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The New York - New Jersey Harbor

Its Scope, Waterways, Commerce, Terminals and Shoreline

JUNE 1974

THE PORT AUTHORITY OF NY & NJ

PLANNING AND DEVELOPMENT DEPARTMENT
CENTRAL PLANNING DIVISION
DEVELOPMENT PLANNING SECTION

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INTRODUCTION

The Geography of the Port of New York

The Port of New York is within an area known as the Port of New York District which was derived from the Compact of 1921 between the States of New York and New Jersey creating The Port of New York Authority (now known as The Port Authority of New York and New Jersey). The Port District is a 1500-square mile Bi-state area with boundaries approximately 25 miles from the Statue of Liberty. It contains all or part of 17 Counties, nine in New Jersey and eight in New York which, in turn, contain all or part of 234 municipalities. The economic focal point of the Port of New York is the City of New York. (See Map No. 1)

Of these 17 Counties, the following, or all but two, touch upon the shoreline of Harbor waters:

New York	New Jersey
New York (Manhattan)	Bergen
Kings (Brooklyn)	Essex
Bronx	Hudson
Queens	Middlesex
Richmond (Staten Island)	Monmouth
Nassau	Passaic
Rockland	Union
Westchester	

In addition to the City of New York, the following New Jersey communities in these Counties have at present or in the past dedicated portions of their waterfronts to port-oriented activities on the water areas of the Port District as indicated thereafter.

1. Edgewater, Guttenberg, Weehawken, Hoboken, and Jersey City: Hudson (North) River.

2. Jersey City and Bayonne: Upper New York Bay.

3. Bayonne: Kill van Kull.

4. Bayonne, Newark, Kearny, and Elizabeth: Newark Bay.

5. Linden, Carteret, Woodbridge, Sewaren and Perth Amboy: Arthur Kill.

Three smaller basic river systems in New Jersey -- the Raritan, Passaic and Hackensack, likewise generate port-related activities along their shorelines.

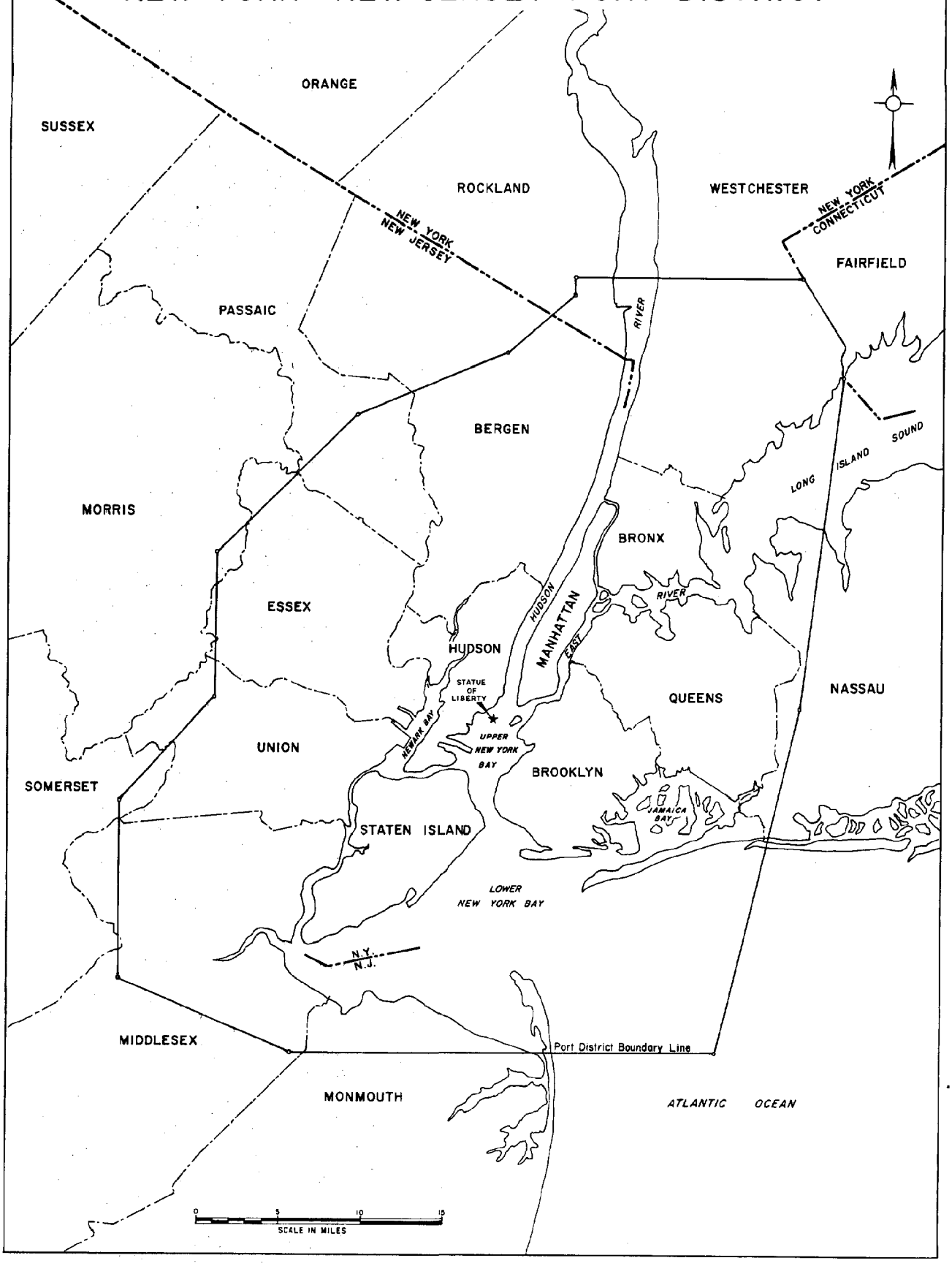
In the City of New York five Counties, as well as adjacent Westchester County, provide port-oriented activities of varying degrees along the waters as shown below:

1. New York (Manhattan) and Westchester: Hudson River.
2. New York (Manhattan), Kings (Brooklyn), Queens and Bronx: East River.
3. Richmond (Staten Island) and Kings (Brooklyn): Upper New York Bay.

In addition, tributary waters feeding the East River, namely, Flushing Bay, Newtown Creek, Harlem River, Eastchester Creek, Steinway Creek, Westchester Creek, as well as Jamaica Bay, contribute varying degrees of port-oriented uses, mostly of a local character, to the Port District.

MAP I

NEW YORK - NEW JERSEY PORT DISTRICT



In all, about 755 miles of shoreline encircle the waters of the Port District -- 460 miles in the State of New York and 295 in the State of New Jersey.

Vessel Traffic and Commerce

In 1972, 9,347 ocean vessels called at the Port of New York, about 19.9 per cent of the total of 11 of the leading seaport areas of the continental United States, totalling 78,421,980 net tons of shipping. The next largest port was Philadelphia with 5,149 arrivals. The year 1972 saw 341 more ship arrivals at the Port of New York than in 1971. The peak month in 1972 was August with 856 arrivals, and the lowest was February with 698 arrivals.

Of these 9,347 arrivals, 5,992 were dry cargo carriers, 2,891, tankers, and 464, passenger ships. The largest overseas origin area was the United Kingdom and northern Europe with 1,131 arrivals; next came the West Indies and the north coast of South America with 1,100 arrivals. In all, 2,601 of the 1972 arrivals were vessels documented in the United States.

About 196,843,000 short tons of waterborne cargo moved into, out of and through the Port of New York in 1972. Of this, 61,778,000 short tons involved exports and imports. The remainder was largely coastal, regional or intra-harbor traffic. The latter alone comprised about 54,629,000 short tons. In 1972, 42,367,000 short tons more were handled by the Port than in 1971.

Of the 61,778,000 short tons of foreign trade handled in 1972, 56,170,000 short tons were imports. Of this, 13,097,100 short tons were crude oil and 30,404,000 short tons kerosene and residual and distillate fuel oils. Petroleum also played a major role in coastwise receipts, recording another 28,292,000 short tons (not included in these data are

lubricating oils and greases). Other major foreign trade commodities were 1,204,000 short tons of sugar imports and 1,419,000 short tons of iron and steel scrap exports. The remainder was largely a wide mixture of general cargo commodities for which the Port of New York generally leads other United States ports.

THE CHANNEL SYSTEM

The Port of New York and Its Ocean Channels

The Port of New York can be entered from the Atlantic Ocean via Lower New York Bay, Long Island Sound or Raritan Bay. The Lower New York Bay entrance, served by Ambrose Channel and the alternate and parallel Main Ship Channel, is the most common route for ocean vessels. These three entrances lead to the following basic Federal channel systems for ocean vessels, together with the major branch and spur channels that emanate from them (See Map No. 2):

1. Ambrose-Anchorage-Hudson River-Edgewater-Weehawken Channels System (Lower New York Bay Entrance), including:
   a. Main Ship Channel
   b. Bay Ridge-Red Hook-Gowanus Creek Channels
   c. Buttermilk Channel

2. East River Channel System (Long Island Sound Entrance), including:
   a. South Brother Island Channel
   b. Long Island City Channel

3. New York and New Jersey Channels System (Raritan Bay Entrance), including:

   a. Newark Bay Channel

   b. Hackensack River Channel

   c. Passaic River Channel

   d. Raritan River Channel

These channels range in bottom widths from 150 through 2000 feet, and in controlling mean low water depths from 25 through 45 feet. In addition, numerous other channels of shallower depths for harbor and recreational vessels connect with these three basic systems to constitute the extensive and complex waterway system that serves the New York and New Jersey Port.

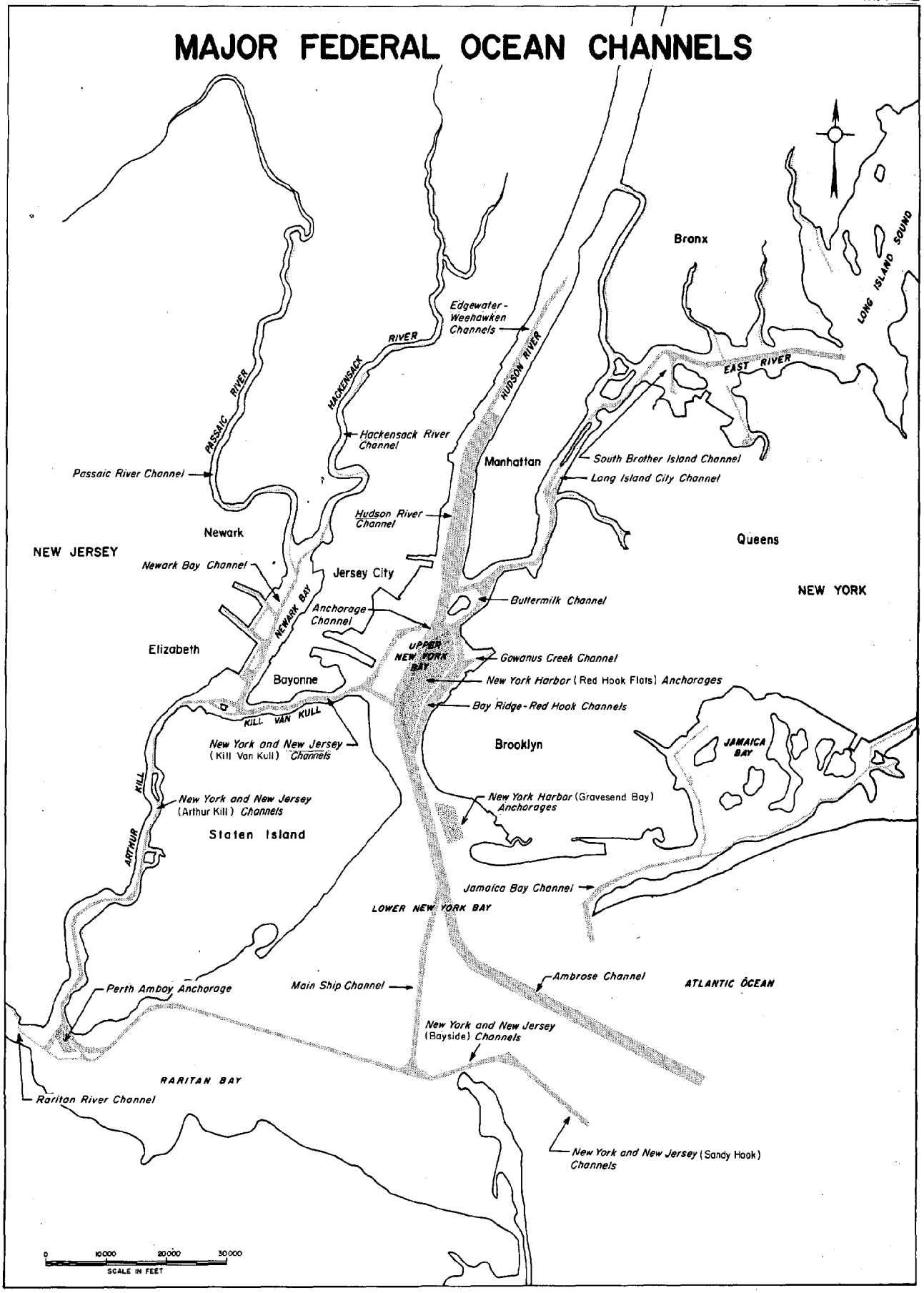
Ambrose-Anchorage-Hudson River Channels System

The Ambrose-Anchorage-Hudson River Channels System is the main entrance to the Port of New York. An alternate, but part of this System, is the Sandy Hook-Bayside-Main Ship Channels route. These two Harbor entrance routes in 1972 accounted for 33,716 vessel movements.

The Ambrose-Anchorage-Hudson River Channels System has a limiting depth of 45 feet at mean low water, a width of 2000 feet, and a total length from the sea entrance to West 59th Street, Manhattan, of about 22 miles. From there northward, the Edgewater-Weehawken Channel hugs the New Jersey shoreline at a depth of 32 feet and a width of 550 to 750 feet up to West 156th Street, Manhattan, for an additional distance of about five miles, and from there northward up the Hudson River. The Sandy Hook-Bayside-Main Ship Channels, which join the Ambrose Channel about nine miles above the sea

MAP 2

MAJOR FEDERAL OCEAN CHANNELS



entrance, have widths ranging from 800 to 1000 feet, and a depth of 30 feet. This route is used by unwieldy and large ocean tows and barges to avoid their use of the heavily trafficked Ambrose Channel.

Waterborne commerce on the portion of this channel system between The Narrows and the Hudson-East Rivers junction off The Battery on lower Manhattan totalled 174.2 million short tons in 1972. With respect to oceanborne movements of cargoes, petroleum dominated this central segment, consisting of 2.2 million short tons of crude oil, 14.6 million short tons of fuel oils and 1.4 million short tons of gasoline, kerosene and jet fuels, most of which arrived from abroad or from coastwise origins. Also exceeding 100,000 short tons were 636,312 short tons of iron and steel scrap, mostly for export, and 203,318 short tons of vegetable oils, mostly imported. Much of the petroleum traffic moved on to different sectors of the Port. The New Jersey shoreline contains a number of liquid and dry bulk cargo facilities, as well as containership terminals. On the Brooklyn, New York side, general cargo, container and bulk cargo facilities are densely developed along the waterfront.

Available waterfront properties along this channel system at various points contain abandoned structures and are subject to varying degrees of shoreline siltation, but are capable of being developed for use by ocean marine-oriented bulk industries. While there is a certain amount of industrial development taking place along the New Jersey shoreline, very little of it, at the present time, is strongly ocean transportation-oriented. On the New York side, a similar trend exists, with the added restriction that little open land is presently available for development on the waterfront, although some land might well be redeveloped through clearance or fill

operations. The trend in Manhattan toward the replacement of obsolete waterfront structures with housing, office buildings, parks, and the like is even stronger than on the opposite New Jersey shoreline.

Bay Ridge-Red Hook-Gowanus Creek Channels

The Bay Ridge-Red Hook Channels run easterly from, then relatively parallel to, the Anchorage Channel, starting at The Narrows and ending at a point on the Buttermilk Channel just south of Governors Island. Functionally, they are primarily terminal access channels for the Bay Ridge-Red Hook waterfront of Brooklyn, which consists almost entirely of the Erie Basin-Port Authority Marine Terminal and various private and City of New York terminals and shipyard facilities. In 1972, 18,465 vessel movements occurred on the Bay Ridge-Red Hook Channels, and 15,527 on the Gowanus Creek Channel.

The Bay Ridge-Red Hook Channels together are four miles long, with widths ranging from 1200 to 1750 feet, and have a 40-foot depth. Three miles north above the beginning of the Bay Ridge Channel where it joins the Red Hook Channel, Gowanus Bay, also with an authorized 40-foot depth, narrows down in an easterly direction into the Gowanus Creek Channel to a width of 500 feet off 28th Street in Brooklyn, and then shallows to 30 feet. The 150-foot wide Henry Street Basin Branch Channel, about 27½ feet deep, runs northerly from the Gowanus Creek Channel to serve the Port Authority Grain Terminal, which is now inactive. The Gowanus Creek Channel ultimately narrows further to about 100 feet and a depth of 18 feet at Sigourney Street.

Bay Ridge-Red Hook Channels waterborne cargo traffic totalled 6.2 million short tons in 1972. Sugar was the only specific oceanborne commodity that exceeded 100,000 short tons, with an actual volume of 248,939 short tons. The Gowanus Creek Channel handled 4.9 million short tons, including

therein 127,141 short tons of coffee, 751,735 short tons of distillate fuel oil and 146,864 short tons of residual fuel oil. General cargo, container, and bulk cargo facilities make up much of this waterfront area.

Buttermilk Channel

The Buttermilk Channel is a 2.3-mile long channel, 1000 feet wide, which passes between Brooklyn and Governors Island as a link with the Anchorage Channel and Red Hook Channel to the south, and the East River Channel to the north. Its easterly half has a depth of 40 feet at mean low water; its westerly half, 35 feet. It serves primarily the Coast Guard Base on Governors Island and the Brooklyn-Port Authority Marine Terminal as a terminal access channel, and, together with the Bay Ridge-Red Hook Channels, as a "cut-off" between the Anchorage and East River Channels. In 1972, 18,239 vessel movements took place on Buttermilk Channel.

Waterborne commerce on Buttermilk Channel amounted to 3.0 million short tons in 1967. The only oceanborne commodity moved on the waterway in that year which exceeded 100,000 short tons was 254,202 short tons of newsprint paper. General cargo and container facilities consume most of the Brooklyn waterfront served by this channel.

East River Channel System

The East River Channel System runs for a distance of more than 16 miles between Long Island Sound in the vicinity of the Throgs Neck Bridge, to the river's terminus at the Hudson River Channel in Upper New York Bay. In 1972, the East River Channel accounted for 77,190 vessel movements.

At the Hudson River, the Channel is about 1000 feet wide and 40 feet deep at mean low water as far north as the former New York Naval Shipyard

in Brooklyn. From there northward the channel shallows to 35 feet, with widths ranging from 550 to 1000 feet, until it reaches naturally deep water in Long Island Sound. The 30-foot deep Long Island City Channel, 500 to 900 feet wide, runs off the main channel east of Welfare Island to 43rd Drive in Long Island City, where it ends. Another 30-foot spur, the South Brother Island Channel, 400 feet wide, connects the East River Channel with the Astoria waterfront, passing between South Brother and Rikers Islands shoreward in a southerly direction.

Improvements on portions of the East River Channel System are both authorized for construction and under study by the Army Corps of Engineers. The South Brother Island Channel was authorized for deepening in 1970 to 35 feet. This channel serves fuel-carrying vessels. Deepening work is expected to commence in mid-1974 and should be finished within about two years. In addition, the Army Corps of Engineers has virtually completed a study which proposes a 6.3-mile deepening of the northern lane of the East River Channel between the Throgs Neck Bridge and North Brother Island to 45 feet, and the easterly lane to 40 feet 1.7 miles above the former New York Naval Shipyard from The Battery.

In 1972, East River waterborne commerce totalled 52.0 million short tons. Oceanborne commerce is made up of a significant amount of bulk cargo traffic. Oil was the principal commodity in 1972, accounting for 243,948 short tons of crude oil and 9.7 million short tons of fuel oils, both mostly from abroad, plus a smaller volume from coastwise origins. In addition, the channel handled imports totalling 193,089 short tons of limestone, 438,325 short tons of cement, and 464,417 short tons of sugar, as well as 177,325 short tons of imported and inbound coastwise lumber and 233,918 short tons of coastwise receipts of sand, gravel and crushed rock. Other commodities exceeding

100,000 short tons were 230,862 short tons of imports of bananas and plantains and 202,950 short tons of coffee imports. The gradual removal of general cargo piers and their replacement with housing, office buildings and recreational facilities is occurring on the Manhattan side of the East River. Most shipping activity takes place along portions of the Bronx, Queens, Brooklyn and mid-Manhattan waterfront along the river.

New York and New Jersey Channels System

The Kill van Kull-Arthur Kill Channels, when linked to the Raritan Bay-Bayside-Sandy Hook Channels, constitute the 38-mile long New York and New Jersey Channels. These waterways are 35 feet deep at mean low water, and range in widths generally from 500 to 800 feet. They serve New Jersey and the west and north shore of Staten Island. Their southerly entrance is the Atlantic Ocean off Sandy Hook; their northerly terminus, the 45-foot Anchorage Channel in Upper New York Bay. Leading into this waterway are the Newark Bay-Hackensack River-Passaic River Channels to the north, and the Raritan River Channel to the south. In 1972, the New York and New Jersey Channels segment handled 130,828 vessel movements.

Waterborne cargo tonnage moved on the New York and New Jersey Channels in 1972 totalled 135.7 million short tons. In the oceanborne trade, receipts of petroleum of foreign and domestic origins by far dominated the commodities whose annual volume exceeded 100,000 short tons. In 1972, this channel handled 22.6 million short tons of fuel oils, 16.3 million short tons of crude oil, 13.6 million short tons of gasoline, benzine, kerosene and jet fuel, 1.6 milion short tons of tars and asphalts, 826,689 short tons of lubricating oil and grease, 122,285 short tons of liquified gases and 207,543 short tons of miscellaneous petroleum and coal products. In addition,

203,207 short tons of liquid sulphur were received from coastal sources. In dry cargo, the waterway handled 571,661 short tons of limestone, 125,145 short tons of non-metallic minerals, 216,693 short tons of plastics, and 991,052 short tons of basic chemicals, mostly inbound from foreign and coastal sources.

A study of deepening the New York and New Jersey Channels to as much as 45 feet was studied by the Army Corps of Engineers. Such a deepening would have been of benefit to tankers up to 80,000 deadweight tons, but would be particularly useful to product tankers which normally range from 25,000 to 45,000 deadweight tons. However, such a deepening was estimated by the Corps to cost upwards from $350 million to accomplish and was deemed not to have been capable of producing commensurate transportation benefits. The plan was thus abandoned.

Newark Bay-Hackensack River-Passaic River Channels

This channel network extends northward from the Kill van Kull in the form of a "Y", with the Newark Bay Channel the "stem," and the Hackensack and Passaic Rivers the respective easterly and westerly "wings." In 1972, Newark Bay Channel vessel traffic totalled 29,161 movements, and the Hackensack and Passaic Rivers, 11,200 and 14,877, respectively.

In June 1972, the Congress directed the Army Corps of Engineers to study the feasibility and justification of deepening the 35-foot deep Kill van Kull-Newark Bay Channel route between St. George, Staten Island and the New Jersey Turnpike Extension Bridge to 40 or more feet, plus widenings and easing of bends to more safely and efficiently handle the increasingly larger tankers, containerships and general cargo ships that traverse this waterway. The Corps began its study of this improvement early in 1974.

Below the junction of the two rivers the channel is 35 feet deep at mean low water, with widths ranging from 500 to 1000 feet. From there, a 30-foot deep, 300-foot wide channel runs northeasterly up the Hackensack River for a distance of four miles to a small turning basin, thence narrows and shallows to 12 feet for an additional 12½ miles. The lower portion of the channel is authorized for deepening to 32 feet, and the upper portion to 15 feet. The Passaic River channel runs for 2½ miles in a northwesterly direction at a 30-foot depth and a 300-foot width, and from there shallows successively to 20, 16 and 10 feet for another 13 miles. No plans exist to improve this channel.

Waterborne commerce on Newark Bay Channel in 1972 amounted to 33.0 million short tons, with the Hackensack River handling 4.9 million short tons and the Passaic River, 7.8 million short tons. Oceanborne commerce in excess of 100,000 short tons annually reveals a high proportion of general cargo commodities moved on the Bay, both inbound and outbound, but particularly import and export. In this category were bananas and plantains, meat and meat products, lumber, paper and paperboard, vegetables and vegetable preparations, alcoholic beverages, food products, basic textile products, basic chemicals, plastic materials, rubber and miscellaneous plastic products, leather and leather products, iron and steel shapes and plates, metal fabrications, machinery and motor vehicles and parts, which together totalled 4.7 million short tons. In the bulk cargo area, the channel handled 179,226 short tons of salt and 196,105 short tons of minerals, mostly imported. Petroleum also moved across the channel, with 724,899 short tons of fuel oils, 452,724 short tons of kerosene and 260,226 short tons of crude oil.

On the Hackensack River, the major oceanborne commodities, mostly inbound from coastal origins, were 263,562 short tons of crude tar and asphalt

and 144,241 short tons of sand and gravel. On the Passaic River, inbound receipts of gasoline from coastal points predominated in the 1.5 million short tons of this commodity handled, while another 934,695 short tons of fuel oils, relatively balanced in outbound and inbound directions, were also handled. The Passaic River also accounted for 114,495 short tons of sand and gravel from coastal origins.

Raritan River Channel

The Raritan River Channel leads in a westerly direction from the Sandy Hook Channel in Raritan Bay up the river for a distance of almost six miles to the Raritan Industrial Center (formerly, the Raritan Arsenal). A two thirds-mile long southerly spur runs along the south shore of the river, and terminates at the Titanium Company, Inc. These channels have a maximum 25-foot downstream depth, and range from 200 to 300 feet in width. Actually, however, most ocean traffic generally ends at the Amerada-Hess Company, some three miles upstream, in Perth Amboy, to which point the channel is essentially 300 feet wide. The Raritan River Channel accounted for 14,551 vessel movements in 1972.

Waterborne cargo on this channel in 1972 totalled 9.8 million short tons. Oceanborne commodities that exceeded 100,000 short tons were 632,461 short tons of fuel oils, moving mostly in the coastwise trade, and 114,142 short tons of crude oil receipts equally divided between foreign and coastwise origins. In addition, the channel handled 316,472 short tons of sand and gravel in the coastwise trade, most of which was outbound.

Anchorages

In 1963, the Port of New York offered 61,736 acres of improved and unimproved anchorage space. Of this, 57,354 acres constituted unimproved anchorages located in the outer reaches of the Harbor in Lower New York, Gravesend, Sandy Hook and Raritan Bays. The remaining 4,382 acres were located in Upper New York Bay. Of this, only 613 acres were considered to be improved anchorages, and these offered depths ranging from 20 to 40 feet.

The Port's prime and most used deepwater anchorages, known as the New York Harbor Anchorages, are those located in Upper New York Bay. One area lies off Staten Island between the Verrazano-Narrows Bridge and St. George. This anchorage offers natural water depths ranging from about 25 to 80 feet. It is the Port's most popular deepwater anchorage. Across the Bay toward Brooklyn lies the Red Hook Flats anchorage area. Deepening of this area was begun in 1969 by the Army Corps of Engineers and was about half completed by mid-1972. The improvement when completed will provide 35, 40 and 45-foot depths in the Lower Red Hook Flats and a 35-foot depth in the Upper Red Hook Flats. Also earmarked for deepening is the Gravesend Bay Anchorage in the outer Harbor. This anchorage will be deepened to 47 feet, and about half of the area has already been deepened to this depth.

Another improved anchorage area lies off Perth Amboy, New Jersey, in Raritan Bay near the junction of the Raritan River Channel and New York and New Jersey Channels. This anchorage offers depths up to 37 feet. Another improved anchorage --38 feet-- is authorized for Raritan Bay near the junction of the Raritan Bay Terminal, Main Ship and Terminal Channels west of Sandy Hook, but this anchorage has not as yet been constructed. Commencement of work, however, is anticipated for the near future.

The remaining anchorages in the Port of New York tend to be of shallower depths and for use by smaller coastal, harbor and recreational craft.

Construction and maintenance of the anchorages is the responsibility of the Army Corps of Engineers. Control over their use is vested within the Coast Guard.

Disposal of Dredged Material

The Port's system of Federal waterways are constructed and maintained at depths prescribed by Federal public works legislation. The bottom material removed, called "spoils," must be deposited in a manner that is economically sound, navigationally efficient and environmentally acceptable. The traditional methods of disposal to date have been on land, in diked areas, or at sea. However, new methods are currently under study in the Corps Dredged Materials Research Program being conducted at the Waterways Experiment Station, Vicksburg, Mississippi, at a total cost estimated at $30 million.

In the Port of New York and New Jersey, land disposal has been generally ruled out as being either unacceptable, excessively costly or unavailable. The Corps, however, is studying the feasibility of constructing a diked disposal area in the vicinity of Hoffman and Swinburne Islands off Staten Island in Lower New York Bay. To date, however, sea disposal appears to be the only reasonable alternative.

The Corps of Engineers is empowered to designate spoils disposal sites, and exercise strict control as to quantity and quality of material deposited, both from Federal and private dredging work, the latter by permit. In so doing the Corps cooperates closely with the Environmental Protection

Agency and with the requirements of local laws. The area presently designated for this purpose is known as the Atlantic Ocean Mud Dumping Ground located in the vicinity of Latitude 40° 24' N and Longitude 73° 51' W.

From 1965 through 1970, the Mud Dumping Ground received 33.6 million cubic yards of mud and dredgings. The lowest volume was 1.1 million cubic yards in 1970; the highest, 8.8 million cubic yards in 1968. The annual mean for the six-year period was 5.6 million cubic yards.

MAJOR OCEAN TERMINAL DEVELOPMENT

Ocean terminal development in the Bi-state Port is largely, but not entirely, in the hands of two public agencies, namely, The Port Authority of New York and New Jersey, and the City of New York Department of Ports and Terminals. These agencies to date have tended to concentrate their activities on providing passenger, general cargo and container-seaborne-roll on/ roll off facilities. In addition, the Port has several such facilities newly built and operated by private interests. With respect to bulk cargo and industrial terminals, such facilities have been virtually in the exclusive domain of the private sector.

The major general cargo and passenger ocean terminal facilities in the Port area are located on both sides of Lower Manhattan, the New Jersey side of the Hudson River, the Brooklyn waterfront, northern Staten Island and the huge Port Authority terminals on Newark Bay, New Jersey. (See Map No. 3).

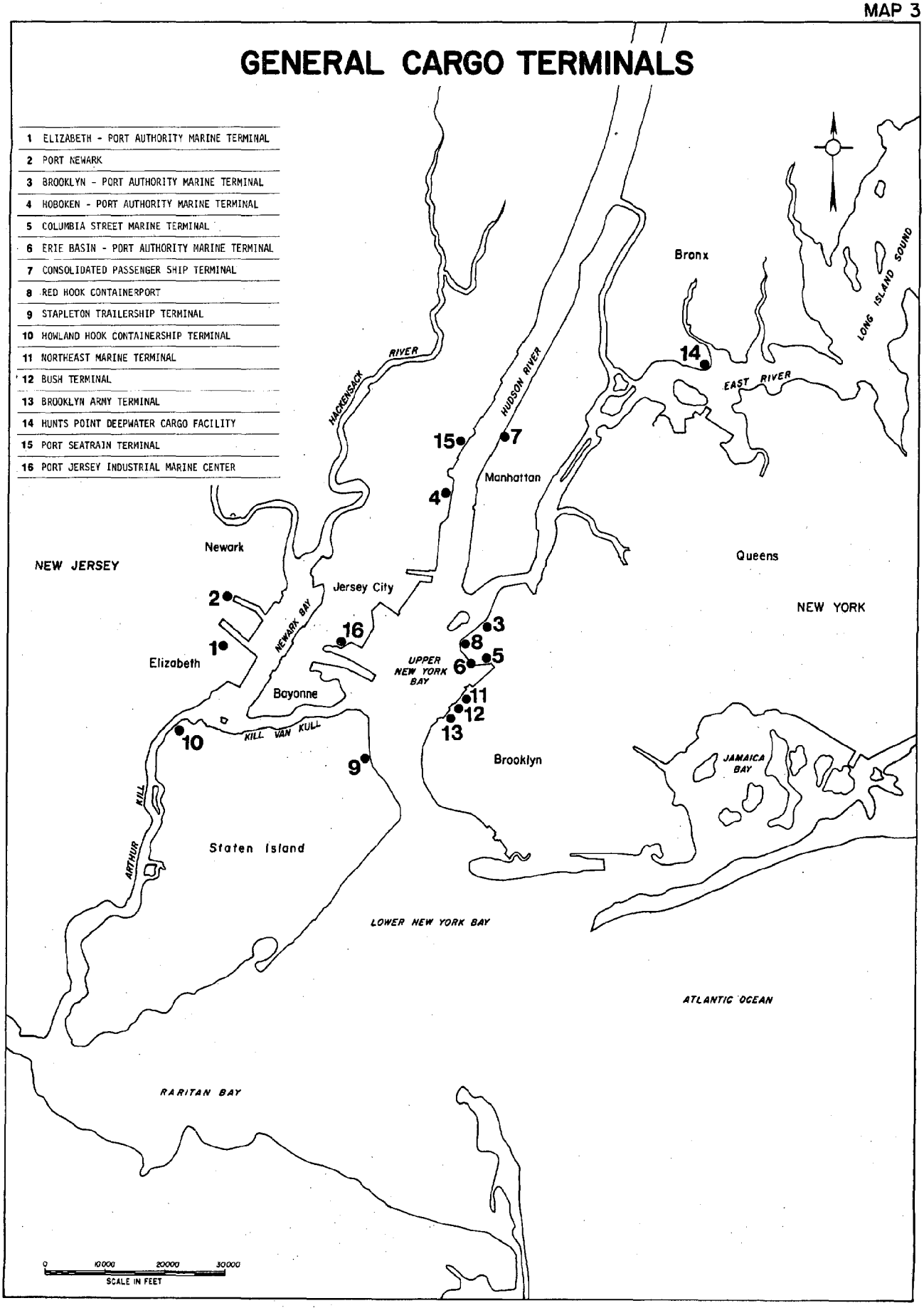
Public Port Agencies

The Port Authority of New York and New Jersey

The Port Authority of New York and New Jersey is the self-supporting corporate agency of the States of New Jersey and New York. Operating without burden to the taxpayer, it was created in 1921 by treaty between the two States to deal with the planning and development of terminal and transportation facilities, and to improve and protect the commerce of the Port District. Port Authority Commissioners, six from each State, are appointed by the Governors of New Jersey and New York. They serve without pay for staggered terms of six years.

MAP 3

GENERAL CARGO TERMINALS



This agency is authorized to buy, build, lease and operate transportation or terminal facilities and other facilities of commerce within the Port District. The Port Authority is also charged with the responsibility to promote the commerce of the Port and to protect it from inequitable or discriminatory transportation charges and practices; to make recommendations to the State Legislatures for new and improved transportation facilities and better ways of doing business; and to petition governmental regulatory agencies for improvements and changes which would speed and simplify the handling of commerce in the Port District.

Since 1948, the Port Authority has invested over $450 million in providing the Bi-state Port with modern general cargo marine facilities. The Port Authority's Marine Terminals Department staff has earned a world-renowned reputation among steamship lines and the terminal operators for its creative planning, construction and operation of highly efficient ocean terminals. Ports throughout the world have benefited by the Port Authority's pioneering work in developing specialized terminals to accommodate container shipping. The Port Authority's marine facilities are leased under varied term and usage agreements to individual steamship carriers and terminal operators who are responsible for day-to-day terminal operations. The Port Authority's professional staff works closely with the terminal users to assure the maximum cargo handling utilization, proper maintenance, and orderly operation of the leased facilities.

City of New York Department of Ports and Terminals

The Department of Ports and Terminals is the City of New York agency responsible for carrying out varied functions connected with the

New York City waterfront, markets and distribution industries.

The Department is concerned with development of waterfront and terminal properties and with the management of certain market facilities. To this end, the Department can assemble land parcels for the tenants, construct facilities to suit, offer expertise in the fields of architecture, design, engineering and planning and through the use of municipal bonds, offer financing. The management of approximately 110 City-owned pier and waterfront properties, valued at some $400 million, is another responsibility of the Department. Facilities may be rented under long term lease, permit, or under open wharfage arrangements for brief periods. The Department is also responsible for regulation and supervision of the use of the 578 miles of waterfront within the City's five Boroughs, including both privately and City-owned sectors.

Under its Director of Public Relations, the Department actively publicizes the advantages of New York City as a port through the press, by public events, by advertising and in disseminating information to schools, colleges and other educational institutions, and to civic groups and trade associations.

Publicly Owned and Developed Terminals

Elizabeth-Port Authority Marine Terminal

The Elizabeth-Port Authority Marine Terminal began operation in 1962 and is owned by The Port Authority of New York and New Jersey. This 1,165-acre marine terminal, located on Newark Bay in the City of Elizabeth, is a $244 million development providing modern, efficient facilities for

steamship lines and shippers. At present, there are 19 container cranes servicing 22 fully equipped container berths. There are 12 huge cargo distribution buildings with over a million square feet of space, eight cargo terminal buildings and 50 miscellaneous service buildings.

Within this facility, 8,471 linear feet of wharf and 364 acres are occupied by Sea-Land Service, Inc., the pioneer container steamship company which started services at the facility in 1962 and this year dramatically expanded its terminal. The combination container and roll-on/roll-off vessels of Atlantic Container Line, Ltd., began transatlantic operations from the Elizabeth terminal in September 1967. Atlantic Container Line operates from 1,550 linear feet of wharf at Elizabeth, supported by 65 acres of paved upland area. Adjacent to ACL is the Pittston Stevedoring Corporation, which operates 1,090 linear feet of wharf. In Spring 1968, service at a three-berth, 87-acre public containership terminal was inaugurated by International Terminal Operating Company, Inc. Maher Terminals, Inc., began service at its new 150-acre, 2,400-foot berth terminal in 1972.

During 1973, employment at the Elizabeth Marine Terminal was equivalent to 2,000 people with an annual payroll of $21,417,000. When completed and fully operational, the facility is expected to handle 12 million tons of containerized cargo per year.

Port Newark

Located in the City of Newark and adjacent to the Elizabeth-Port Authority Marine Terminal on Newark Bay, Port Newark is eight miles from The Narrows by way of the Kill van Kull. It is being financed, developed and operated by The Port Authority of New York and New Jersey under a long-term lease with the City of Newark. In creating this modern, efficient

848-acre marine terminal, the Port Authority provided many new improvements, including 17 new or rehabilitated cargo terminal buildings, 18 new wharves, 34 cargo distribution buildings, 13 miles of roadway, public cold storage warehouses, a frozen meat inspection building, a wine terminal, fumigation building, 70 miscellaneous service buildings, public truck scales, a Waterfront Commission Employment Information Center, the Seamen's Church Institute Recreation Center, two commercial bank buildings, 180,000 square feet ground level storage buildings, 330 acres of transit and open storage. There is a 10-acre railroad container transfer and storage yard. Over 38 miles of railroad tracks permit the loading or discharging of cargo at the waterfront or at distribution buildings in the upland area.

The newest terminal, with 3,058 linear feet of berthing and 60 acres of upland, was opened in 1972 and is leased and operated by Universal Maritime Service Corporation. Development has also begun in the "Navy Area" on the north side of the Port Newark Channel. Scheduled for completion in 1976, the Navy Area development will provide additional upland area and 2,500 feet of new berthing space.

Beyond construction now under way, there is a proposal for a further expansion of Port Newark to accommodate the steadily growing volume of worldwide waterborne commerce. Under a proposed agreement, the Port Authority would lease from the Penn Central Transportation Company a 95.6-acre parcel of land north of the New Jersey Turnpike Extension. The Port Authority would build about 830,000 square feet of cargo distribution and storage space, and provide about 2.3 million square feet of paved upland area at an estimated cost of $19 million.

By 1976, through development programs now under way, Port Newark will have over 4¼ miles of berthing space, 416 acres of paved upland area,

over 50 cargo storage and distribution buildings and numerous specialized cargo installations. The annual cargo handling capacity will be increased to 6 million tons. The full development of Port Newark in 1976 will represent an investment of $185 million.

In 1973, employment at Port Newark was equivalent to 3,800 people with an annual payroll of $41,477,000.

Brooklyn-Port Authority Marine Terminal

The Brooklyn-Port Authority Marine Terminal is among the busiest marine facilities owned by The Port Authority of New York and New Jersey on the New York side of the Bi-state Port. The terminal extends southward along two miles of prime waterfront from the Brooklyn Bridge to, and including, Atlantic Basin. The Port Authority's redevelopment program for this facility, begun upon acquisition of the property in 1956, has resulted in the replacement of 25 obsolete piers with 12 new piers and the rehabilitation of one pier, at a cost of $95,900,000.

The 13 highly modern piers at the facility offer shippers wide aprons and ample shedded space to facilitate loading and discharge of vessels. Extensive upland area and broad truck platforms also contribute to the terminal's reputation for fast, efficient cargo handling. During 1973, approximately 1.5 million tons of cargo were handled at the facility. The spaciousness of the facility and its supporting 60 acres of upland area have made the terminal ideal for conventional general cargo handling, including accommodation of unitized and palletized freight. Containerized cargoes are also handled at the terminal. Since 1966, an Employment Information Center for the Waterfront Commission of New York Harbor has been in operation, providing a hiring center equipped with the latest electronic devices.

In 1973, employment at this Brooklyn facility was equivalent to 2,246 people earning more than $25 million.

Hoboken-Port Authority Marine Terminal

The Port Authority of New York and New Jersey has spent well over $18 million to develop this facility, which it operates under a 50-year lease with the City of Hoboken, New Jersey, and the United States Maritime Administration. The development program included the construction of Piers A and B as two modern, efficient cargo piers, and the rehabilitation of Pier C. Piers A and B each provide 192,440 square feet of covered space and have the latest fire protection devices.

The terminal handled more than 300,000 long tons of cargo during 1973 and generated a payroll of $2,900,000.

Columbia Street Marine Terminal

The Columbia Street Marine Terminal, located on Gowanus Bay in Brooklyn, is a six-berth facility. The terminal, originally built in 1922 by the State of New York as part of the New York State Barge Canal System, was transferred to The Port Authority of New York and New Jersey in May 1944. The Columbia Street Marine Terminal represents an investment of $4.2 million for the Port Authority in rehabilitation and improvement projects.

In 1973, the terminal handled 117,001 long tons of cargo with an annual payroll of almost $2 million.

Erie Basin-Port Authority Marine Terminal

Located on Gowanus Bay in Brooklyn, this facility, owned by The Port Authority of New York and New Jersey, includes property purchased in

1958 from Beard's Erie Basin, Inc., and the United States Navy. The five-berth breakbulk terminal is over 4,000 feet long and 300 feet wide, has two breakwaters, contains five transit sheds, and comprises 40 acres of upland. The Port Authority has invested more than $12.8 million to rehabilitate the terminal.

This facility generates an annual payroll of more than $1.6 million.

Consolidated Passenger Ship Terminal

The Consolidated Passenger Ship Terminal on the Hudson River, being developed by The Port Authority of New York and New Jersey under a lease with the City of New York, will feature six berths, new auto access ramps, rooftop parking, air-conditioned passenger lounges, automated baggage handling apparatus, and a host of other refinements designed to meet the needs of passenger ship travelers.

For the first time New York will have a passenger terminal that is integrated with the overall development of the mid-Manhattan Hudson River waterfront. The $35 million construction plan involves complete rehabilitation and rebuilding of Piers 88, 90, 92 (between 48th and 52nd Streets). In addition, the existing Pier 40 at Houston Street will be used as a companion three-berth facility.

Cruise passengers account for between one and two per cent of New York's annual hotel occupancy rate. On the whole, passenger ship activity contributed $137 million to the Greater Metropolitan Area's economy last year by generating income to restaurants, theatres, hotels, and other tourist-related enterprises. In 1972, existing facilities handled 972 cruise and transatlantic ships carrying 643,147 passengers.

Red Hook Containerport

At the request of the City of New York, The Port Authority of New York and New Jersey has been working on plans for a jointly developed container terminal facility in South Brooklyn along Buttermilk Channel.

This new containerport on the Red Hook peninsula would cover 230 acres and cost approximately $54 million. It would incorporate the most modern technological refinements and offer a two-berth containership terminal, a stuffing and stripping shed, and additional storage and back-up space. Revised rail and truck links to the facility will minimize truck traffic on local residential streets.

This project will create 500 new waterfront jobs and 2,200 port-related positions.

Stapleton Trailership Terminal

Under a proposed lease with the City of New York, Transamerican Trailer Transport, Inc., will build an $18-million, two-berth cargo facility for its unique roll-on, roll-off trailership operation at Stapleton, Staten Island. The TTT installation is planned to handle every kind of equipment and vehicle that moves on wheels. At Stapleton, such cargo will roll on and roll off TTT ships and be dispatched to destination without the use of lifting cranes or containers.

The 42-acre facility, consisting of 23 acres of upland and 19 acres of land created by fill between existing piers, will feature a quay-type wharf to be constructed along a new 1,800-foot bulkhead. The development will create 500 waterfront jobs.

Howland Hook Containership Terminal

The City of New York's recent purchase of this 515-acre maritime complex at Howland Hook, Staten Island, from American Export Lines, inaugurates the full-scale development of a 187-acre containerport with United States Lines as prime tenant and operator. American Export Lines will continue to sublease a portion of the facility and share operating responsibilities with United States Lines. This restructured containerport will handle 180,000 containers annually, or 18 per cent of the container volume moving through the Port, and create 500 waterfront jobs.

Scheduled refinements of the containerport, as specified in the City's letter of intent with United States Lines, include a fourth ship berth, a doubling of the existing stuffing and stripping shed space, and 50 acres of new paving for marshaling and storage areas. In addition to the container terminal proper, approximately 215 of the 515 acres in the Howland Hook tract will be developed as an integrated distribution facility that will generate 15,000 new jobs and attract $140 million worth of private investment for land improvements.

Northeast Marine Terminal

The Northeast Marine Terminal in Brooklyn is the City of New York's first fully equipped containerport/breakbulk general cargo operation. Northeast now employs 700 longshoremen and handles over 500,000 tons of cargo annually. A three-phase, $50-million renewal program will quadruple Northeast's cargo handling capacity to 2 million tons per year, and almost triple its work force to 2,000 longshoremen.

Northeast will feature two City-purchased "Starporter" gantry cranes whose lifting capacity and reach in all directions exceed that of any other crane model in the world. Phase One of Northeast's renewal, between 33rd and 39th Streets, is already operational. Phase Two, involving that section of Northeast between 29th and 33rd Streets, is under construction and scheduled to open in 1976. Construction on Phase Three, between 39th and 51st Streets, will begin in late 1974.

Bush Terminal

Located south of Gowanus Bay in Brooklyn, Bush Terminal currently provides a breakbulk general cargo operation that moves 300,000 tons of cargo annually. The City of New York purchased the terminal and negotiated a leaseback with Universal Terminal Stevedoring, Inc. Development plans call for this facility to become a major expansion of the Northeast Marine Terminal.

Brooklyn Army Terminal

The City of New York leases a portion of the 110-acre Brooklyn Army Terminal from the Federal Government, and in turn, subleases it to International Terminal Operators, Inc., as a breakbulk general cargo facility. The facility, which handles about 200,000 tons annually, represents the last remaining area on the Brooklyn waterfront suitable for development as a modern shipping installation.

Hunts Point Deepwater Cargo Facility

This new $37-million City of New York deepwater cargo facility and refrigerated warehouse will handle 65 per cent of all the meat imports

to the United States and consolidate the distribution of domestic provisions in both the City and the region. The unit will occupy 40 acres of the Bronx waterfront on the East River, and have a 1,700-foot pier capable of accommodating second and third generation containerships, as well as lighterage. The 5 million-cubic foot warehouse will handle over 700 million tons of meat annually.

At its opening in 1975, this installation will have 200 employees and an annual payroll of $1.1 million. Eventually, more than 2,000 new jobs will be created by the deepwater cargo facility.

Privately Owned and Developed Marine Terminals

Port Seatrain Terminal

The multi-million dollar Port Seatrain is a privately-owned and operated containerport of Seatrain Lines, Inc., located along the Hudson River in Weehawken, New Jersey. Its two-berth, 903-foot long finger pier is 120 feet wide, providing turnaround space for tractor-trailer units. Port Seatrain also offers 210,000 square feet of warehouse space at the 80-acre facility.

The terminal operation employs some 500 people.

Port Jersey Industrial Marine Center

Port Jersey, developed and operated by the Port Jersey Corporation, is the largest privately owned industrial park/containership complex of its kind in the Bi-state Port of New York. It is located partly in Jersey City and in Bayonne, New Jersey, on the Upper New York Bay. The overall complex,

when completed, will comprise 540 acres, 15 entry and departure gates, three "Starporter" cranes for containership operations, a dry bulk handling facility, and will represent an investment of about $150 million.

The marine facility handled more than 237,000 long tons of cargo during 1972. Together, the marine and industrial complex employed more than 2,200 people.

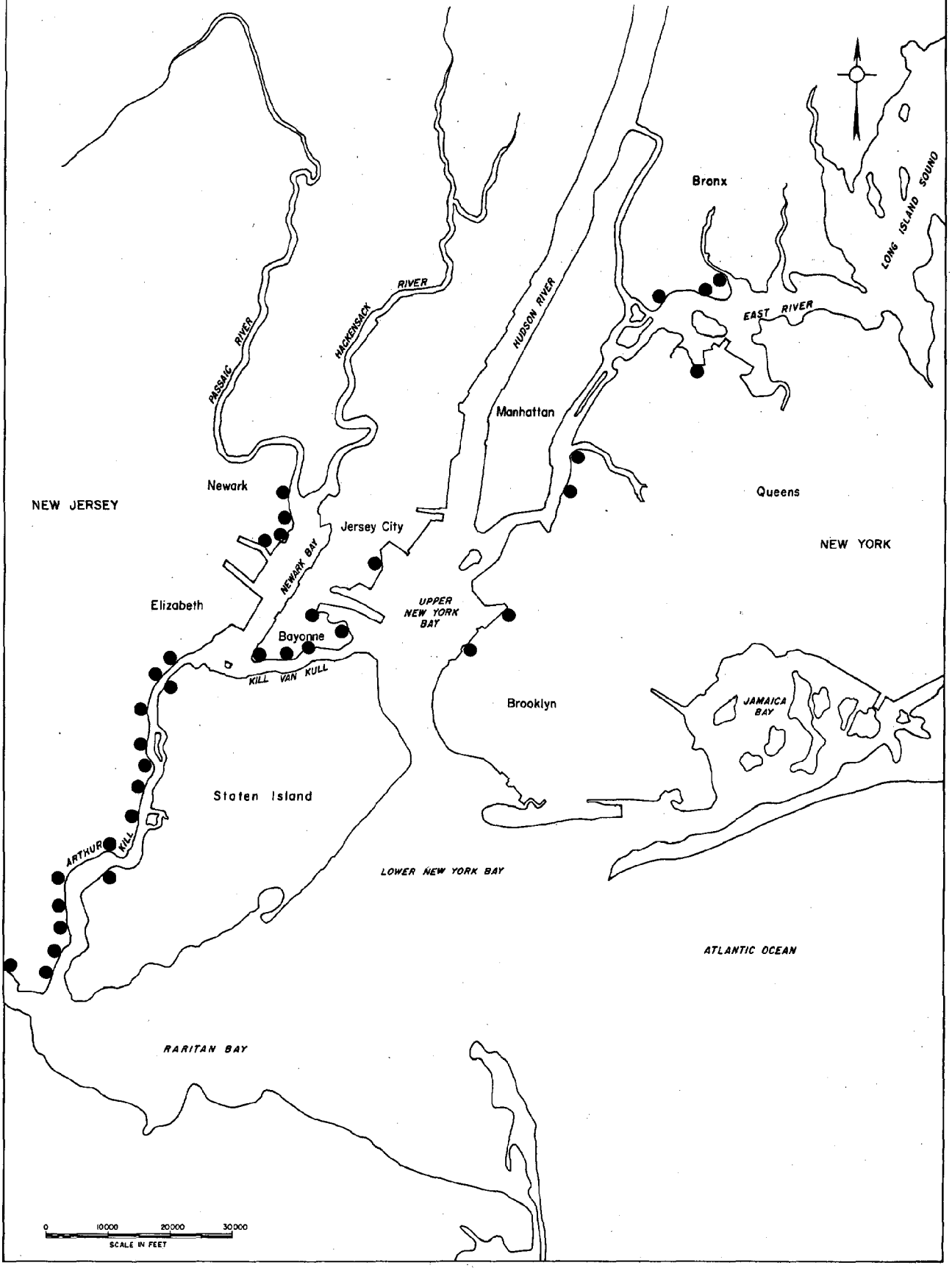
Bulk Cargo and Industrial Terminals

The Port of New York also handles considerable volumes of bulk cargoes, both dry and liquid, particularly petroleum. These facilities are provided and operated by private industry and usually function as an integral part of their production, processing or distribution activities. The prime locations of such terminals are along the Kill van Kull and Arthur Kill, Raritan Bay, Newark Bay and the East River.

The Port's 34 major oil terminal locations are shown in Map No. 4.

MAP 4

PETROLEUM TERMINALS



HARBOR SERVICES INVENTORY

The New York-New Jersey Port draws heavily upon a wide array of harbor services needed to sustain the Port's substantial ocean commerce. These services not only bring considerable ancillary activities to the waters and shoreline of the Harbor, but in themselves contribute significantly to the port-oriented segment of the region's economy in terms of employment, materials procurement and taxes.

Ocean vessels normally need the assistance of tugboats in docking and undocking operations, as well as when towing is required. The Port's fleet of tugs to meet this task numbers about 350, with horsepowers ranging up to 3,000. For vessel repairs, there are some 38 marine plants, 14 dry docking companies which operate some 52 floating dry docks, and eight graving docks. The floating dry docks are capable of lifting ships up to 26,000 tons; the graving docks provide lengths of 573 and 1,050 feet. For the loading and unloading of large units of cargo, the Port can provide mobile floating cranes with lift capacities up to 500 tons. According to the laws of the States of New York and New Jersey State licensed bar pilotage is compulsory in Harbor waters and is provided by pilot associations regulated by State commissions. In addition, the docking and undocking of vessels is normally accomplished by tug pilots.

Agencies of government, on the other hand, provide a mixture of both services and regulatory activities, mostly in the interests of port and maritime safety. At the Federal level, the Army Corps of Engineers sweeps the Harbor clear of dangerous drift, removes sunken vessels that

block Federal waterways and maintains such waterways at prescribed depths, and controls the location and offshore extension of shore construction into navigable waters. The Coast Guard, on the other hand, enforces the laws of navigation and maintains a system of port aids to navigation, administers the Port's designated anchorage areas, provides rescue service, and regulates the handling and stowage of hazardous and dangerous cargoes aboard ship and at marine terminals.

Supplementing public service to Harbor operations is the City of New York. The City's Fire Department Marine Division maintains a fleet of eight power fireboats strategically stationed around City waters that assist in firefighting operations as called upon throughout the Bi-state Port. Some boats are capable of pumping 20,000 gallons per minute. Likewise, the City of Newark, New Jersey, also maintains a fireboat which is stationed on the Passaic River.

Patrolling Harbor waters in the conduct of emergency and rescue work, enforcement of safe navigation, prevention of vandalism and theft and assistance to mariners in need is the responsibility of the Harbor Patrol Unit of the Police Department, City of New York. This unit maintains and operates 11 special purpose launches ranging from 27 to 52 feet in length.

The aforementioned Port services merely scratch the surface of the magnitude of actual Harbor activities. Pollution abatement, bunkering, lighterage, dredging, launch service, waste disposal, ferries, sightseeing, fishing, carfloatage and yachting comprise the wide array of vessel types that make up the traffic of the Harbor.

VESSEL TRAFFIC SYSTEM

The 1972 Ports and Waterway Safety Act empowerd the U.S. Coast Guard to develop and operate vessel traffic systems in ports of the United States, and to otherwise exert greater control over the movement time, size and speed of ships in especially hazardous areas or hazardous situations. The prime purpose of this authority was to decrease the likelihood of vessel collisions and groundings which can cause damage to and loss of property, injury or death or threaten the environment with resultant spills of oil and harmful cargoes. Following passage of the Act, the Coast Guard commenced a series of projects at specific ports aimed at developing vessel traffic systems. Among them was the Port of New York.

The Third Coast Guard District, with the aid of an Advisory Committee made up of shipping, port, maritime, boating and environmental interests, is engaged in the development of a plan for a New York Harbor Vessel Traffic System. The System as presently conceived calls for: (1) a ship reporting system, (2) radar surveillance and computer tracking of traffic, and (3) television identification. These various elements will be implemented in stages, with the ship reporting system to commence in 1974.

The ship reporting system is essentially a communications plan by which vessels approaching certain designated danger and precautionary areas will broadcast their name, speed, direction and destination on a channel which must be continuously monitored by other ships by VHF-FM radiotelephone. Upon receipt of such a broadcast, nearby ships will initiate responsive

communications for the purpose of working out any desirable passing, overtaking or crossing maneuvers. At such time as the Coast Guard sets up its initial Vessel Traffic Control Center, expected to be located on Governors Island in 1976, Coast Guard personnel will monitor such communications.

At a later stage, perhaps by 1977, the System will be equipped with strategically located radar units linked via microwave towers to the Center. At this stage the Coast Guard will be able to visually follow the movement of ships, and will have a limited capability thereby to warn of impending navigational problems through its own shore-to-ship radiotelephone communications capability. Following this stage, a computer tracking capability will be added. Based on communications inputs, the System will then be in a position to broadcast traffic situation information and develop an automated collision-avoidance and ship movement control system. It is also possible that low-light level television cameras will be positioned throughout certain Harbor vantage points to provide the Center with supplemental traffic disposition, ship identification and situation reports for correlation with other data.

The initial scheme is one of voluntary compliance. More than likely, however, the System and adherence to its procedures, in the interest of universal reliability, will ultimately be made mandatory. However, precise vessel operation in substitution of the prerogatives and skill of the on board master or pilot will no doubt be avoided at all cost. Finally, Vessel Traffic System procedures are expected to continue for the time being to be subordinate to the navigtion "rules of the road," especially where conflicts arise.

THE AVAILABLE HARBOR SHORELINE

Blight and Drift

Like many of the nation's older urban ports, the Port of New York is seriously plagued by the remnants of obsolete and unneeded facilities and vessels forsaken along its shores and shoal waters and left to the ravages of time. Aside from the dangers to watercraft presented by deteriorating piers, piling, bulkheading and rotting sunken hulks which regularly and often unnoticeably release drift into navigable waters, their existence destroys the aesthetics and usability of the shore area. The traditional method used by the Corps of Engineers to ameliorate the resultant drift situation has been to regularly collect and dispose of this material from Harbor waters using specially designed vessels. Such activity, however, does not cure the problem, it merely copes with it.

Accordingly, as a result of widespread support in the New York and New Jersey Port District, the Congress in the Spring, 1963, directed the Corps of Engineers to study the feasibility of more effectively combatting the growing Harbor drift and debris problem in the Bi-state Port District by clearing away shoreline dilapidation, rubble and sunken hulks that generate it, and preventing their return. The initial study, known as the "New York Harbor Collection and Removal of Drift Project," was completed in June 1968 and made the subject of public meetings in January 1969, where the findings and conclusions received virtually unanimous and enthusiastic endorsement. In April 1971, the Corps produced a final revision of the project report, envisioning the removal or repair of 1,972 derelict timber and steel vessels,

331 deteriorated piers and wharfs and miscellaneous structures, and debris along the shore, amounting to an estimated 29 million cubic feet of potential timber drift and debris.

The primary locations requiring extensive cleanup of deteriorated shore structures are found along the New Jersey and New York shores of the Arthur Kill and Kull van Kull, the New Jersey and Staten Island, New York, shores of the Upper New York Bay, and the New Jersey shore of the lower Hudson River. In addition, Map No. 5, identifies the primary locations of derelict vessels requiring removal.

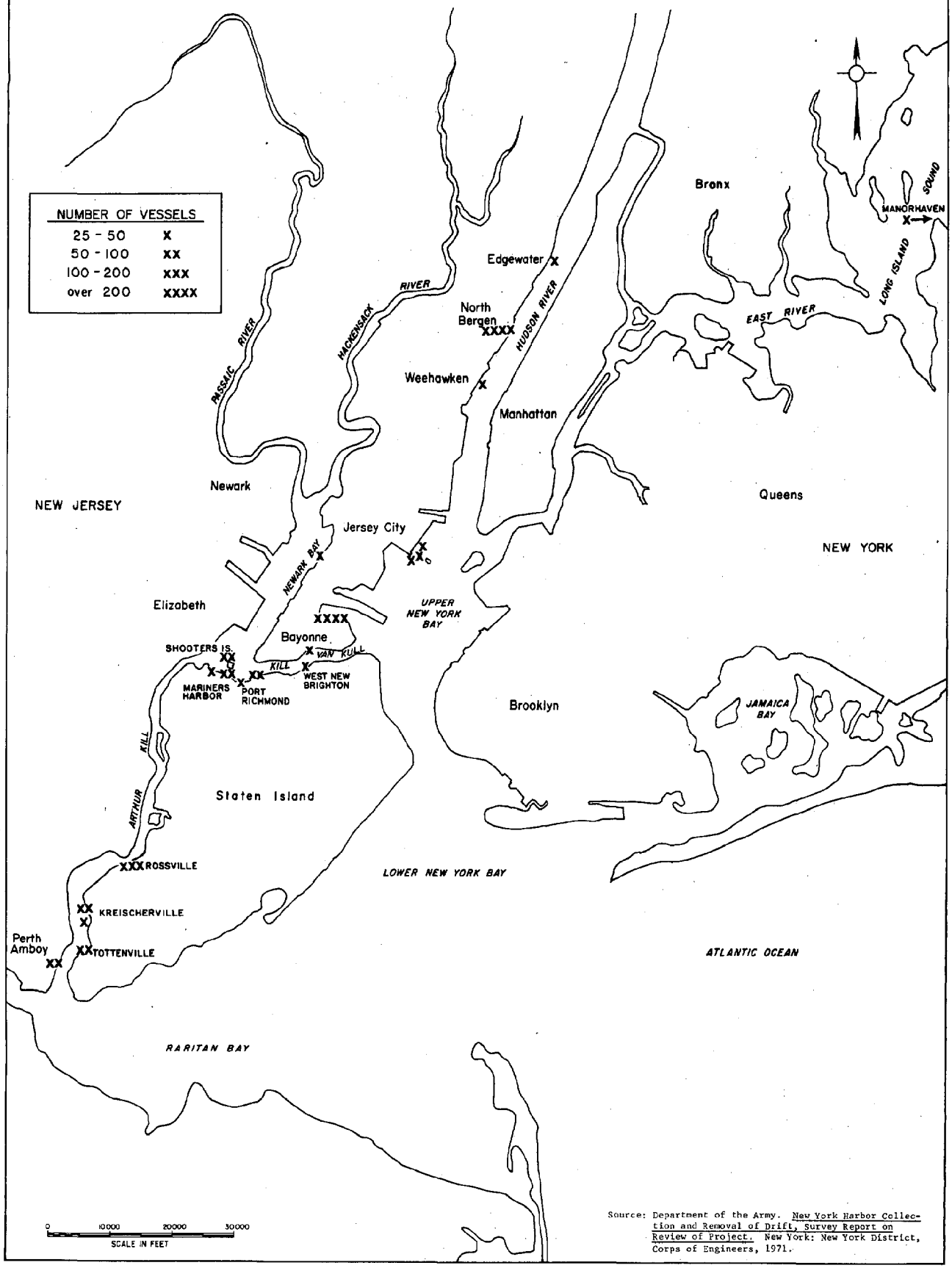
Total project cost at 1967 prices was estimated at $28,848,000, of which the Federal Government would pay $13,852,000, non-Federal local interests $6,925,000, and owners of repairable structures would be required to undertake repairs estimated to cost another $8,071,000. Among the conditions of local cooperation would be a requirement of local government to "enact and enforce local legislation during and after completion of work in political and physical subdivisions of the improvement area to prevent creation of sources of drift and debris...."

The benefits of the project, according to the Corps, are more than sixfold its costs. The prime benefits would be release of blighted and valuable waterfront land to use for productive purposes, restoration of waterfront aesthetics, less damage by drift to harbor and recreational vessels, reduced shoreline fire and rodent hazards, and reduced future Federal drift collection costs. It is anticipated that the entire project would take about eight years to complete.

The Corps' "Drift Project Report" became an authorized Corps work project in the 1974 Water Resources Development Act, signed into law by the President on March 1, 1974. The Act also authorizes the expenditure of $14 million in Federal funds on the project. Present goals are to get the clearance work

MAP 5

MAJOR CONCENTRATIONS OF DERELICT VESSELS



Source: Department of the Army. New York Harbor Collection and Removal of Drift, Survey Report on Review of Project. New York: New York District, Corps of Engineers, 1971.

started possibly as early as in 1975.

Available Land

The Bi-state Port of New York waterfront, despite ints extensive development, thus includes considerable land that is either underutilized or unavailable due to the detrimental effects of decaying shoreline structures and sunken hulks. Hope for correcting this condition and restoring such land to its highest and most productive economic, social and environmental use lies largely with the Corps of Engineers' "NewYork Harbor Collection and Removal of Drift Project" described heretofore.

In addition to blighted tracts of land, the Port still offers a surprising amount of undeveloped land along its bays and rivers. The vast majority of such parcels are relatively small in size. Nonetheless, larger tracts exist. Based on surveys undertaken in 1971 and 1973, the Port has available along its shores some 1,300 acres of undeveloped land suitable for medium to large scale development, including usage in deepwater port activities. These 1,300 acres were selected on the basis of their nearness to waterways of at least 35 feet in depth at mean low water, frontage of 300 or more linear feet and sizes of 10 acres or more. In all, this land is composed of 22 separate or adjacent tracts ranging in size up to 390 acres. Sixteen of these tracts are located on the New Jersey and Staten Island shore of the 35-foot deep Arthur Kill. (See Map No. 6).

Development Controls

A variety of Federal, State and local laws govern the development of port and related facilities along the waterfront of the Bi-state Port. Several are particularly significant.

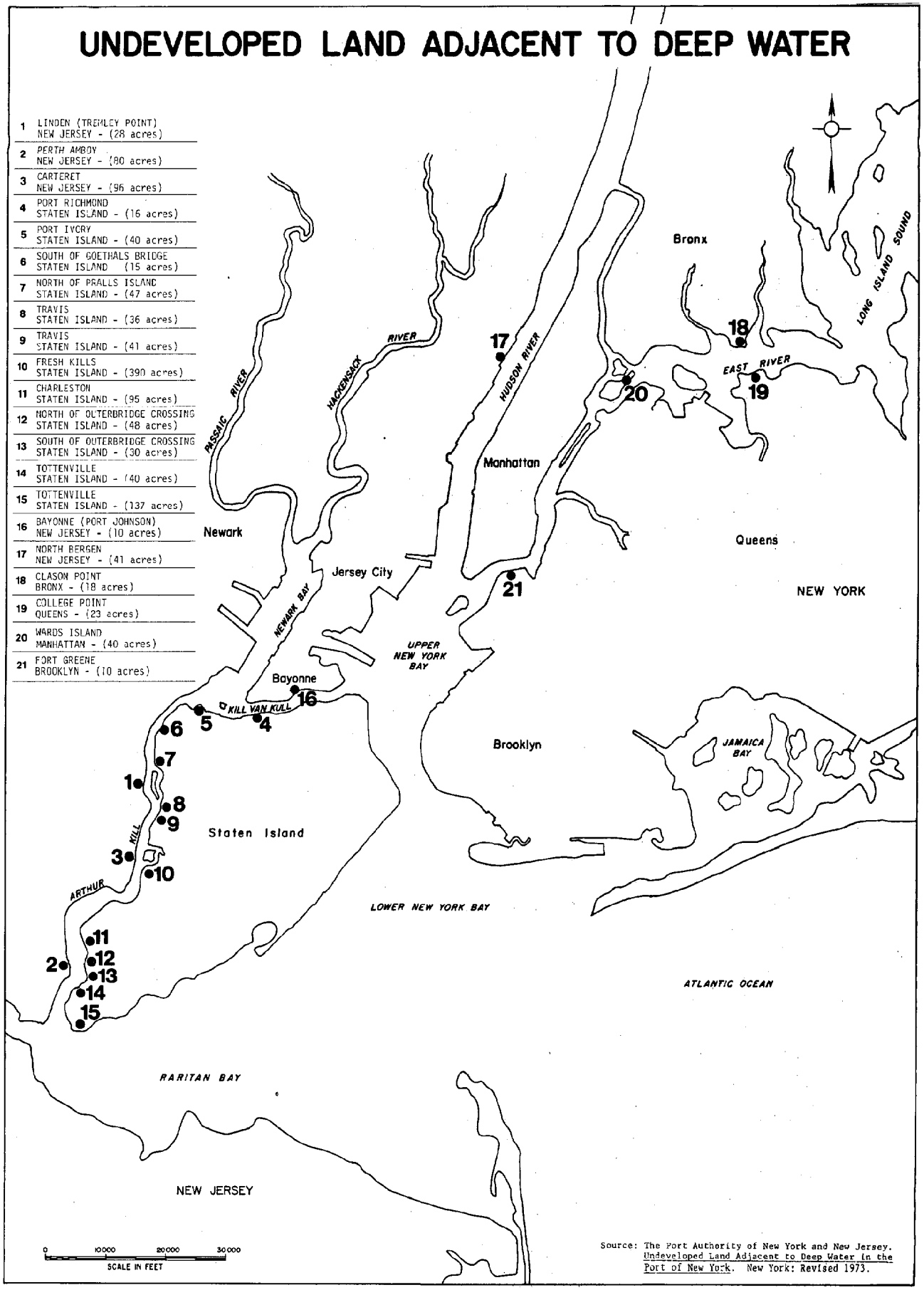
A key Federal law is the "River and Harbor Act of 1899" which empowers the Army Corps of Engineers to control shoreline construction protruding into navigable waters through the inssuance of permits, and to establish harbor lines

which tend to delineate the limits of such construction. The issuance of permits must be consistent with the public interest, which is defined as "consistency with State plans and interests, effect on navigation, fish and wildlife, water quality, economics, conservation, aesthetics, recreation, water supply, flood damage prevention, impact on ecosystems, and, in general, the needs and welfare of the people." A second significant Federal law is the "Coastal Zone Management Act of 1972" which empowers the Secretary of Commerce to award Federal grants to assist the States in developing and administering land and water use management programs for the coastal zone, giving full consideration to ecological, cultural, historic and aesthetic values, as well as to the need for economic development. Under this law, applicants for Corps permits must also obtain State certification of a construction project, though the Secretary of Commerce has the power to overrule any State objections under certain conditions.

In the States of New York and New Jersey, the lands under navigable waters have been viewed as held in public trust, and thus their development requires State approval. For example, in New Jersey, title to lands now or formerly flowed by the tides and located below the natural mean high water line along the shore rests with the State. The State of New Jersey Department of Environmental Protection is empowered to sell or lease such lands, and to issue permits controlling any construction or physical change on them.

The States are also empowered to regulate the development of their wetlands. In New York, the "1970 Environmental Conservation Law" authorizes the State of New York Department of Environmental Conservation to maintain a statewide environmental plan for the management and protection of the quality of the environment and natural resources of the State. This law also allows

UNDEVELOPED LAND ADJACENT TO DEEP WATER



Source: The Port Authority of New York and New Jersey. Undeveloped Land Adjacent to Deep Water in the Port of New York. New York: Revised 1973.

the Department to issue construction permits in tidal waters. The "Tidal Wetlands Act of 1973" which is an amendment to the "Environmental Conservation Law," requires the Department to prepare an inventory of all of the State's tidal wetlands and to develop a Wetlands Master Plan. Until completion of the plan, a moratorium has been placed on the alteration of any tidal wetlands. The moratorium affects all lands 300 feet landward of the high water mark to three miles seaward. Any alteration of wetlands areas can only be undertaken if the Department issues a Wetlands Moratorium Permit. Upon completion of the Wetlands Master Plan, any project found to be within the boundaries of designated wetlands will become subject to newly adopted land use regulations. Any developer seeking to undertake or complete a project in such areas must then request a permit and demonstrate to the Department that the wetlands will be protected and preserved.

In New Jersey, wetlands development is controlled by the "1970 Wetlands Act" and "1972 Flood Plains Act." These laws are administered by the State of New Jersey Department of Environmental Protection, which is authorized to issue construction permits in riparian lands and wetlands.

The Wetlands Act, which includes State-owned riparian lands, requires that the Department set regulations controlling further dredging, filling, or otherwise altering natural features of New Jersey areas which fall under the legal designation of wetlands. At the present time, the Department has been given until November 1974 to accurately survey and define which areas are wetlands. After the Department has completed its mapping of the wetlands, the regulations formulated in the "Wetlands Act of 1970" are expected to have a tremendous impact on future land use and development in the designated wetlands.

The State of New Jersey Department of Environmental Protection, by virture of the passage of the Flood Plains Act, has the authority to share in the regulation of development in flood prone areas of the State. The law provides that after the flood-prone areas have been delineated, the State will publish regulatory controls applicable to those areas nost likely to be flooded. Local authorities will be required to adopt protective ordinances in accordance with the State's guidelines for the remaining delineated areas. If the local authorities fail to pass the ordinances, the State can assume the primary responsibility for these areas.

In addition to control over wetlands development, the State of New Jersey, through the "1973 Coastal Area Facility Review Act," has given the State of New Jersey Department of Environmental Protection review power over virtually all development in the coastal area as designated by this law. This area extends south from Raritan Bay around the southern half of the State and along the Delaware Bay and River to just south of the New Jersey Turnpike Bridge in Salem County. Under the law any individual, corporation, municipality, or developer of a "major facility" in the prescribed coastal area, will have to obtain a permit from the Department for any of 153 types of development project categories within the jurisdiction of this law. Such project applications must also be accompanied by an environmental impact statement as defined in the law. While the Department has the power and responsibility to pass upon permit applications, the law also creates a Coastal Area Review Board to hear and act upon any appeal from a departmental decision.

Within the Port District, the roles of the local governmental units to regulate their waterfront areas tend to differ among both States. Accordingly, the participation of the local governmental unit is determined by size of the governmental unit, its relationship vis-a-vis the State, and

its function in regulating its waterfront areas. For example, the State of New York has delegated its sovereign power to regulate development in or adjacent to navigable waters to cities with populations of 175,000 or more. Thus, in the City of New York, the City's Department of Ports and Terminals has been empowered by the State to enforce laws and regulations governing the City's waterfront, and to issue permits for construction, alteration, demolition, dredging, filling in, or the dredging of piles on or about any private leased wharf property or marginal streets.

In addition to the regulatory powers given by the States to the local governmental units, local zoning ordinances are a very important regulatory tool of municipalities. Under the zoning resolutions adopted to regulate land use patterns, municipalities can determine and control present and future development of shorelines under their jurisdiction.

Federal Facilities

Federal agencies occupy a significant share of the New Jersey-New York Port's waterfront, and a number of installations involve activities related to the Port and its shipping. Most of these are under the jurisdiction of the Department of Defense or Department of Transportation, principally the Army, Navy and Coast Guard.

The facilities of the Department of the Army are those of the Transportation Corps and Corps of Engineers. The Transportation Corps, through the Eastern Area Military Traffic Management and Terminal Service, operates the Military Ocean Terminal situated on a 2.5-mile manmade peninsula jutting out into Upper New York Bay from Bayonne, New Jersey. The facility occupies 396 acres of land. As the largest military terminal on the East

Coast, the facility is responsible for the preparation, processing, terminaling, loading and unloading of Department of Defense cargoes on vessels procured or operated by the Department of the Navy's Military Sealift Command. The Terminal employs about 1,200 civilian and military personnel, plus another 1,400 at the Military Ocean Terminal in Brooklyn. This latter 53.5-acre facility, also the headquarters of both the Eastern Area Military Traffic Management and Terminal Service and Military Sealift Command Atlantic, will be phased out between mid-1974 and late 1975, with all Army and Navy personnel to be transferred to Bayonne.

An important port facility of the Corps of Engineers is its Caven Point Marine Field Office located at Caven Point in Jersey City, New Jersey, along the shores of Upper New York Bay near the Statue of Liberty. This 87-acre installation, staffed by 75 civilian personnel, is under the control of the New York District, Corps of Engineers, located on Manhattan. A major use of the facility is its function as the Corps' marine operations base for the District and its fleet of 12 vessels.

A prime Department of the Navy facility in the Port of New York is the headquarters site of the Third Naval District and Eastern Sea Frontier, located at Flushing and Washington Avenues in Brooklyn adjacent to the former New York Naval Shipyard on an 11-acre tract. The District is responsible for all naval activities in the States of New York, Connecticut and northern New Jersey; the Frontier group's area of jurisdiction covers the Atlantic and Gulf Coasts. Together, both commands are staffed by 220 civilian and military personnel.

The Navy also maintains the Naval Ammunition Depot Earle, in Colts Neck, New Jersey, on 11,425 acres of land, 855 of which front on Raritan Bay. The facility, which includes a 2.9-mile long pier complex extending in

the Bay for loading and unloading ammunition to and from Navy vessels, can also serve the needs of commercial shipments of ammunition as may be appropriate. The Depot will house by the end of 1974 a 2 million gallon test basin under the jurisdiction of the United States Environmental Protection Agency to develop safer ways to remove oil and hazardous materials from the water. At present, the Depot is staffed by about 1,190 military and civilian personnel.

The major shipping-oriented Port waterfront tenant of the Department of Transportation is the Coast Guard. Its principal base in the Port is the 173-acre Governors Island. Some 3,000 civilians and military personnel work at various organizational levels, which include the Coast Guard Atlantic Area, Third Coast Guard District, Coast Guard Base New York, and Captain of the Port of New York and Group New York. Six Coast Guard cutters are based on the island, plus a variety of smaller crafts. Among the Coast Guard's shipping activities located on Governors Island are search and rescue, automated merchant vessel reporting (AMVER), port security, maintenance of navigational aids, ice reporting and breaking, environmental protection, merchant marine safety, ship boarding, small boat safety, and anchorage control.

In addition, the Coast Guard maintains search and rescue and water pollution investigative units at its Rockaway, Fort Totten and Sandy Hook Stations. These facilities are staffed in total by 135 military personnel and occupy 75 acres. The Coast Guard's air arm is based at Floyd Bennett Field on Jamaica Bay on a two-acre site that is manned by 178 military personnel. The Coast Guard Marine Inspection Office, staffed by 81 military

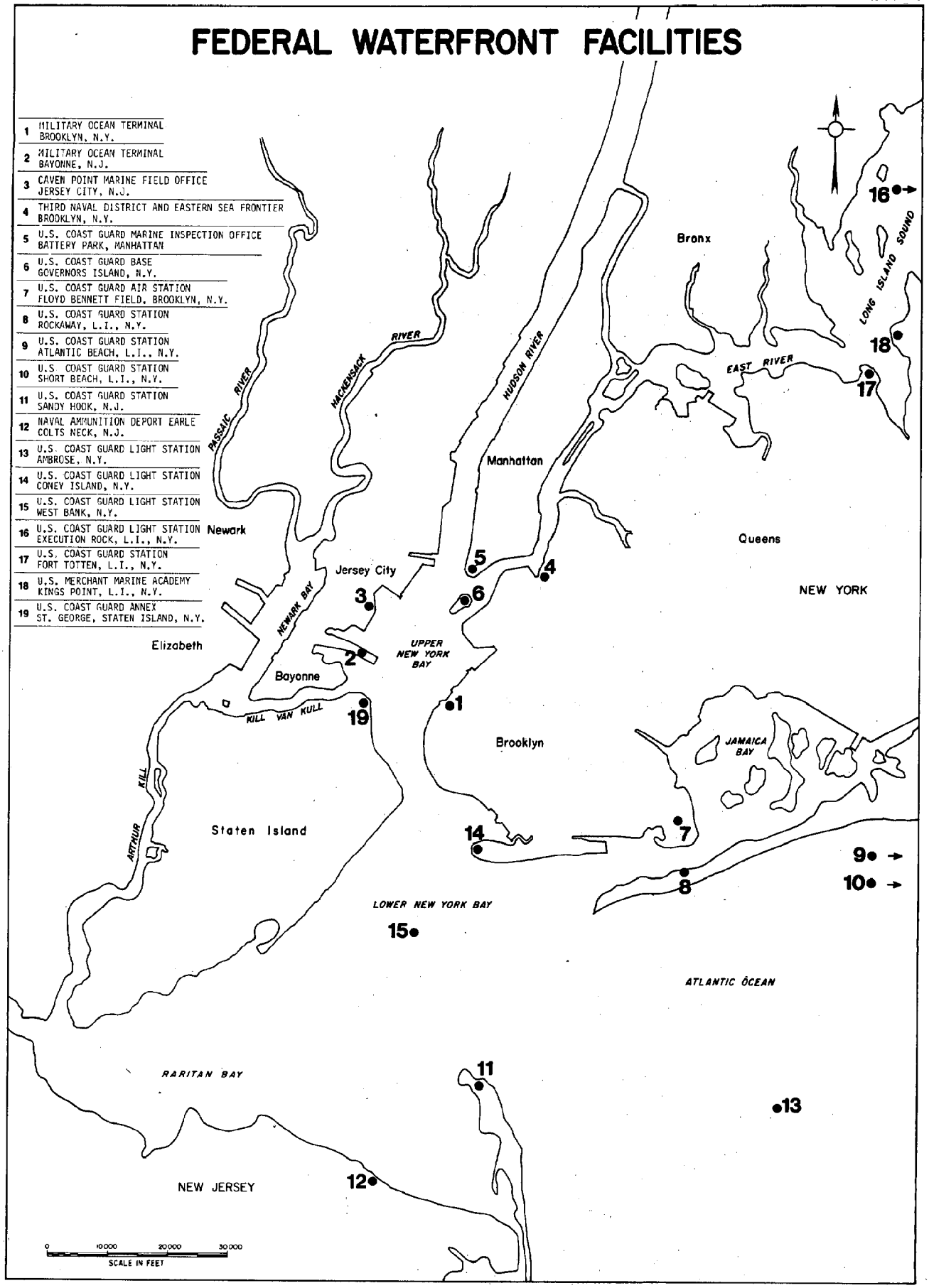
personnel, occupies two acres along the Battery of Lower Manhattan. The storage of navigational aids is accomplished at a six-acre annex at St. George, Staten Island. Vessel passages in and out of the Harbor are facilitated by the Ambrose Light Tower, located in the Atlantic Ocean 7.4 miles east of Sandy Hook, and manned by nine military personnel, and the one-acre Coney Island Light Station manned by a single civilian.

Finally, the Coast Guard maintains a variety of small installations in and around Harbor approaches, such as at Atlantic Beach, Short Beach, West Bank, and Execution Rocks, as lifeboat stations, and for navigational aids and miscellaneous purposes.

Lastly, the Maritime Administration of the Department of Commerce owns and operates the U.S. Merchant Marine Academy on some 70 acres of land at Kings Point, Long Island on the south shore of Long Island Sound. This educational installation trains some 900 midshipmen as Merchant Marine Officers and Naval Reserve Officers, and is staffed by 384 civilians.

Other than the aforementioned facilities (shown on Map No. 7), Federal agencies also own and operate a number of shorefront bases in the Bi-state Port that are not directly involved in port and maritime activities. These include military unit headquarters, housing, training, and miscellaneous governmental functions.

FEDERAL WATERFRONT FACILITIES



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