

## Epilogue

1941—Present

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**A**BOUT A WEEK before *A Maritime History of New York* was released the United States entered the Second World War. Between Pearl Harbor and VJ-Day, more than three million troops and over 63 million tons of supplies and materials shipped overseas through the Port.

The Port of New York, really eleven ports in one, boasted a developed shoreline of over 650 miles comprising the waterfronts of five boroughs of New York City and seven cities on the New Jersey side. The Port included 600 individual ship anchorages, some 1,800 docks, piers, and wharves of every conceivable size which gave access to over a thousand warehouses, and a complex system of car floats, lighters, rail and bridge networks. Over 575 tugboats worked the Port waters. Port operations employed some 25,000 longshoremen and an additional 400,000 other workers.\*

Ships of every conceivable type were needed for troop transport and supply carriers. On June 6, 1941, the U.S. Coast Guard seized 84 vessels of foreign registry in American ports under the Ship Requisition Act. To meet the demand for ships large numbers of mass-produced freighters and transports, called Liberty ships were constructed by a civilian workforce using pre-fabricated parts and the relatively new technique of welding. The Liberty ship, adapted by New York naval architects Gibbs & Cox from an old British tramp ship, was the largest civilian-

made war ship. The assembly-line production methods were later used to build 400 Victory ships (VC2)—the Liberty ship's successor. Eighteen months after the U.S. entered the war, shipyards were producing ships faster than the enemy could sink them. By 1944 the United States had the largest Navy in the world.

Harbor defenses were controlled by Harbor Entrance Control Posts at Fort Tilden in Rockaway, Fort Wadsworth in Staten Island and at Fort Hancock at Sandy Hook. A notice to mariners issued on December 10, 1941 stated that "A mined area covering the approaches to New York Harbor has been established. Incoming vessels will secure directions for safe navigation from patrol vessels stationed off Ambrose Channel Entrance." The U.S. Navy Net Depot in Bayonne, New Jersey erected a submarine net across the Narrows. The tenders stationed at the net had no propulsion, therefore had to be moved by tugs when the net was ordered opened or closed. Lookouts observed the entrance to the port from 100 foot tall towers at Fort Tilden and Arverne in Rockaway. German submarines began to cross the Atlantic and assault American shipping. The U-boats had no need to enter New York Harbor, using the lights from the city for direction; they lay in wait offshore for merchant ships to leave port. In 1942 an enemy submarine sank the British tanker *Coimbra* just 61 miles east of Ambrose light. U-boats laid mines in the Lower Bay below the Narrows. Mines washed ashore at the beaches of Coney Island, Rockaway, and Monmouth. Improvements to New York's limited harbor defenses were quickly implemented, including magnetic detection loops laid along the bottom of the harbor in Ambrose Channel to detect U-boats that could not be detected by the newly developed radar system and underwater listening equipment called "hydrophones."+

On January 3, 1944 an explosion aboard the U.S. Navy destroyer *Turner* rocked the port. *Turner* had just returned from her third tour of duty and was anchored off Sandy Hook, New Jersey waiting to go to Brooklyn Navy Yard for repairs. A second explosion ripped the bottom

\* NYS Historical Survey of the State Museum conducted by Historian Joseph F. Meany titled Port in a Storm: The Port of New York in WWII.

+ "War Diary" of the Eastern Sea Frontier from Dec. 1941- Sept. 1943

out of the vessel and she sank below the surface taking 15 officers and 138 crewmembers. 165 survived. There was a lot of speculation at the time that the *Turner* had been torpedoed by a U-boat, but it was determined to be an accidental detonation of ammunition onboard the vessel.

The Port's merchant fleet facilitated the greatest sealift in history between the homeport and the fighting forces spread throughout the globe. Sandy Hook Pilots safely guided three times the usual number of vessels bound to Europe for the war effort. Under the command of Rear Admiral Michael Moran, a fleet of over 100 tugs, both Moran Towing and other New York operators, were critical to the success of the invasion at Normandy on D-Day where they hauled components for artificial harbors known as Mulberries across the English Channel and towed damaged ships to Great Britain for salvage or repair. The tugboat captains and their civilian crews, were awarded citations for "meritorious service and courageous devotion to duty" by the War Shipping Administration.

Many large famous luxury liners were procured for wartime duty as supply carriers and transport ships. The Cunard White Star fleet transported more than three million troops and over eleven million tons of cargo during the war years. When war ended, ships such as the *Queen Mary*, *Queen Elizabeth* and *Aquitania* contributed to war relief by transporting some 200,000 war brides to the United States. The first war bride ship to cross the North Atlantic was Moore-McCormick Lines' S.S. *Argentina* which sailed into New York Harbor on February 4, 1946, in what was called "the Diaper Run" with 452 war brides, 173 children and one war groom.

The huge New York Naval Shipyard on the East River, popularly known as the Brooklyn Navy Yard, was the premier shipyard in the world and the largest industrial complex in New York State. The Navy Yard, established by the federal government in 1801, was the site for the construction of Robert Fulton's steam frigate, the *Fulton*, launched in 1815 and the *Maine*, whose sinking sparked the Spanish-American War.

In 1938, about ten thousand men worked at the Navy Yard, one-third of whom were W.P.A. workers. Activity peaked in 1944 when over 70,000 civilian workers were employed at the shipyard—a workforce that was 30 percent female personified by “Rosie the Riveter.” Earnings surpassed \$4.2 million weekly. The wartime Brooklyn Navy Yard produced over 5,000 ships, many aircraft carriers, cruisers and battleships, including the *Arizona*, lost at Pearl Harbor; the *Iowa*, the most powerful ship of its day; and the *Missouri*, on whose deck the Japanese surrendered on September 2, 1945.

In addition to the Brooklyn Navy Yard, the Port of New York had an additional thirty-nine active shipyards. Bethlehem Steel built major destroyers on Staten Island near Mariner’s Harbor. During WWII, there were 47 destroyers, 75 landing craft, 5 cargo vessels and 3 ocean-going tugs built at the Staten Island Yard. Caddell Dry Dock and Ship Repair serviced warships and commercial vessels on the Kill Van Kull. In Brooklyn, Robbins Dry Dock converted vessels for wartime service and Sullivan Dry Dock & Repair Company laid down submarine chasers. In 1943, Todd Shipyards in Brooklyn near Erie Basin had about 20,000 employees who handled 3,000 ships and built 24 LCI’s (Landing Craft Infantry) designed with flat-bottom hulls and two gangways to disembark troops from both sides of the bow quickly from ship to shore for amphibious assaults. After the war, demand and the work force scaled back at shipyards throughout the Port of New York. Bethlehem Steel was closed. Todd Shipyards performed ship conversion and repair work for the military and private industry until 1980 when it closed.

Staten Island’s Stapleton piers, America’s first free port, were a major embarkation point and port of call for hospital ships during the war. Once in port, wounded servicemen were taken by train to the military hospital on Staten Island. After the war the port once again became a free trade zone but use declined and the piers were demolished in the 1970s. During the 1980s, the Navy proposed to build a “homeport” at Stapleton as a base for docking Navy war ships. The project closed in

1994 before its completion due to budget cuts. The city renovated the 36-acre site in recent years. Development plans, including a proposed speedway racetrack, are currently under review.

Activity at Brooklyn Navy Yard continued throughout the Cold War, building America's first angled-deck aircraft carrier in 1952 – the U.S.S. *Antietam* (CVA 36). The Kitty Hawk class aircraft carrier U.S.S. *Constellation* (CV 64) was commissioned in Brooklyn on October 27, 1961. The carrier was celebrated as “America's flagship” because of its namesake the three-masted frigate *Constellation* which was the first ship launched by the U.S. Navy in 1797. The New York Navy Yard was decommissioned in 1966 to become an area for private manufacturing activity. It still contains three ship repair docks, vessel berthing businesses and the city's oldest graving dock, which has been in continuous use since 1851. Caddell Dry Dock is today the oldest operating shipyard in the Port offering six dry docks where the company annually services over 300 vessels.

### *Maritime Training*

All of the Liberty and Victory ships needed trained officers and crews to operate them, consequently Maritime education became an essential activity in the Port. Hoffman Island in New York Harbor was opened as the first Merchant Marine training station in 1938. About 2200 apprentice seamen were enrolled in 1943 and a Radio School for officers also functioned on the island. A year after Pearl Harbor, the nation's largest training facility for unlicensed seamen opened at Manhattan Beach on the eastern tip of Coney Island, now the campus of Kingsboro College. The station had an annual output of more than 35,000 seamen. In 1943, Hunter College's Bronx campus, now Lehman College, was placed in commission as the boot camp for Coast Guard (SPARS) and Navy (WAVES) women. Hunter trained 1900 SPARS and 3300 Marines that year, and a total of 80,000 WAVES went through basic training at Hunter through October 1945. In early 1945 the Coast Guard combined

training for males and females at its station in Manhattan Beach. Hunter College was officially decommissioned on February 1, 1946.

North German Lloyd Steamship Lines office at 45 Broadway was taken over by the War Shipping Administration and housed the country's largest Coast Guard Enrollment Center where about 21,000 men enrolled between 1942 and 1944.

The prewar population of experienced mariners was increased four-fold through the Maritime Service training programs. In 1940 the entire U.S. merchant marine, from ocean liners to tow boats included some 65,000 men. By the end of WWII that number had risen to 250,000 and the various merchant marine academies were consolidated to the former Walter Chrysler estate in Kings Point, Long Island.

The nation's oldest commercial maritime institution at Fort Schuyler in the Bronx provided officer's training for war service. Founded aboard the U.S.S. *Mary* in 1874, where 26 cadets attended the then New York Nautical School, it moved to its present campus in 1934 and was renamed Maritime College. In 2004 the college, now part of the State University system, welcomed the largest incoming class in its history—close to 400 students. The school continues to supply trained officers through the city's only Navy and Marine Reserve Officer Training Corps as well as providing skilled seamen for civilian service. Maritime College consistently has a 100 percent graduate placement rate. The school now offers a first of its kind program in port and shipping security. On the Hudson River, Davidson Laboratory at Stevens Institute of Technology in Hoboken, NJ, founded in 1935, is today one of the world's leading centers for the study of naval architecture, ocean engineering, and marine environmental engineering.

### *Superliners*

French Line's *Normandie* had been laid up at Hudson River Pier 88 since 1939 because of the war in Europe. The liner was painted a dull wartime gray and renamed U.S.S. *Lafayette* during conversion into a



troop ship. The *Normandie*, the gem of the French Line fleet was the world's largest liner—a position she held for five years—and the fastest having earned the Blue Riband for five record-breaking crossings. At three o'clock on the cold morning of February 9, 1942 a workmen's torch set off a fire which quickly spread. Eyewitnesses reported that the winds carried the smoke across midtown Manhattan obscuring the Empire State Building. An estimated 800,000 gallons of water were pumped aboard the burning ship by FDNY fireboats. Twelve hours after the blaze began, rising tides and water from the fireboat pumps caused the ship to keel over onto her port side. Eighteen months after the fire, the *Normandie* was slowly floated from the bottom and then towed to a dry dock in Brooklyn. In November 1943, the \$60,000,000 ship of extreme beauty was sold to the Lipsett Scrapyard in New Jersey for \$161,000. The U.S. paid the French government \$24,000,000 in compensation for the *Normandie*. The great liner contributed to the war by providing valuable dive and salvage training that helped to establish the Navy Salvage Service.

The first jet aircraft crossed the Atlantic in 1958. By 1965 airlines carried 95 percent of the transatlantic traffic, replacing the gigantic passenger liners. The Blue Riband speed record lost its past status as the new heroes of long-distance travel were the Boeing 747 or "Jumbo" jets. Lines increasingly focused on cruise travel and new ships were designed with less first-class accommodation but maximum facilities for tourists.

Only nine of 25 of Holland America Line (Netherlands America Steamship Co.) ships survived the war. In 1963 the City of New York lured Holland America from Hoboken with a new terminal at Pier 40 that was capable of accommodating four oceangoing ships at once. It was the most costly pier and largest shipping terminal in the Port, handling both passenger and freight operations. Holland America liners made a record fifty voyages to Pier 40 in 1964. The company moved operations up river to the just-completed Passenger Ship Terminal in 1974 and Pier 40 was closed. Holland America by then had suspended transatlantic service and was focused full

time on tourist cruise travel. It was purchased by Carnival Lines in 1989. A Delft tile mural featuring four of Holland America's *Rotterdam* liners still graces the entrance hall at Pier 40.

The United States Line's flagship, the *United States*, was the biggest American-built passengershship and the fastest. On her maiden voyage, July 3, 1952 departing from Pier 86 bound for Le Havre and Southampton, the red, white and blue crowned superliner broke the *Queen Mary's* 14 year hold on the revered Blue Riband by over ten hours. The *United States* was the first grand American transatlantic liner and the last of the great superliners. *United States*, designed by renowned New York naval architect William Gibbs, was built using large amounts of aluminum which provided extreme weight savings over vessels of similar size. Her construction was a joint effort between the U.S. Navy and United States Lines and was heavily subsidized by the U.S. government underwriting \$50,000,000 of her \$78,000,000 cost. The ship never turned a profit. United States Lines sold her sister ship the *America* to Chandris Lines in 1964. *United States* was withdrawn from service in 1969 marking the end of U.S. flagged service on the North Atlantic. She was sold to the Federal Maritime Administration in 1973, and changed hands many times over the years. United States Lines declared bankruptcy in the 1980s. The *United States* was recently purchased by Norwegian Cruise Line to serve as a U.S.-flag ship in their "Homeland Cruising" program.

The Cunard house flag was lowered aboard the RMS *Queen Elizabeth* in 1968. She was sold at auction and on January 9, 1972 in Hong Kong harbor the great ship succumbed to fire. In May 1969, the *Queen Elizabeth 2* entered service and remained the last great transatlantic liner and the flag-ship of the Cunard Line for thirty-five years. Carnival Cruise Lines purchased Cunard Line in 1998. In August of 2002, the *QE2* logged a record 5 million miles at sea. The *Queen Mary* made her last transatlantic crossing on September 16, 1967. The venerable liner cruised to the town of Long Beach, California to begin her new role as a museum, hotel and conference center. Inaugurated January 2004, the



RMS *Queen Mary 2* is the largest, longest, tallest and most expensive passenger liner in the world. The *QM2* is five times larger than Cunard's first ship, *Britannia* (230 ft.) and 113 feet longer than the original *Queen Mary*. On April 22, she arrived for the first time in the Port of New York and was soon joined by her sister ship the *QE2*, the ship she would replace. On April 25, the two ocean liners made history as they departed together from the port to sail across the North Atlantic. It was the first time in Cunard's 164-year history that two ships made a transatlantic voyage in tandem. Cunard is the last of the prestigious Old World lines to carry on the tradition of regular transatlantic sailings.

The 1992 NYC Comprehensive Waterfront Plan reported: "Ocean-going cruise ship activity once helped define New York City's image; only 14 cruise ships, generating about 200 trips annually, now call at the Port Authority Passenger Ship Terminal. Cruise Ship activity is unlikely to expand." The statement proved false. There has since been a great resurgence in cruise ship activity. New York is now the fifth busiest pleasure cruise port in the United States with over a dozen lines carrying a million passengers in and out of the port each year. In January 2004, Norwegian Cruise Line announced it was deploying *Norwegian Dawn* out of New York year round. It was the first cruise ship to be based at the Port of New York in decades.

In 2004, Carnival and Norwegian signed a deal making the City of New York their exclusive northeast port promising some 13 million cruise passengers to the Port through 2017. Royal Caribbean has begun operating *Voyager of the Sea* at its new Cape Liberty Cruise Port in Bayonne. The city will refurbish the New York Cruise Ship Terminal piers 88, 90 and 92, (last renovated in the 1970s) in addition to establishing cruise berths in other Manhattan and Brooklyn ports.

### *Ocean Shipping*

From the early nineteenth century through the 1950s, the Port of New York was the busiest port in the world. The metropolis of

Greater New York was the largest in the world with a population of 12.3 million people by the mid-twentieth century. It was also the world's largest center for manufacturing, wholesaling and shipping as well as the world's financial and corporate capital. The years that followed the war represented the high point in prosperity for the Port. Foreign commerce was on the rise. The world economy was recovering from the effects of the war and there was little foreign competition for American shipping.

Almost as soon as it reached its zenith, the Port of New York began its decline. Competition from other seaports and other forms of transportation posed a great challenge to the seaport. This coupled with changes in maritime technology, specifically containerization, had a decisive effect on the Port beginning in the 1960s.

On 26 April 1956 the first containership, the *Ideal X* made history when it sailed from Port Newark in New Jersey down the Atlantic Coast through the Gulf of Mexico to Houston with 58 reinforced boxes strapped to its deck. It was the brain-child of North Carolina trucker Malcolm Mclean who first advanced his novel idea to the railroad companies, was rejected and subsequently tested the concept in shipping after having acquired the Pan Atlantic and Waterman steamship companies. Mclean converted two ships to carry containers which could then be mounted on truck chassis. His vision soon became the industry standard. In 1960, the company was renamed Sea-Land Service Ltd. and in 1966 the company's SS *Fairland* inaugurated the first transatlantic service sailing from Port Elizabeth, New Jersey to Rotterdam in the Netherlands—a port Mclean had custom-built to handle containers. When Mclean sold his share in Sea-Land for \$160 million in 1968, it was the world's biggest container carrier.

Before containerization, cargo handling had changed very little since the clipper ship era when dockworkers moved hefty loads of loose cargo, called break-bulk, by net, grappling hook, and muscle piece-by-piece to and from the ship's hold and shore side warehouses. It was a

cumbersome, sluggish and costly process. Ships might remain in port for days. The men who worked the docks were casual laborers selected for work in longshore gangs at a morning ‘shape-up’ or ‘call.’ The post war years had been riddled with dock strikes, racketeering and corruption. The drama that played out on the Port’s waterfront was depicted in the New York Sun’s 1949 Pulitzer Prize winning series “Crime on the Waterfront” by Malcolm Johnson, and later in Bud Shulberg’s novel “Waterfront” which became the film “On the Waterfront.”

Standardized units increased efficiency and productivity while reducing the number of workers a stevedore needed to load and unload cargo. From the 1950s to the 1970s, productivity rose 400%. It took one-fourth the number of longshoremen to move much more cargo. Three years after Malcolm Mclean began shipping containers out of Port Elizabeth, the International Longshoremen’s Association reached an agreement with the New York Shipping Association—which represented shipping concerns—to receive a guaranteed annual income, “so long as they showed up at the hiring hall daily and accepted available jobs.” Whether the jobs were available or not, all longshoremen that showed up at the hall were paid. At its peak in 1983, the guaranteed income program cost the Port \$65 million. On the dock, longshoremen remain on the clock until the last container is unloaded from the ship, a stretch that can run as long as 60 hours. More than 400 dockworkers were hired in 2003.

The majority of goods that arrive by supertanker or containership are moved in Port by large barges or pushed by tugboats. Throughout much of the twentieth century, most ocean shipping called at Manhattan and Brooklyn. Freight had to be transferred on barges and lighters across the harbor to link with rail lines in New Jersey. These so-called “brown water” industries, coastal and inland flat-bottomed workboats such as tugboats, barges and towboats still provide an essential link in moving petroleum and other products throughout the Port. A major consolidation took place in the harbor tug trade in the post-war years. Big opera-

tors went through a period of growth and geographic expansion. Rein-aer, founded in 1923 and headquartered on Staten Island, is one of the few remaining family-operated companies. It specializes in the transport of petroleum and chemicals and today operates 30 tugboats and the Erie Basin Bargeport in Red Hook, Brooklyn. Moran, the oldest and today the world's largest towing company, moved its headquarters from New York to Connecticut. McAllister Towing, founded in the 1860s, is another family-owned company and the only one still based in Manhattan.

### *U.S. Flagged Fleet*

The U.S. flagged fleet, comprised of American owned vessels operated by U.S. citizens, presently consists of only about 260 ships; a drop of 50 percent since 1991. Today, just four percent of U.S. trade is carried on U.S. ships. All U.S. flagged ships, commercial and military, are manned by American citizen merchant mariners. Maersk Sealand is the largest U.S. flag operator in the world. Other big haulers include Horizon Lines (formerly CSX)—recently bought-out by The Carlyle Group, American Ship Management, and Waterman Steamship.

In 2003, President George W. Bush reauthorized the Maritime Security Program (MSP) to “mandate establishment of a fleet of active, militarily useful, privately-owned vessels to meet national defense and other security requirements and maintain a U.S. presence in international commercial shipping.” The program supports American flagged merchant ships engaged in commercial foreign trade. In exchange, the ships, their crews, and all intermodal assets are made available as needed to the Department of Defense for military support services.

The Jones Act or cabotage law restricts cargo moving between U.S. ports to vessels that are American-owned, -built and -crewed. Similar U.S. cabotage laws reserve the movement of passengers and the performance of marine services such as dredging, towing and salvage to U.S.-owned, -built and -crewed vessels.

After nearly 25 years of decline, shipbuilding of non-military vessels

orders for U.S. construction of new boats and ships are on the rise primarily due to MSP and growth of the Jones Act fleet. The new millennium has seen unprecedented growth. Approximately 140 commercial vessels of all types with a market value of more than \$4.4 billion are under construction in American shipyards. Included in that total are the first large U.S. flag cruise ships in more than 40 years. Contracts are pending for another 150 vessels.

### *Port Geography Shifts*

In its prediction of future trends, *A Maritime History* envisioned a port that would “continue along the lower banks of the Hudson and around a greatly developed Upper Bay. ...and that the active center of the Port will not change its situation for many years to come.”

The writers had not foreseen the revolution containerization would set off. From the start, containers reduced the cost of shipping and profoundly changed how general cargo moves in the port. While the traditional break-bulk freight was concentrated on the Brooklyn and Manhattan waterfronts, containerships required more spacious docks and landside areas as well as truck and rail linkages. In 1962, the first containerport in the nation was constructed by the Port Authority at Port Elizabeth near Port Newark.

The investment in containerization technology on the Jersey-side of the harbor altered the geography of the Port and by the 1970s maritime-related industries began to fade on the New York-side of the harbor. In 1960, New York City handled 75 percent of the port’s cargo; by 1990 its share had dropped to 15 percent. Most, if not all, port activities were consigned to the periphery of the harbor where there was better access to rail and interstate roads. The traditional break-bulk cargo terminals of Manhattan, Brooklyn, Hoboken and Jersey City relocated to specialized terminals at Port Elizabeth, Newark, Red Hook and Howland Hook. Cargo numbers more than doubled since 1994 to over four million units in 2003.

Today, Port Elizabeth handles 60 percent of containerized traffic. Howland Hook, built on the north shore of Staten Island by American Export Lines and sold to the city in the 1970s, was reactivated as a full service containerport in 1996. Now, New York Containerport, it is the fastest growing terminal in the port.

The largest port on the Eastern Seaboard of the United States, New York today is the third largest port in North America (ranked behind Los Angeles and Houston) and one of the top fifteen ports in the world. The Port is the nation's largest petroleum and auto port. Between 1991 and 1999, imports and exports through the port rose from 12 million metric tons to 18 million metric tons (approximately 2200 pounds). In announcing the Port's 2003 record-breaking year, New York Governor George E. Pataki said, "The Port of New York and New Jersey continues its historic role as a centerpiece of the economy in New York and the entire region. In 2003, more than 78 million tons of cargo passed through the port. They include everyday items that we take for granted from petroleum products to a year-round supply of fresh fruits and vegetables."

Ninety-five percent of U.S. commercial imports and exports are delivered by sea, most of it traveling the world sealed in standard-sized 20 foot containers. Containerships are the largest vehicles in the world: faster, cheaper and safer than old freight carriers; newer vessels can cruise at 26 knots, displace 100,000 tons when loaded and can turn around in their own length. The Panamax containerships, so named because the vessel can fit through the Panama Canal, carry 4,000 TEUs (20-foot equivalent units). The next generation known as the post-Panamax ships, with beams exceeding 106 feet and an overall length of more than 1,000 feet, are 50 percent larger and capable of carrying in excess of 12,000 TEUs. The size of a containership determines its carrying capacity and larger ships offer tremendous cost-savings, estimated at 40 percent from reduced insurance, fuel and labor costs.

The Port of New York and New Jersey is the central supply hub for distributing petroleum products, such as heating oil, diesel fuel, gaso-



line and kerosene, throughout the eastern states. Commercial shipping carried approximately eight million barrels of petroleum products worth about \$465 million up the Hudson to ports upriver in 2003. Oil terminals are concentrated on the Staten Island and New Jersey waterfronts on Newark Bay, Arthur Kill and Kill Van Kull. Port Mobil, a 203-acre site located on the Arthur Kill shore of Staten Island, has 39 above ground tanks with the capacity to hold 2.9 million barrels of petroleum products.

### *Port Improvements*

Throughout the last half of the twentieth century to the present, the Port of New York and New Jersey has been in a race with other East Coast seaports for dominance in international marine trade. This is the driving force behind the investment in infrastructure improvements including terminal expansion, modernization of cargo handling facilities, deepening navigation channels and enhanced inland transportation. At stake is maritime commerce and jobs that studies show will grow as much as eight times during the next 40 years.

The main channels in the Port of New York and New Jersey have a depth of 40 feet. Bigger ships demand deeper channels. A study by Louis Berger Group in 2004 found that “as channel depth decreases, cargo losses and added costs for serving New York harbor rise exponentially.” Current plans call for deepening all major channels in the harbor first to 45 feet and then to 50 feet by 2009. These channels include Ambrose, Anchorage, Port Jersey, Kill Van Kull/Newark Bay, Arthur Kill and Bay Ridge. The challenge for deepening channels in recent years has been the handling of dredged material which historically had been dumped at an ocean site located six miles off of Sandy Hook, New Jersey, called the Mud Dump. Dredging disposal and other environmental challenges are addressed in the Comprehensive Port Improvement Plan (CPIP), an initiative to help develop a more environmentally protective and economically sustainable port.

The Port of New York and New Jersey has an extensive intermodal network that connects marine and petroleum terminals to three local airports, multiple rail connections with two railroads, and an expansive interstate highway system that facilitates cargo movement to a population of 20 million locally and a consumer population of over 80 million. In the metropolitan area, less than two percent of freight travels by train. Most containers transit the Port by truck—an estimated 15,000 trucks per day, most entering into New York City over the George Washington and Verrazano bridges. To help reduce truck traffic, the development of improved intermodal links that involve water, highways, rails and airports is a priority. The Port Authority of New York and New Jersey launched the Port Inland Distribution Network (PIDN) in 2002 which calls for using rail, barges and short-sea shipping to an airport-type system of hub and inland feeder ports. The pattern is post-Panamax ships call at the hub port in New York harbor to discharge their cargo which is then transferred by barge to second tier feeder ports like Albany, New Haven, Bridgeport and Providence. Currently, the PIDN is operating between New York City and Albany.

Marine terminals in the Port are operating at close to capacity. Port redevelopment and new terminal construction are necessary to increase throughput capabilities. Port Elizabeth, the largest container port in the world through the 1970s, is today the largest cargo handling complex on the East Coast occupying 2100 acres that contains terminals run by Maersk Sealand, the world's largest container shipper and the successor to Sea-Land. The terminal is upgrading to prepare for the next generation megaships and adding direct ship-to-rail transshipment capability. New York Containerport at Howland Hook is doubling land-side capacity by 2006 and improving rail connections and on-dock rail services with the reactivation of the Staten Island Railroad which links directly to the North American rail network.

Brooklyn offers deep water facilities and the shortest distance to the open sea. The waters off Red Hook are 65 feet deep and reach depths of

150 feet in Bay Ridge. American Stevedoring handles break-bulk cargo at its Red Hook piers. A new 350-acre port is planned for Sunset Park, at the South Brooklyn Marine Terminal. The city recently revitalized car float operations at the 65th Street rail yard in Brooklyn to improve freight movement. The Port's only remaining rail-freight carrier, the New York Cross Harbor Railroad, provides daily rail-barge service across the harbor between Brooklyn and Jersey City.

One-hundred years ago the Pennsylvania Railroad floated a plan to construct a rail freight tunnel under the Upper Bay connecting Brooklyn and New Jersey. Regional planners sought to implement the plan in the 1920s and again as a matter of security in 1941. The scheme has recently been revived as a solution to truck congestion. Studies show a tunnel would divert 8.6 million tons of freight from truck to rail.

### *The Port Authority of New York New Jersey*

The Port Authority of New York, serving the region since 1921, changed its name to The Port Authority of New York and New Jersey in 1972 to more accurately identify its role as a bi-state agency. It operates many of the busiest and most important transportation links in the region. No other port authority in the world manages such a diversified portfolio of activities, infrastructures and terminals. While the Port Authority is a public organization, it functions like a private corporation; rather than taking tax money it produces its own revenue streams.

In 1948, New York's three major airports, Newark, La Guardia and John F. Kennedy came under the jurisdiction of the Port Authority. In the 1950's and 60's the Port Authority built the Bus Terminal and a second deck on the George Washington Bridge. During this era, many Brooklyn Piers were rebuilt and the world's first containerport was developed on Newark Bay. The agency also operates the Lincoln and Holland tunnels; the three bridges between Staten Island and New Jersey; the PATH (Port Authority Trans-Hudson) rail system; the Downtown Heliport; New York Containerport; and the Brooklyn Piers/Red Hook Container Terminal.

In the 1970's and 80's, the Port Authority built the towering World Trade Center as a global center dedicated to international trade. The project was initially championed by David Rockefeller in 1961 as a way to energize the downtown business district. The complex was erected on a 16-acre site in Lower Manhattan, stretching from Church Street on the east to West Street on the west, and from Liberty Street on the south to Barclay and Vesey streets on the north. Minoru Yamasaki designed the center consisting of two 110-story office towers (1&2 WTC), a 47-story office building (7 WTC), two 9-story office buildings (4 & 5 WTC), an 8-story U.S. Custom House (6 WTC), and a 22-story hotel (3 WTC), all constructed around a central five-acre landscaped Plaza. Completed in 1972, the two towers, each rising over 1360 feet, were the tallest buildings in New York City and the tallest in the world, until the Sears Tower in Chicago overtook them in 1974.

On the morning of September 11, 2001, two hijacked jet airliners piloted by terrorists hit the towers of the World Trade Center causing the buildings to collapse. As a result of the attack, 2830 people were killed and ten major buildings destroyed or subject to partial collapse.

### *U.S. Coast Guard*

The Navy was given control of the U.S. Coast Guard in November 1941. Convoy escort and port security were the Guard's principal duties during the war. On shore, armed guardsmen patrolled beaches and docks. The Coast Guard helicopter unit was headquartered at Floyd Bennett Field where the Sikorsky helicopter rotary wing was developed.

Coast Guard Activities New York is today the largest operational field command in the USCG, controlling an area that stretches from Long Branch, New Jersey to New York City and up the Hudson River to the Canadian border. The unit is responsible for oversight of the Harbor, including search and rescue, licensing of ships and crews, harbor patrol, maritime safety and anti-terrorism operations. It also operates a fleet of cutters, seagoing tenders and ice-breakers to maintain waterways.

In 1968, the Coast Guard acquired Governors Island, just off the south tip of Manhattan and abandoned the Lighthouse Depot on Staten Island. Governors Island hosted the 1986 relighting of the Statue of Liberty and in 1988, President Ronald Reagan met with Soviet Premier Mikhail Gorbachev to negotiate a disarmament agreement in one of the last summits of the Cold War. Governor's Island was decommissioned in the mid-1990s and the USCG Activities New York took up residence at Fort Wadsworth on Staten Island.

From Fort Wadsworth's vantage above the Narrows, USCG operates the Vessel Traffic Service (VTS) a surveillance system consisting of radar sensors and cameras installed throughout the harbor. It is one of only four such facilities in the country, originally designed 15 years ago in response to the Exxon-Valdez catastrophe to prevent collisions and spills. In the wake of the September 11 attacks, the VTS system is being upgraded to include an Automatic Identification System (AIS) which receives information via Global Positioning Satellites from transponders installed in the holds of commercial vessels calling on the Port. The AIS allows the Coast Guard to track vessels up to 30 miles from the harbor identifying each ship by name of vessel, cargo, point of origin, destination and speed.

The biggest port security operation since WWII was established in New York Harbor after the attacks of September 11. Within minutes of the strike, Activities New York closed the harbor and secured the terminals. USCG active duty, Reservist and Auxiliary (the volunteer arm of the Coast Guard) members mobilized to direct a waterborne evacuation of almost a million people from Manhattan Island and coordinated relief efforts at Ground Zero. On March 1, 2003, the U.S. Coast Guard officially became part of the new Department of Homeland Security.

The USCG retains responsibility for lighthouses, bell buoys and hundreds of aids to navigation in the Harbor. Most lights are automated today and no longer require upkeep. On December 11, 2003, the last of the civilian lightkeepers passed away at the Coney Island Lighthouse.

Frank Schubert, 88, served at Governors Island Light from 1944 to 1961 and took up residence at Coney Island Light for the next 42 years.

### *Municipal Services*

The *Fire Fighter* had just entered service when Maritime History was written. In the years since, *Fire Fighter* has distinguished itself as the most decorated fireboat in New York City Fire Department history. It is the only fireboat honored with a Gallant Ship Award—the highest tribute the country gives for heroics at sea—which it received for rescuing 30 seamen from a fire caused by the *Esso Brussels* and *Sea Witch* collision. The incident occurred June 1, 1973, the *Esso Brussels*, loaded with crude oil, was at Stapleton anchorage awaiting docking space at the Bayway refinery when the U.S. flag containership *Sea Witch*, traveling at 14 knots, experienced a steering failure and veered into *Esso Brussels*' starboard side, causing her cargo oil to spill and burn on the water. Both vessels, engulfed in flames, were carried by the ebb tide and drifted beneath the Verrazano Bridge, where flames shot up stopping traffic on the bridge.

Large fires had been a regular occurrence on the waterfront in the era when break-bulk cargo sat in the holds of wooden ships on wooden docks and wharves. The advent of containerization and concrete piers and warehouses reduced the frequency of fires. Fireboat priorities shifted to water rescues, which now comprise 40 percent of responses. New York City's active fireboats responded to over 2400 calls in 2000.

All FDNY fireboat captains hold a Coast Guard harbor pilots license. The Marine Unit has a fleet of seven boats including fireboats and tenders. Fireboats currently operating are *John D. McKean* (1954), docked at Marine 1 Gansvoort Street; *Governor Alfred E. Smith* (1961), *Kevin C. Kane* (1992), and the small fireboat *Smoke II* at Marine Company 6 at the Brooklyn Navy Yard; and *Fire Fighter* (1938) at Marine Company 9 docked at Stapleton piers on Staten Island.

The collapse of the Twin Towers on September 11 ruptured water mains in Lower Manhattan so fire trucks were left without water pressure



to combat the raging fires. Fireboats took up position on the Hudson River seawall on Manhattan's westside to pump water directly from the river to fire trucks—the *Fire Fighter* (20,000 gallons per minute capacity) docked at Vesey Street, the *Smoke II* (2,000 gallons per minute capacity) and *Kevin Kane* (6,500 gallons per minute capacity) docked in North Cove, and the *John D. McKean* (19,000 gallons per minute capacity) docked at Albany Street. Retired fireboat *John J. Harvey* (18,000 gallons per minute capacity) returned to active service and joined the other boats. The fireboats were instrumental in suppressing the fires pumping nearly 60,000 gallons of water a minute twenty-four hours a day over the course of three days. Fuel and supplies were provided by the *Hayward*, the Army Corps of Engineer's vessel. The *John J. Harvey* and her civilian crew of volunteers remained on duty to aid the relief efforts for several days.\*

The Harbor Unit of the Police Department patrols the waters surrounding New York City in a fleet made up of four 50-foot and five 30-foot Kenny Hanson class patrol launches equipped with 13-foot Boston Whalers. The Harbor Unit is primarily responsible for enforcing the law, rescue and recovery missions, waterfront security, and now adds anti-terror to its duties. The unit is located at the South Brooklyn Marine Terminal at 58th Street in Sunset Park. Harbor's Scuba Unit has about 27 divers, all male, who make over 1,000 dives annually. It is the only full-time police dive team in the country. Scuba maintains an air-sea rescue team at Floyd Bennett Field in Brooklyn.

### *Ferries*

In the late-twentieth century, the construction of bridges and tunnels as well as the subways sharply reduced the need for ferries. The opening of the Verrazano Bridge in 1964 supplanted the 69th Street Bay Ridge, Brooklyn to St. George, Staten Island ferry. Three years later, the last of the cross-Hudson ferries ended service. The sole ferry service by the late 1960s was the publicly-operated Staten Island Ferry, the city's oldest and largest ferry service, with daily ridership of approximately 70,000 today.

\* FEMA Technical Report: Fireboats Then and Now, May 2003

Cross-Hudson ferry service was non-existent for close to two decades. In 1986, entrepreneur Arthur Imperatore, the owner of a trucking company saw ferry service as a way to attract buyers to the redeveloping New Jersey riverside. Imperatore initiated the Port Imperial Ferry between Weehawken, New Jersey and West 38th Street, Manhattan where company buses then transported riders over routes to midtown and downtown. The ferry was renamed New York Waterway and operates without subsidy carrying passengers aboard a fleet of double-deck, bow-loading passenger ferries capable of 35 knots and higher. By 1991, seven ferry routes were carrying more than 16,000 passengers daily. Ridership in 2000 reached 32,000. Ridership surged more than 50 percent after September 11, 2001, when bridges and subways were shut down.

The ferry market in New York Harbor was growing by 2000. Sea streak, sister company of Hoverspeed which operates ferries across the English Channel, joined the cross-Hudson route. New York Water Taxi launched service to landings around New York City in 2002. The bright yellow taxi-style vessels are environmentally friendly, with low-emission engines and hulls that minimize wakes and disruption of aquatic life. The Port Authority of New York and New Jersey will invest in a new ferry service between Lower Manhattan and JFK Airport by 2005. To enhance LaGuardia Airport connections, a fast ferry will also run between Manhattan and a new LaGuardia ferry terminal.

Five major projects are underway or planned to rejuvenate and develop ferry terminals including: the enhancement and expansion of the Whitehall terminal—fire-damaged in 1991; transformation of the St. George ferry terminal in Staten Island (the current dull looking structure built in 1951 replaced the original terminal destroyed by fire in 1946); a new terminal at Pier 79 on West 39th Street; and improvements to the Port Imperial terminal in Weehawken and the historic Hoboken terminal in New Jersey. Work is also planned on numerous Water Taxi landing slips along the East and Hudson rivers.

### *Excursion Boats*

The fuel shortages during World War II curtailed most excursion boating. In 1945, a group of Irish boaters pooled resources and fleets to offer tours that circle the island of Manhattan departing from at Pier 83. The company would later take the name Circle Line. In 1953 the operator took over the Statue of Liberty Ferry service.

Circle Line did not operate without competition, but managed to buy-out or overtake most rivals. Hudson River Day Line set up at nearby Pier 81 and was purchased by Circle Line in 1963. A partner in the original investment group, Jeremiah Driscoll broke away to start Panorama Sightseeing which operated from the Battery up until 1969. Fairwater Cruises, originally established to link Manhattan and Flushing, Queens for the 1964 World's Fair, operated around-Manhattan sightseeing boats from the Battery for two seasons. Seaport Line, started up at the redeveloped South Street Seaport in 1985 and was taken over by Circle Line five years later.

In 1991, 32 operations with 65 vessels were providing excursions in the port. In 2004, the century long tradition of the Hudson River Day Liner was revived by New York Cruise Lines, the parent company of Circle Line, World Yacht, and The Beast Speedboats.

### *9/11 Sealift*

On September 11, 2001 the waterways provided the only escape route for hundreds of thousands of workers in lower Manhattan. The USCG Activities New York coordinated the largest rescue mission on American soil since Pearl Harbor directing an armada of more than 100 vessels, both public and private. John Snyder, senior editor of Marine Log reported the response of New York's maritime fleet in the article "Ferries to the Rescue After World Trade Center Attack," (Oct. 2001) excerpt below:

"...soon we could see a swarm of vessels—ferries, dinner boats, tugs and small private craft—shuttling thousands of evacuees across the Hudson River from downtown Manhattan to various points of safety in New Jersey.

Larger vessels were also on station including a Sandy Hook pilot boat, a Coast Guard cutter and a spill response vessel. The Coast Guard estimated that one million New Yorkers were evacuated from Manhattan by water. The response by vessel operators was nothing short of phenomenal.

Because of their bow-loading design, NY Waterway's ferries were pressed into service as waterborne ambulances. The vessels were used to medivac injured firefighters across the Hudson to Colgate. In all, NY Waterway ferries carried about 2,000 injured.

With all of Manhattan's arteries shut down and its subways at a standstill, NY Waterway put 22 of its 24 ferries in "load and go" service at piers in lower and Midtown Manhattan, taking a total of 158,506 evacuees to points in Jersey City, Hoboken and Weehawken, N.J., as well as Brooklyn and Queens.

Also pitching in, were a number of dinner and tour boat operators. "We moved about 30,000 people on our six boats," says Peter Cavrell, senior vice president of sales and marketing for Circle Line. "It wasn't any kind of coordinated effort. We just started doing it." Continues Cavrell, "In its own small way, Circle Line is a symbol of New York. We just wanted to do our part."

Excursion vessel operator Spirit Cruises began shuttling evacuees from Chelsea Piers across the Hudson River to the Lincoln Harbor Yacht Marina in Weehawken, N.J. Spirit used its three dinner boats, the 625-passenger *Spirit of New York*, 500-passenger *Spirit of New Jersey* and 350-passenger *Spirit of Hudson*. Steve Schwartz, Spirit Cruises' regional director, says some 8,000 passengers were moved during a 2 hour period.

On September 14, the *Spirit of New York* was given special permission to dock at North Cove Yacht Harbor [at the World Financial Center], where it was used as a floating rest stop to distribute food donated by many of the area's fine restaurants, including the TriBeCa Grill. It remained on station for 72 hours.

Marine Spill Response Corp. *Responder* remained on station at North Cove Yacht Harbor for three days to provide a rest area for firefighters, police and volunteers working in the rescue effort.

According to the American Waterways Operators (AWO), virtually every tugboat company in and around New York committed all of their resources to evacuating disaster victims in response to the Coast Guard's call. About 35 tugs, stationed at spots designated by the Coast Guard throughout lower Manhattan, aided in the evacuation effort from about 10 a.m. on September 11 to 3 a.m. on September 12."

*Preserving the City's Maritime Past*

In the second half of the twentieth century burgeoning development and neglect threatened countless maritime relics throughout the city. The demolition of Pennsylvania Station in 1963 increased public awareness of the value associated with the city's architectural and cultural heritage. Citizen advocacy on the part of individuals passionate about preserving the historic legacy of the seaport reclaimed many maritime historic sites and structures as cultural, recreational, and educational resources.

Navy veteran Peter Stanford had the idea to create a maritime museum to chronicle the city's seafaring past. In 1967, he launched South Street Seaport Museum in a storefront at 16 Fulton Street with the help of Jakob Isbrandtsen, a shipping magnate of American Export Lines, whose father's cousin A. P. Moller had formed the great Maersk Line. Within a few decades, the museum negotiated a 99-year lease with the city to rescue five blocks of buildings and three piers—piers Stanford had originally claimed by squatter's rights. It secured landmark status and assembled one of the largest fleets of historic ships in the hemisphere. The Coast Guard donated the first vessel—the *Ambrose Lightship*. The museum's library under the care of maritime historian Norman Brouwer has grown to be an important repository of nautical books, photographs and ship's documents. In 2004, the museum opened new gallery space through the rehabilitation of the Schermerhorn Row Counting Houses on Fulton Street. South Street Seaport Museum today draws about 10 million visitors annually to the seaport district.

Artist and mariner, John Noble campaigned to preserve Sailor's Snug Harbor from developers. The first home for retired seamen in the United States opened on the shores of the Kill Van Kull on Staten Island in 1833. The sanctuary was privately endowed by Captain Robert Randall, a man who made his fortune from the sea and willed it support "as asylum or home for aged, decrepit seamen." At its peak, Snug Harbor housed more than 1000 retired seamen and contained 60 buildings, including two hospitals and a church. The population of residents, called

Snugs, diminished by the 1950s and the property fell into a state of disrepair. Mayor Robert Wagner turned down an offer from the institution's board for the city to accept the site for free. In the 1970s, Mayor John Lindsay purchased the 83-acre property for \$7 million. It reopened as the Snug Harbor Cultural Center in 1976. Today, it contains 26 historic buildings including five Greek-revival structures; one occupied by the Noble Maritime Collection featuring works of the artist who helped rescue the property; works in which Noble strived "...to make a rounded picture of American maritime endeavor of modern times."

The Intrepid Sea-Air-Space Museum on Manhattan's Hudson River shore began with a battle-scarred aircraft carrier and the strong will of philanthropist Zachery Fisher, who spent \$24 million of his own money in order to save the *Intrepid*. The ship was retired from active duty in 1974 and on the verge of being scrapped. Mr. Fisher established the Intrepid Museum Foundation to transform the vessel into an educational museum and memorial to those who served in defense of their country. The 900-foot-long *Intrepid* decked with 25 aircraft and flanked by the guided missile submarine *Growler* forms the core of the Museum which opened to the public in 1982, and annually hosts some 500,000 visitors.

The Ellis Island Immigration Center had been used as a detention center for enemy aliens in WWII and closed in 1954 after millions of immigrants had entered America through its doors. It is a vital part of America's immigrant history; over 100 million Americans can trace their ancestry in the United States to the Registry Room on Ellis Island. In 1965, Ellis Island became part of Statue of Liberty National Monument. An ambitious restoration effort was mounted and the Ellis Island Immigration Museum opened to the public in 1990.

Roland Betts, owner of the Texas Rangers and Silver Screen Studios, envisioned the column-free space at Chelsea Piers as an ideal ice skating rink for his daughter practice sessions. Chelsea Piers, originally constructed in 1910 as docks for the famed White Star and Cunard Lines, served as a troop embarkation point during WWII. The last tenants, the



United States and Grace lines, relocated to New Jersey in 1967. By the mid-1980s the piers were shabby, collapsing and slated for demolition. The NYC Tow Pound was at Pier 60; a sanitation truck repair shop at Pier 59; and Customs Impound at Pier 62. Betts won a bid for the structure in 1992 and opened Chelsea Piers Sports and Entertainment Complex in 1995. The three piers and headhouse stretching from West 23rd Street south for five blocks were transformed into a public waterfront and huge recreational center featuring two Olympic-size skating rinks.

On the Hudson River flanking Chelsea Piers at West 23rd Street, Pier 63 Maritime is a privately owned 320-foot Erie-Lackawanna barge that at one time carried freight cars across the river from New Jersey. The barge is owned by John Krevy and since 1989 has been a base for preservation of historic vessels. The centerpiece of the pier is the *Frying Pan* lightship and *John J. Harvey* fireboat. Nearby is the restored Baltimore & Ohio Float Bridge at Pier 66a, where railroad cars transferred onto barges from 1954 to 1973.

The historic vessels now under restoration at many Hudson River Park piers provide a hands-on glimpse of life aboard ship. The *Pegasus* tugboat, built in 1907, was designed to serve waterside refineries and terminals of Standard Oil, as the *Esso Tug No. 1*, she plied the waters of the New York Harbor docking ships and moving lighter barges of petroleum products. In 1953 she was sold to McAllister Towing for further use as a harbor tugboat and renamed the *John E. McAllister*. Hepburn Marine bought her in 1987, brought her back to New York as the tugboat *Pegasus* where she continued to engage in towing and transport work. The tug was retired in 1997. Preservation efforts began immediately under the direction of Captain Pamela Hepburn. *Pegasus* is docked at Chelsea Piers. Other historic ships under restoration on the Hudson include the ferryboat *Yankee* at Pier 25 and the steamship *Lilac* at Pier 40.

The Historic House Trust of the City Parks Department was created in 1989 to preserve and promote 22 historic house museums located in New York City parks. Many of these are waterfront homes that provide

insight into the storied past of the Port and the people who populated Old New York. Gracie Mansion on the East River overlooking Hell Gate is named for Archibald Gracie a Scottish shipping magnate who bought the property in 1798. It is now the official residence of the mayor. Merchant's House Museum, built in 1831, is the only 19th century family home preserved intact in New York City. It was home to Seabury Tredwell, an importer and wealthy city merchant with a business on Pearl Street, near South Street Seaport. On Staten Island, the Seguine Mansion overlooking Prince's Bay was built in 1838 by a successful bay oysterman.

The former Coast Guard Lighthouse Depot on Staten Island, which had supplied lighthouses for more than a century, was abandoned in the late 1960s when the USCG took up residence on Governor's Island. The property suffered from years of weather damage and vandalism. In the 1980s, public outcry led to preservation of the historic buildings. Plans are underway to restore the ten acre historic site as the National Lighthouse Museum. Four buildings have been placed on the National Register of Historic Places and the Administration Building has received City Landmark status. Construction has commenced on many of the structures as well as repair of the pier to berth the lightship *Nantucket-112*.

On Jan. 31, 2003, President Bush returned Governors Island to the City of New York for \$1. Two historic fortifications and their surroundings became a national monument under the jurisdiction of the National Park Service. Presently, the Governors Island Preservation and Education Corporation is charged with developing long-range plans for the island, which may include a campus of the City University of New York, a park and space for commercial development.

Many reminders of New York City's historic seafaring past are in the recycled buildings located throughout Lower Manhattan. One that has remained intact, Fraunce's Tavern has stood at 54 Pearl Street since it was built in 1762. It was here that George Washington gave his farewell address to the troops. When the U.S. Customs Service moved to the

World Trade Center in 1973, the Custom House stood vacant for almost a decade until its rescue and reuse as the Museum of the American Indian. The entrance to the Cass Gilbert designed building is flanked by sculptures representing the four continents. The Rotunda ceiling of the U.S. Customs House at One Bowling Green is embellished with eight views of activity in the Port of New York painted by WPA-commissioned artist Reginald Marsh. Frederick Dana Marsh, Reginald's father, created the nautical-themed tiles that were installed at the Broadway-Nassau subway station in 2000. The 1913 tiles were salvaged from the old Marine Grill housed in the McAlpin building on Herald Square. The Post Office at 25 Broadway was built in 1921 as the Cunard Line building, as suggested by the murals decorating the main hall. The signs above the Citibank Building at One Broadway designate "First Class" and Cabin Class," a leftover from when the structure was the United States Line Building.

### *Waterfront Renewal*

*A Maritime History of New York* opens by shedding light on why the city and the port naturally developed along the harbor. The harbor is a large natural system—an estuary, where land meets water and freshwater mixes with seawater. Estuaries are diverse ecosystems that form the foundation of the coastal food chain. This estuary nature forms the fabric of the port and endows New York City with a wealth of fish, shellfish, birds, plants species, and other wildlife. The seaport that grew on its shores has been the keystone of the city's progress and a catalyst of economic growth for four hundred years.

Over the centuries, the tasks of the port often clashed with the nature of the harbor. "A conflict between developing the waterfront for commerce and developing it for public use has been with us since 1811 when the plan for Manhattan was laid out. Commercial use, considered incompatible with recreation, was given clear preference. Later, in 1835, in a discussion about the potential development of Stuyvesant Cove for

a park, it was argued that it would be a waste of ‘a great front for shipping on the East River’.”\*

A *Maritime History* predicted in 1941 that a major seaport would be built on Jamaica Bay. As early as 1878, the municipal government floated plans for a seaport on the bay because of its close proximity to the open sea. By the 1930s pressure mounted to develop a port to rival Rotterdam and Liverpool. In a letter to Mayor LaGuardia dated July 18, 1938, then Parks Commissioner Robert Moses expressed his desire to preserve Jamaica Bay’s 18,000 acres of water, marsh and meadowland. Moses’ plan called for transferring the bay and all lands surrounding it to the Parks Department, “for recreational use, including protection of scenery and waters; encouragement of swimming, fishing, boating and preservation of wild life; public use of the meadowlands adjoining Cross Bay Boulevard, including Big Egg Marsh...” Ten years later, Jamaica Bay and the bounding lands were conveyed to the Parks Department. Robert Moses created Jamaica Bay Wildlife Refuge which in the 1970s was transferred to the National Park Service. He also constructed the Belt Parkway around the north shore of the bay interlacing the road with ribbon parks and green spaces.

It wasn’t until the 1960s that the true ecological value of Jamaica Bay and the harbor estuary were understood. Rachel Carson, the first female employee of the U.S. Fish and Wildlife Service, raised awareness of the sea as a living eco-system in her history of the ocean, *The Sea Around Us*. Water pollution was at an all-time high by the early 1970s. Growing concern and environmentalist clout led to the Clean Water Act signed into law by President Nixon in 1972: “to make the nation’s waters safe for fishing and swimming, reduce harmful discharges of pollution, and protect the nation’s wetlands.” The results are apparent today. Odors, water color, clarity, and overall appearance of the rivers and harbor have changed for the better. It is a far cry from the “oily, dirty, and germy” water Joseph Mitchell wrote of in “The Bottom of the Harbor” in 1951.

\* New York City Comprehensive Waterfront Plan: Reclaiming the City’s Edge, 1992  
NYC Department of City Planning

Many things were happening simultaneously on the New York City waterfront. Cleaner water and an abandoned waterfront led to calls for greater access. Harbor events such as Operation Sail on the bicentennial July 4, 1976 and the first Fleet Week in 1987 brought thousands to a waterside ripe for regeneration.

Plans to revitalize the Hudson River shipping piers on the Lower Manhattan waterfront were first presented by then Governor Rockefeller in 1966. United Fruit (now Chiquita), had occupied the piers until the Hunts Point Market opened in the Bronx. Battery Park City was raised on a 92-acre landfill obtained from the excavation of the World Trade Center Towers site in 1976. The mixed-use complex of housing, office space, marina and parks opened incrementally through the 1980s and 1990s. The development is designed to provide public access along its entire waterfront.

In 1973, a cement truck on its way to make repairs on the elevated Miller Highway (West Side Highway) caused a 60 foot section of the structure to collapse near Canal Street. While the elevated roadway had served the needs of the port-related industries on the piers, it had restricted access and obscured views to the river for more than fifty years. The Westway plan for the highways reconstruction proposed in 1974 to tunnel a six-lane interstate through landfill along the shore of the Hudson River and create parkland on top of the structure. The project was steadfastly opposed because of adverse environmental impact on aquatic life and successfully halted by 1986. The Hudson River Park scheme took form in 1992 with a plan to create a linear park in conjunction with highway construction. The 550-acre riverside park now stretches five miles from Battery Park Place north to 59th Street. When completed (scheduled for 2008), it will contain 14 public piers, 400 acres of marine sanctuary, four boathouses for non-motorized craft, and numerous new facilities.

Projects are underway throughout the city that reclaim waterfront for public use and refurbish remnants of traditional waterfront usage. New waterfront residential developments are required to incorporate water-

front public access into the design. Brooklyn Bridge Park will encompass the waterfront from the Manhattan Bridge through Pier 5 at Atlantic Avenue while preserving a row of old Tobacco Warehouses. In Queens, at Hunter's Point a large swath of land has been transformed to fishing piers and promenades with restored Long Island Railroad gantries as the centerpiece. Donald Trump built 23-acre Riverside Park South in response to community opposition for his planned 13-block-long development over the 75-acre Penn Yards site. The resulting park features a fishing pier and the restored a 90-year-old Grand Central float bridge at the foot of 69th Street.

### *A Plan for the Waterfront*

Most of the waterfront land in New York City is in public ownership. In 1992, the Department of City Planning proposed a land use guide for the entire city shoreline. This Comprehensive Waterfront Plan, subtitled *Reclaiming the City's Edge*, presented "a long-range vision that balances the needs of environmentally sensitive areas and the working port with opportunities for waterside public access, open space, housing and commercial activity." Over the past decade, the city has amended outdated waterfront zoning laws and has begun to implement many of the plans recommendations.

The Waterfront Plan mapped out a framework where working, recreational and natural waterfront uses coexist. It called for protecting and encouraging water dependent uses, such as maritime support, marina, commercial excursion boating, and water-borne transportation. Six Significant Maritime and Industrial Areas were designated to protect and encourage concentrated working waterfronts, including: The Kill Van Kull in Staten Island from Howland Hook to Snug Harbor; the Brooklyn waterfront from Erie Basin to Owls Head; the Brooklyn waterfront from Pier 6 to Red Hook Containerport; the Brooklyn Navy Yard; the Queens and Brooklyn shores of Newtown Creek; and the South Bronx (Port Morris and Hunts Point).



Today, decisions affecting the future of the waterfront are being played out in neighborhoods throughout New York City. Public meetings and forums invite residents to participate in the planning process. Community Board 197a plans are community action programs meant to provide a blueprint for shaping future land use issues through increased public awareness and involvement in waterfront redevelopment. Neighborhoods from Long Island City, Queens and Greenpoint, Brooklyn to the Bronx's Hunts Point and Stapleton, Staten Island have developed 197a plans that stipulate local recommendations for redeveloping local waterfronts. The struggles over the Red Hook waterfront exposes some of the vagaries of this process.

Since the dawn of the new millennium, Red Hook has been a public arena for competing land use interests. It is surrounded by water on three sides; the harbor views are spectacular taking in the whole of the Upper Bay. Much of the working waterfront was abandoned in the 1960s and 70s when container facilities were built on the Jersey-side of the harbor. The construction of the Gowanus Expressway and Battery Tunnel cut off the square-mile peninsula from the rest of Brooklyn. It is today a mix of early-19th-century buildings put up to handle trade from the Erie Canal; civil war era warehouses; small manufacturing businesses; the large Red Hook Houses projects (originally built in the late 1930s for dockworkers) where 70 percent of the population lives; and brick row and wood framed houses. Retired NYPD detective Greg O'Connell began buying up derelict and condemned properties here in the early 1980s and restoring them for small business usage. Port-related businesses began to return to the area. The Red Hook Terminal opened in 1981 as the only break-bulk cargo terminal in Brooklyn. In 1989, long vacant Erie Basin was occupied by Marine Support Service Center of Reinauer Transportation Companies and tugboat berthing. In 2003, New York Water Taxi made Red Hook its homeport of operation.

In the 1990s Red Hook residents united to fight a city waste transfer station. These same residents later clashed over Fairway's plan to open a

giant supermarket in one of O'Connell's historic warehouse buildings at the foot of Van Brunt Street. At the time, the community's need for fresh produce and jobs won out.

Today, the real estate market is booming and the areas future holds promise for the first time in decades. Swedish retailer Ikea is seeking to build a giant box store on prime waterfront land and pave over the old docks of Todd Shipyards to accommodate parking. Todd Shipyards (also known as New York Shipyards) once occupied the 22-acre walled parcel of waterfront that includes the city's largest dry dock and graving dock. The store will attract over 10,000 cars a day to the areas narrow cobbled streets. An alternative proposal has emerged to preserve the yards' maritime use and create a mixed-use community with marinas and public waterfront access. Once again, the jobs and taxes have triumphed. Detractors are hopeful Ikea will retain the graving dock and some of the historic buildings that reflect the sites working waterfront roots.

The story of the Port of New York continues today against a backdrop of constant evolution and renewal. The Port has persisted through the Second World War and the great technological changes of the twentieth century. It has persevered through loss of position as the top U.S. port, short-sited development and the devastating attacks of 2001. Today the Port is experiencing an unprecedented cycle of growth. Ship size and cargo increases are benefiting from new advances in information technology and landside operations that will further impact economies of scale. *A Maritime History 1941* concludes that the one consistent theme has been the Port's "continuous and vital growth." That theme still holds true today.

Barbara La Rocco is co-founder of Going Coastal, Inc. and the author of *Going Coastal New York City: A Guide to the Waterfront*.