. 121.

12. Map of New Haven Harbor . NOAA Nautical Chart no. 12372, Nov. 6, 1976.

13. Map of oyster grounds, Bridgeport-Stratford area, 1900. Note slide shows the method of laying out oyster beds along the Connecticut coast. See *Oystering From New York to Boston*, by John M. Kochiss, p. 14.

14. "The grid of latitude and longitude lines that overlays every chart enables a mariner to pinpoint any location on it. Longitude is reckoned by degrees east (E) or west (W) of the prime meridian, which runs through Greenwich, England, and latitude is indicated as north (N) or south (S) of the equator. Thus, the coordinates 20° W20° N mark a spot just off Africa's west coast (blue dot)." See *Navigation*, Time Inc., 1975, p. 24.

15. "The aerial photograph at right, taken at 6,000 feet, was used by cartographers to chart a section of Great and Little St. James, Virgin Islands. Ragged lines of cliffs, defined by breakers, alternate with smooth beaches along the coast lines. A profusion of rocks, particularly off the southern shore of the smaller island, poses navigational hazards. The two white specks in the coves at the top and center of the picture are anchored boats." See *Navigation*, Time Inc., 1975, p. 14.

16. "This chart of Great and Little St. James Islands duplicates all of the coastal characteristics depicted in the aerial photograph opposite, and includes water depths for the entire area. Hatch marks along the shore indicate bluffs, and chart points out small but dangerous rocks only a few yards from the beach. Wherever possible—as with Welk Rocks to the east of the islands—the cartographers have even drawn the true shapes of the rocks, though they are 25 yards or less in length." See *Navigation*, Time, Inc., 1975, p. 15.

17. *Savin Rock*. Northern view of Savin Rock and Hotel, West Haven., ca. 1870. Savin Rock on the West Haven shore was an important recreational area from the early 1800's to the 1970's when redevelopment changed the character of the "Rock." See *History and Antiquities of New Haven* by J. W. Barber, p. 203.

18. *Savin Rock* . profile, Wilcox Pier in distance. Postcard in the Silocka Collection.

19. *Savin Rock* . View from the top of Savin Rock "Lovers' Lane" looking toward the north. East Haven shore in the distance, ca. 1900. Postcard in the Silocka Collection.

20. Savin Rock . Wilcox's Pavilion and Restaurant at Savin Rock, ca. 1900. Silocka Collection.

21. *Savin Rock* . View of Wilcox's Pier ca. 1906. From Wilcox's Pier one could take a ferry to Lighthouse Point. See Slide 30. Postcard in the Silocka Collection.

22. *Savin Rock* . Roller Coaster over the water at Savin Rock, 1930s. Photograph in the Silocka Collection.

23. *Savin Rock* . "Shoot the Chutes," White City, Savin Rock, Connecticut. White City was one of the amusement areas of Savin Rock during the 1890s and 1900s. Postcard in the Silocka Collection.

24. View of the fountain and pavilion on Beach Street, Savin Rock, ca. 1903. See *New Haven and Yale University* by A. Wittemann, 1903, p. 23.

25. *Savin Rock Rock Theater on Beach Street*, Savin Rock, West Haven, Connecticut, ca. 1905. Postcard in the Silocka Collection.

26. *Savin Rock* . View of "White City." Note bandstand to the right of the slide, ca. 1905. Postcard in the Silocka Collection.

27. *Savin Rock* . View of "White City," Savin Rock, 1976. Note bandstand (see slide 26). Photograph in the Silocka Collection.

28. Lighthouse Point . Aerial view of Lighthouse Point, 1970s. Postcard in the Silocka Collection.
 29. Lighthouse Point . View of Lighthouse Point looking to the southeast, ca. 1900. The old lighthouse on Five Mile Point was built by the U.S. Government in 1845. The lighthouse was in operation until 1877, when it was replaced by the Southwest Ledge Lighthouse. Postcard in the Silocka Collection.

30. *Lighthouse Point* . Ferry landing at Lighthouse Point. From here for 10¢ one could take a ferry across the Harbor to Savin Rock, West Haven. Postcard in the Silocka Collection.

31. Lighthouse Point . The "Old Guards" at Lighthouse Point, ca. 1900. These Civil War seacoast guns may have been removed from Fort Hale during the 1900s. Postcard in the Silocka Collection.
32. Lighthouse Point . "Bathing Beauties, Lighthouse Point Beach, New Haven," ca. 1915.
Photograph by New Haven photographer T. S. Bronson. See *This Was Connecticut* by Martin W. Sandler, p. 46.

33. *Fort Hale.* View of British fleet entering New Haven Harbor on July 4, 1779. See *The Sailing Ship* by Jan DeHartog, Odyssey Press, 1964, p. 31.

34. View of British troops landing from an eighteenth century print. This slide can be used to illustrate the landing of Crown forces in the New Haven area on July 5, 1779. Print in the Silocka Collection.

35. *Fort Hale* . Map of Fort Hale titled "A Rough Draft of New Haven Fort." Fort Hale was known as Black Rock Fort during the period of the American Revolution. See *Black Rock Fort* by Leonard E. Adams, Fort Hale Restoration Project, Inc., 1975.

36. *Fort Hale* . View of Black Rock Fort in the American Revolution, 1775-1783. See cover of *Black Rock Fort* by Leonard E. Adams, Fort Hale Restoration Project, Inc., 1975.

37. *Fort Hale* . View of the reconstructed Black Rock Fort as it appears today. Note men of the reactivated Webb's Regiment in front of Black Rock Fort. Postcard in the Silocka Collection.

38. *Fort Hale* . View of Fort Hale Park ca. 1900. Note the remains of the Civil War fort (mounds in the upper right of the slide). Postcard in the Silocka Collection.

39. View of Fort Hale as it appeared after the war of 1812. This circular stone fort was built on the site of the old Black Rock Fort. See *New Haven* by G. D. Seymour, p. 713.

40. Destroying old Fort Hale in 1865. See Connecticut Quarterly, no. 3, 1898, "New Haven Defenses" by Louise Greene.

41. *Fort Hale*. South view of New Haven and Fort Hale, 1825. Note West Rock to the left of the slide. East Rock is to the right. Fort Hale is just left of center. J. W. Barber engraving in the Silocka Collection.

42. Fort Hale Park. Summer House, ca. 1918. The "Summer House" still stands at Fort Hale Park. Postcard in the Silocka Collection.

43. *Morris Cove*. Old Morris House before restoration, ca. 1908. Postcard in the Silocka Collection.44. *Harbor View*, *1779*. Southeast view of New Haven from the East Haven shore. A. is LongWharf, B. West Rock, C. is East Rock, H. is Yale College, J. is the pier, and K. is the home of

General Benedict Arnold. See *The British Invasion of New Haven* by C. H Townsend, 1879, p. 7. 45. *Harbor View, ca. 1845*. New Haven from the southeast. Beneath this deceptive, sleepy view of New Haven from the east side of the Harbor in the 1840's, the city was gradually assuming its character as an industrial center. See A *Graphic View of New Haven*, NHCHS, 1976, p. 46. 46. *Harbor View, 1849*. "New Haven, Connecticut from Ferry Hill." Note Long Wharf, steamboats and smoking factories.

47. *The waterfront in the 1830s*. Scene along Water Street in the 1830's shows the Pavilion Hotel at the left and Brewster's carriage factory at the extreme right. See *New Haven* by G. D. Seymour, p. 738.

48. *The water front, ca. 1830s.* "The Brewster Carriage Factory" James Brewster's carriage factory at the foot of Wooster Street. Here was begun the great carriage industry, for which they city was world famous. See *New Haven* by G. V. Seymour, p. 378.

49. *The Water front*. The Pavilion Hotel, Water Street. This was one of New haven's best hotels, built about 1816. The hotel, up to the Civil War, was a favorite resort for southerners who spent summers here. The hotel was demolished during the 1900s. See *New Haven* by G. D. Seymour, p. 736.

50. *The Benedict Arnold house (built 1771)*. Formerly on the north side of Water Street about midway between Union and Olive Streets. Noah Webster lived there from 1789 to 1807, and here he started his dictionary. The house was torn down in the 1930s: See *Revolutionary Characters of New Haven* by Seymour C. Loomis, 1911, p. 73.

51. *Waterfront* . The Ralph Isaacs House on Water Street, built in 1771. Ralph Isaacs was a wellto-do New Haven merchant prior to the American Revolution. See *New Haven* by G. D. Seymour, p. 776.

52. *Waterfront.* The Sargent factory on Water Street, ca. 1880s. See *Journal NHCHS* Vol. 24, No. 1 Spring, 1976, p. 20.

53. *Waterfront* . New York and New Haven Steamboat Office, ca. 1864, Water Street area. The arrival of the steamboat "Fulton" at New Haven on March 21, 1815 marked the beginning of Long Island Sound steam navigation and a century of steamboat service between New York City and New Haven. See *Shallops, Sloops and Sharpies* , NHCHS, 1976.

54. *Waterfront* . An illustrated ad for the New Haven Steamboat Line, 1860. Note the fare of one dollar to New York and no charge for berths. Silocka Collection.

55. *Waterfront* . The steamboat "Continental," ca. 1861. Steamboats such as the "Continental," shown leaving Belle Dock, provided fast, luxurious service between New Haven and New York. See *Shallops, Sloops and Sharpies,* NHCHS, 1976, pp. 44-50.

56. *Waterfront* . Steamboat "Richard Peck." The "Richard Peck" was built in 1892. It was the New Haven Steamboat Co.'s first departure from the side-wheeler. By 1918 the increased use of rail transportation between New York and New Haven brought an end to steamboat service from New Haven. See *Shallops, Sloops and Sharpies* p. 50.

57. *Waterfront* . View of Canal Dock, ca. 1900. Note rail and water connection. Postcard in the Silocka Collection.

58. *Waterfront* . Camp Terry, ca. 1862-5. Camp Terry was a Civil War training camp located on Grape Vine Point (See slide 11) near Chapel and James Streets. See *Fair Haven* by Doris B. Townshend, NHCHS, 1976. p. 60.

59. *Waterfront* . The Bigelow Co. in the 1880's. The Bigelow Boiler Co. occupies most of the territory where soldiers of the 23rd, 27th and 28th Connecticut Volunteers were trained. It was known as Camp Terry. See *Fair Haven* by D. B. Townshend, p. 101.

60. *Farmington Canal*. The canal boat "Pioneer" on the Farmington Canal, near the corner of State Street and Grand Avenue. The canal was charted in 1822 by James Hillhouse of New Haven. The canal eventually reached Northampton, Mass by 1832 and was out of business in 1847. See *Shallops, Sloops and Sharpies*, p. 21.

61. *Farmington Canal*. The old Union Street Market which was located at the end of the old Farmington Canal. See *New Haven* by G. D. Seymour, p. 735.

62. *Long Wharf*. William Lanson, builder of Long Wharf. William Lanson was a local contractor and a prosperous member of New Haven's Black community. In 1810 Lanson began the work to extend Union Wharf to the "Pier." Lanson extended the wharf 1,500 feet. The total length of the wharf was now 3,500 feet. See *New Haven* : *The Revolutionary Generation*. Vol. II. p. 5.

63. Long Wharf . View on Long Wharf in 1850. See Shallops, Sloops and Sharpies , p. 18.

64. *Long Wharf* . View of Long Wharf from Custom House Square, 1864. This view looks east down the long expanse of the wharf. See *Shallops* , *Sloops and Sharpies* , p. 19.

65. *Long Wharf* . View of Custom House Square. The Custom House Square was a section south of State and Water Streets. The Custom House was built by the government in 1812. Photograph in the Silocka Collection.

66. *Long Wharf* . Fire at Long Wharf, October, 1820. Probably the most destructive fire in the early history of the city occurred one October night in 1820 and destroyed some twenty-six stores and warehouses on Long Wharf. *The New Haven Almanac* , 1906, p. 13.

67. *The Phipps House*. The captain Solomon Phipps's house on old Meadow and Whiting Streets. Here in the days before the American Revolution Captain Phipps taught young men navigation. The house was razed in the 1900s. Meadow and Whiting Streets disappeared during the 1960s. Photograph in the Silocka Collection.

68. Waterfront. Bay View Park, ca. 1914. The Civil War Monument commemorates the training camp of the 9th Connecticut Volunteers. City Point, site of the park, was long known as Oyster Point, because of the productive oyster beds off its shore. Postcard in the Silocka Collection.
69. Shipyard . This view is of a typical nineteenth century shipyard that could be found in the New Haven area. Ca. 1855. See Portrait of a Port, Boston 1852-1914 by W. H. Bunting, p 76.
70. Shipyard . The frame of a ship, a diagram of how a ship was framed. See Seaman's Friend by R. H. Dana, Ir., 1842, Plate III.

71. Shipyard . A vessel in frame, ca. 1868. See Portrait of a Port , p. 86.

72. Waterfront . Shipbuilding. Launching of the four masted schooner "Lucinda Sutton" at Gesner and Mar Shipyards, West Haven, July 21, 1891. See Shallops, Sloops and Sharpies , p. 52.
73. New Haven Ships . Dutch Statenjacht. This ship was designed for inland and coastal use in Holland's shallow waters. In the open sea the "lee boards" were lowered to act as a keel. Captain Adrian Block may have used a ship like this on his visit to New Haven in 1614. See The Sailing Ship by Jan DeHartog, 1964, p. 26.

74. *New Haven Ships* . Landing at Quinnipiac in 1638. Members of the Eaton-Davenport group sailed from Boston on a small coasting vessel, the "Hector." The landing site was near the present corner of George and College Streets. See slide 74. See *Stories of Old New Haven* by E. H. Baldwin, p. 32.

75. Panorama looking southeast, New Haven. The Oak Street Connector marks the location of West Creek and the landing site of the "Hector" in April, 1638. Postcard by The Color Studio, New Haven.

76. *New Haven Ships* . "The Ship in a Summer Cloud." The "Great Shippe" was lost at sea in 1646 carrying one-fifth of the New Haven Colony's wealth and seventy of its citizens. This misfortune

was made famous by the mysterious appearance of a "ghost" ship the following spring. See *Shallops, Sloops and Sharpies*, p. 5.

77. *New Haven Ships*. The West Indies trading brig "Favorite" entering New Haven Harbor ca. 1865. Trade with the West Indies was, for 250 years, New Haven's principal foreign commerce. New Haven shipped food, livestock and timber products to the Caribbean. See *Shallops, Sloops and Sharpies*, p. 34.

78. *New Haven Ships*. The coasting schooner "Minerva Wedmore" of New Haven, ca. 1870. New Haven's shallow harbor could easily accommodate the relatively small sloops, brigs, and schooners used in the West Indies trade. See *Shallops, Sloops a Sharpies*, pp. 34-44.

79. *New Haven Ships*. Chart of sailing vessel types. See *The Seaman's Friend* by R. H. Dana, Jr., Boston, 1842, Plate IV.

80. *New Haven Ships*. The knockabout Schooner "Washakie" of Boston, ca. 1906. Ships such as the "Washakie" were once a familiar sight in the Harbor. They were used for fishing and carrying light cargoes. See *Portrait of a Port*, p. 210.

81. *New Haven Ships* . The three-masted schooner "J. E. DuBignon." The last half of the nineteenth century saw coasting schooners reach their maximum development. The expansion of coastal sail was a direct consequence of the growth of American industry and cities. See *Portrait of a Port*, p. 250.

82. *New Haven Ships*. View of the four master "Stanley M. Seaman," ca. 1908. Schooners like the: Stanley M." carried cargoes of lumber, wood pulp, and coal to New Haven. See *Portrait of a Port*, p. 282.

83. *New Haven Ships* . Tugboat "James H. Hogan" alongside the coasting schooner "New Era" ca. 1900, New Haven Harbor. See *Shallops, Sloops and Sharpies* , p. 42.

84. New Haven Ships . Dockside view, showing rail and water connections, ca. 1904, at New Haven Harbor. See Guide to New Haven , New Haven Chamber of Commerce, 1904, p. 11.

85. *New Haven Ships*. The "Traveler" on East Reef, Thimble Islands, August 12, 1907. Navigation could be hazardous for coastal sail. See *This Was Connecticut* by Martin W. Sandler, p. 57.

86. *Ships* . The coastal freighter "Carib" passes a line of coasting schooners. By 1905 the demand for coastal sail steadily declined. By the 1940s the once proud schooner was a rare sight in New Haven Harbor. See *Portrait of a Port* , p. 218.

87. *Fair Haven.* South view of Fair Haven, ca. 1836. See *Connecticut Historical Collections* by J. W. Barber, 1836, p. 159.

88. *Fair Haven* . Fair Haven as seen from the south, ca. 1850. This early view of Fair Haven, looking north up the Quinnipiac River, shows much of the economic activities of the area. Shipyards, oyster houses, and oyster keg factories can be seen. See *History and Antiquities of New Haven* by J. W. Barber, 1870, p. 198.

89. *Fair Haven* . View of fish and oyster houses along the Quinnipiac River, ca. 1916. Postcard in the Silocka Collection.

90. *Fair Haven* . Fair Haven sharpie. The sharpie was New Haven's contribution to small boat design. See *Oystering From New York to Boston* , p. 94.

91. *Fair Haven*. View of a fifty bushel canoe or dugout on the Quinnipiac River, ca. 1901. Such canoes were once used by New Haven oystermen to harvest their catch. See *Oystering from New York to Boston*, p. 93.

92. *Fair Haven* . River Scene. Oyster dugouts and a two-masted sharpie on the Quinnipiac River, ca. 1890s. See *Oystering from New York to Boston* , p. 92.

93. Oystering . Anatomy of the oyster. See Oystering from New York to Boston , p. 6.

94. Oystering . Oyster opening tools. See Oystering from New York to Boston , p. 67.

95. Oystering . Tonging for oysters, ca. 1855. See Oystering from New York to Boston , p. 31.

96. *Oystering* . Photograph of an oysterman tonging for oysters. Note oysters on the deck. See *Oystering from New York to Boston* , p. 82.

97. *Oystering* . View of the principal storehouses, opening shops, and packing house of the H. C. Rowe Co. of Fair Haven, ca. 1885. See *Oystering from New York to Boston* , p. 57.

98. *Oystering* . View of the F. F. Brown and Son's oyster dock on the Quinnipiac River. See *Oystering from New York to Boston* , p. 56.

99. *Oystering* . Powered oyster boat. Gasoline powered oyster boats, such as the "Isabella" shown here at City Point in June, 1907, were replacing the sharpie by 1900. See *Shallops* , *Sloops and Sharpies* , p. 59.

100. *Oystering* . Oyster boat. The suction dredger "Quinnipiac" of New Haven, used mainly for clearing ground and catching oyster shells, gathering as many as 200,000 bushels of shells in a season. See *Oystering from New York to Boston* , p. 153.

IMAGES OF THE PAST-THE HARBOR

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