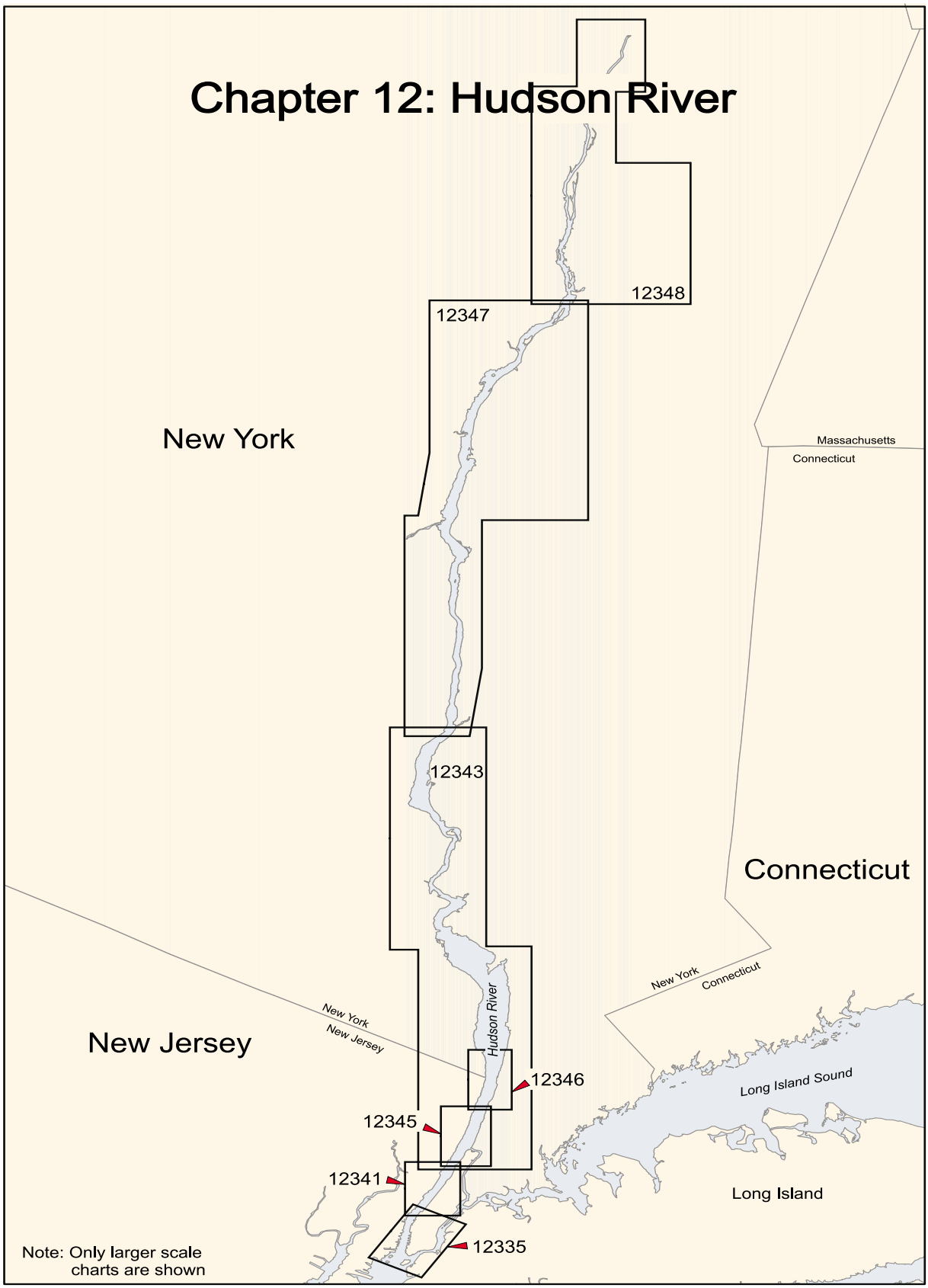
Chapter 12: Hudson River
12348
12347
New York
Massachusetts
Connecticut
12343
Connecticut
New York
Connecticut
New York
New Jersey
Hudson River
New Jersey
12346
Long Island Sound
12345
12341
Long Island
12335
Note: Only larger scale
charts are shown

Hudson River

(1) This chapter describes the Hudson River from New York City to Troy, N.Y., and includes the principal cities of Yonkers, Newburgh, Poughkeepsie, Kingston, and Albany.

(2) **Mileages** shown in this chapter for the Hudson River as Mile 0.9E, Mile 12W, etc., are the nautical miles above The Battery; the letters N, S, E, and W denote by compass points the side of the river where each feature is located. Mile 0.0 is a point at the mouth of the Hudson River in 40°42.1'N., 74°01.5'W.

(3) It is to be understood that the mileages given are approximations. The values are not intended to be finite. The intended degree of accuracy is only supposed to be enough to put the user of the chart into the general vicinity of the cited object, for the purpose of him locating the object.

Charts 12335, 12341, 12345-12346, 12343, 12347-12348 – Hudson River

(4) **Hudson River**, sometimes called **North River** in New York City, has its source in the Adirondack Mountains, about 275 miles along its course from a junction with East River at The Battery, N.Y., and flows in a general southerly direction into New York Upper Bay. Troy Lock and Dam, 134 miles above The Battery, permits vessels to pass from tidewater to the upper river and the New York State Canal System. The river water is usually fresh as far south as Poughkeepsie, halfway from Troy Lock and Dam to The Battery.

(5) New York City extends along the eastern bank of Hudson River for a distance of about 14 miles above The Battery. For about 5 miles northward from The Battery, the New York waterfront is an almost continuous line of wharves and piers, some of which can accommodate the largest transatlantic liners.

(6) On the opposite side of Hudson River from New York City are Jersey City, Hoboken, Weehawken, Guttenberg, Hudson Heights, Edgewater, and Fort Lee; this entire stretch of about 9 miles is lined with piers.

Channels

(7) The lower Hudson River has depths of 43 feet or more in midchannel from deep water in Upper New York Bay off Ellis Island to the upper limit of New York City's major wharves at 59th Street, about 5.3 miles above the entrance. Above this point, the Federal project depth is 32 feet to Albany, except for that section of the channel along the New Jersey Weehawken-Edgewater waterfront between 85th Street and 156th Street, Manhattan, where the project depth is 30 feet. (See Notice to Mariners and latest editions of charts for controlling depths.)

Seasonal buoyage

(8) The lighted buoys marking the Hudson River channel are replaced during the winter by smaller lighted ice buoys or unlighted buoys.

Bridges

(9) The bridges over Hudson River from New York to Albany have either fixed or suspension spans.

(10) The limiting bridge clearance over the lower Hudson River is 139 feet, at the Tappan Zee Bridge (IS 87/287). The middle Hudson River has a limiting bridge clearance of 137 feet at the Mid-Hudson Bridge (US Route 44) at Poughkeepsie. The upper Hudson River has a limiting bridge clearance of 135 feet at the Castleton-on-Hudson Bridge (New York State Thruway/IS 90 E-W). The least clearance of the overhead cables is 145 feet.

Anchorages

(11) General anchorages begin 5 miles above The Battery and extend upriver for about 10 miles. (See **110.1 and 110.155,** chapter 2, for limits and regulations.)

(12) Vessels proceeding from New York to Albany occasionally anchor overnight in the vicinity of Kingston, 79 miles above The Battery and 47 miles below Albany, to await daylight hours for passing through the constricted part of the river.

(13) A buoyed anchorage, 400 feet wide and 2,400 feet long, with depths of 32 feet is on the east side of the channel just above Stuyvesant, 111 miles above The Battery and 15 miles below Albany.

Dangers

(14) Numerous fishtraps are planted each spring, usually from about mid-March to mid-May, during the seasonal run of shad to the spawning grounds in the upper Hudson. The charts show the fishtrap areas in the

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30-mile stretch beginning about 5 miles above The Battery and extending upriver to Stony Point; Corps of Engineers permits are required for the placing of shad nets and poles in the charted areas. Outer limits of the nets usually are marked by flags during the day and by lights during the night. Caution is advised when navigating a fishtrap area because broken-off poles from previous traps may remain under the surface.

(15) Navigation of the river is easy as far north as Kingston, but above Kingston it is more difficult because of the numerous steep-to shoals and middle grounds. In general tows are apt to follow the shoreline which is most favorable as regards wind and current; with a strong northwest wind, tows will follow the west shore regardless of the direction in which they are traveling.

Tides

(16) The tides in Hudson River are affected by freshets, winds, and droughts. Because of these variables the predictions given in the Tide Tables for points above George Washington Bridge are based upon averages for the 6-month period, May to October, when the freshwater discharge is at a minimum.

(17) The mean range of tide is 4.5 feet at The Battery, 3.7 feet at Yonkers, 2.8 feet at Newburgh, 3.1 feet at Poughkeepsie, 3.7 feet at Kingston, 4.6 feet at Albany, and 4.7 feet at Troy. (Daily predictions for The Battery and Albany are given in the Tide Tables.)

Currents

(18) The currents in Hudson River are influenced by the same variables that affect the tides. The times of slack water and the velocities and durations of flood and ebb are subject to extensive changes; the times of strengths are less likely to be affected. The currents usually set fair with the channels except in the vicinities of bends and wharves.

(19) Velocities of currents are 1.4 knots flood and 1.4 knots ebb northwest of The Battery, 1.6 and 2.2 knots at George Washington Bridge, 0.9 and 1.1 knots at Newburgh, 1.1 and 1.2 knots at Poughkeepsie, 1.3 and 1.6 knots at Kingston, and 0.3 knot flood and 0.8 knot ebb at Albany. Near Troy Lock and Dam, the current does not flood and the ebb has a velocity of 0.7 knot. These values are for the summer when the freshwater discharge is at a minimum.

(20) Daily current predictions for The Narrows, New York Harbor, are given in the Tidal Current Tables. Predictions for places along Hudson River may be obtained by applying the differences and ratios listed for these places in the tables. The directions and velocities of the currents throughout New York Harbor for every hour of the tidal cycle are shown on the Tidal Current Charts, New York Harbor.

(21) In October 1991, tidal currents in The Narrows and New York Harbor were reported to deviate significantly from official predictions published by the National Ocean Service. Mariners should exercise caution and discretion in the use of published tidal current predictions.

Ice

(22) In even extremely severe winters, Coast Guard icebreakers and continuous river traffic maintain an open channel to Albany. The ice season usually starts in early January and ends in mid-March. Normally shipping is affected most seriously in the Hudson River between Tappan Zee and Albany. Modern vessels experience little difficulty maneuvering through the ice, but may be slowed by other river traffic. In addition to the problem of getting through the ice, aids to navigation are covered or dragged off station by moving ice.

Freshets

(23) During March, April, and May, freshets have reached heights above normal high water of as much as 18 feet at Albany and 25 feet at Troy Lock and Dam. At the time of the larger freshets the tide may be completely masked, the water continuing to rise and fall for a period of several days without any tidal oscillation. At the time of smaller freshets the range of tide is greatly diminished and the times of high and low waters are somewhat delayed.

(24) During the smaller freshets, the flood current disappears and the ebb current has a velocity of about 1.5 knots. The larger freshets produce an ebb current that varies from 1.5 to nearly 5 knots depending on the size of the freshet and the stage of the tide.

Pilotage, Hudson River

(25) Pilotage is compulsory on the Hudson River for foreign vessels and U.S. vessels under register. Pilotage north of Yonkers is available from Hudson River Pilots Association, 201 Edgewater Street, Staten Island, NY 10305, telephone (718) 815-4316, FAX (718) 876-8055. The pilot boat, JOHN E. FLYNN, is 40 feet with a black hull, white superstructure, and the word PILOT in red letters, each side. The boat berths at Yonkers, and when underway monitors VHF-FM channel 13, works channels 13 or 18A. The pilot boat meets vessels in midriver (40°56'21"N., 73°54'41"W.) off Yonkers. Arrangements for pilot services are made in advance through ships' agents; at least 24-hour advance notice is requested.

(26) Vessels transiting between Ambrose Light and Yonkers or between Long Island Sound and Yonkers are

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serviced by United New York New Jersey Sandy Hook Pilot Association.

(27) U.S. Enrolled vessels in the coastwise trade transiting between Ambrose Light and Yonkers or between Long Island Sound and Yonkers are also served by Interport Pilots Agency, Inc.

(28) On the Hudson River, pilots maintain bridge-to-bridge communication on channel 13.

Towage

(29) Tugs are available in New York Harbor and at Albany. (See chapter 11, and Albany later in this chapter.)

Quarantine, customs, and immigration

(30) Matters pertaining to these services for places along Hudson River are handled at the Port of New York or at Albany. (See chapter 11, New York Harbor, and Albany later in this chapter.)

Chart 12335 – Hudson River

(31) Hudson River averages about 0.6 mile in width along this 5-mile stretch above The Battery. The chart covers most of the principal wharves on the New York City side and those of **Jersey City, Hoboken**, and **Weehawken** on the west, or New Jersey, side.

Chart 12341 – Guttenberg Vicinity

(32) On the New Jersey side of the river are the piers of **Guttenberg**, mile 5.5W; **Hudson Heights**, Mile 6.5W; **Edgewater**, Mile 7.5W; and **Fort Lee**, Mile 9.5W. Small-craft facilities at Edgewater can provide berths, electricity, gasoline, diesel fuel, water, ice, limited marine supplies, storage, and hull and engine repairs. The largest mobile hoist can handle craft to 25 tons. In May 1981, depths of 5 to 7 feet were reported in the basins at the facilities.

(33) The New York side of the river is mostly parkway for the length of the chart. A marina, at Mile 5.5E, opposite Guttenberg, can provide berths, electricity, gasoline, diesel fuel, water, ice, marine supplies, and minor engine repairs. In May 1981, depths at the marina were reported to range from 12 feet to bare. In May 1987, a sunken wreck was reported just northwest of the entrance to the marina in about 40°47.2'N., 73°59.2'W.

(34) **Sailors and Soldiers Monument,** Mile 6.2E, is a prominent landmark at 89th Street and Riverside Drive, Manhattan.

(35) **General Grants Tomb,** Mile 7.7E, is prominent at 123rd Street and Riverside Drive, Manhattan.

(36) **George Washington Bridge**, Mile 10, crosses Hudson River from Fort Lee, N.J., to **Fort Washington Point**, New York City. The suspension span is nearly 0.6 mile long from shore to shore with a clearance of 195 feet, and the tops of the towers are about 600 feet above the water. When the traveller platform is in use, the bridge clearance is reduced to 180 feet.

(37) A **special anchorage** is on the N side of the George Washington Bridge at North Manhattan. (See **110.1 and 110.60 (o-3),** chapter 2, for limits and regulations.)

Chart 12345 – Piermont Vicinity

(38) From Fort Lee, N.J., the rocky cliffs of **Palisades State Park** and adjoining **Tallman Mountain State Park** extend up the west side of the river for about 12 miles to Piermont, N.Y. The Palisades are 300 to 500 feet high and in places are thickly wooded with scrub.

(39) **Tubby Hook**, Mile 11E, has several small-boat landings.

(40) **Spuyten Duyvil Creek**, entered at Mile 12E, is marked by the railroad swing bridge over the mouth. The creek is the Hudson River entrance to Harlem River, which is described in chapter 9. Currents are swift and erratic around the mouth of the creek.

(41) **Englewood Boat Basin**, on the New Jersey side opposite Spuyten Duyvil Creek, has depths of 3 to 5 feet and can accommodate craft to 50 feet long; berths, gasoline, diesel fuel, and water are available.

(42) **Yonkers**, Mile 16E, adjoins the north side of New York City. Waterborne commerce is in petroleum products, sugar and syrup products, cement, sand, and other building materials.

(43) A sugar refining plant (40°55'41"N., 73°54'21"W.) has a 400-foot marginal wharf with depths of 28 to 30 feet alongside and a deck height of 10 feet. The plant has 20,000 tons of covered storage and is served by a conveyor system with two 20-ton hoppers for the receipt of raw sugar. Vessels berth outboard of two floating cranes moored at the face of the wharf.

(44) Several other private facilities at Yonkers, used mainly by barges, have reported depths of 12 to 30 feet alongside.

(45) The U.S. Volunteer Life Saving Corporation maintains small craft at Yonkers for search and rescue work. They can be contacted through the Coast Guard in New York.

Chart 12346 – Alpine

(46) **Alpine** is a prominent landing at Mile 16W. A boat basin here, operated by the Palisades Interstate Park Commission, affords shelter for numerous small craft;

berths, gasoline, electricity, and water are available. In May 1981, 4 feet was reported in the basin.

(47) A **special anchorage** adjoins a yacht club on the Yonkers side of the Hudson River, 17 miles above The Battery; another **special anchorage** is about 0.5 mile to the northward. (See **110.1 and 110.60 (o) and (o-1),** chapter 2, for limits and regulations.)

(48) Several private boat clubs are at **Greystone Station,** just north of Yonkers; guest moorings are available.

(49) **Hastings-on-Hudson**, Mile 19E, has a prominent water tank at its waterfront. A yacht club, north of the waterfront, is adjoined by a **special anchorage**. (See **110.1 and 110.60** (p), chapter 2, for limits and regulations.) Limited guest berths are available. In 1981, a reported depth of 4 feet could be carried to the fuel dock.

(50) The **boundary line** between the States of New Jersey and New York extends northwestward from a point on the west side of Hudson River at Mile 19. The river is 0.8 mile wide at this point.

(51) **Dobbs Ferry** is a town at Mile 20.5E. A stack on the waterfront and several cupolas are prominent.

(52) **Irvington**, Mile 22E, has a large lumber terminal at the southern end of the waterfront, and a small private wharf at the northern end. In May 1981, alongside depths of 7 to 10 feet were reported at the lumber wharf. A private boat club is just north of the terminal wharves; guest moorings are available.

(53) At **Piermont**, Mile 22W, an earthen embankment extends 0.8 mile channelward from the shore to **Piermont Pier.** ConRail has a terminus at the inner end of the embankment; several buildings in Piermont are prominent. A T-head pier, used by Columbia University to moor its geological research vessels, extends from the outer end of Piermont Pier; depths of about 16 feet are reported alongside the face. The ruins of a former ferry slip and other piers and several visible wrecks are on the south side of Piermont Pier.

Chart 12343 – Tappan Zee Vicinity

(54) A foul area extends about 300 yards northward from the outer end of Piermont Pier. A sunken wreck is in this area about 200 yards northward from the end of the pier; caution is advised.

(55) In May 1981, shoaling to an unknown extent was reported in the area from the outer end of Piermont Pier north to **Lower Nyack Landing,** Mile 24.6W; caution is advised.

(56) Several small-craft facilities are just northward of Piermont Pier. Berths, electricity, water, ice, storage, marine supplies, mobile hoists up to 10 tons, and hull and engine repairs are available. In May 1981, reported depths of 4 feet could be carried to the facilities. A scuba diving team of the Piermont Volunteer Fire Department is available for underwater search and rescue work. They can be contacted through the Piermont Police Department; telephone (914-359-0240).

(57) **Tappan Zee** is the 2-mile-wide part of Hudson River between Piermont and Croton Point, 8 miles to the northward.

(58) **Tappan Zee Bridge** IS 87/287, Mile 23.5, crosses Tappan Zee from Nyack to Tarrytown. The fixed span over the main channel has a clearance of 139 feet. The 470-foot east and west spans, on either side of the main span, have clearances of 123 feet. Three auxiliary openings for small boats have clearances of 11 feet. A RACON is atop the center the main channel span of the southernmost bridge.

(59) **Tarrytown**, Mile 24E, has about 1 mile of developed waterfront, part of which has been improved by dredging.

(60) An abandoned lighthouse is prominent landmark in Tarrytown. In March 2002, the controlling depths in the dredged channel in Tarrytown Harbor were 7.5 feet (8.3 feet at midchannel) in the southwest connecting channel, thence 8.3 feet (10.1 feet at midchannel) in the northwest connecting channel, and 6.8 feet (7.3 feet at midchannel) in the waterfront channel. An obstruction, consisting of rocks, is on the east edge of the waterfront channel in about 41°04.8'N., 73°52.2'W.

(61) Both access channels are buoyed. A lighted **048°30'** range marks the southwest channel.

(62) Tarrytown Harbor usually is open to navigation throughout the year, but in severe winters ice floes from the upper river may temporarily block the channels.

(63) A **special anchorage** is at Tarrytown. (See **110.1 and 110.60 (p-1)**, chapter 2, for limits and regulations.)

(64) Several waterfront terminals, with depths of 10 feet alongside, are available at Tarrytown, and there are rail connections nearby. The wharves are used mostly for the receipt of petroleum products, sand, gravel, and crushed rock.

(65) A marina is southward of the principal wharves; berths, gasoline, diesel fuel, electricity, water, ice, marine supplies, and a 15-ton mobile hoist are available. Two private boat clubs are southward of the marina; a launching ramp is available.

(66) **Nyack** is on the west side of Tappan Zee at Mile 25W. Small-craft facilities at Nyack include a boatyard with a marine railway that can handle craft to 40 feet long for complete engine and hull repairs; the railway, just south of Lower Nyack Landing, can only be used at high tide. Storage facilities and marine supplies are available. A boat club on the north side of the waterfront can

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provide guest moorings. In May 1981, it was reported that 4½ feet could be carried to the gasoline dock.

(67) In May 1981, shoaling to an unknown extent was reported in the area from Lower Nyack Landing south to the outer end of Piermont Pier, Mile 22W.

(68) A **special anchorage** is at Nyack. (See **110.1 and 110.60 (o-2),** chapter 2, for limits and regulations.)

(69) **Upper Nyack**, about 0.6 mile north of Nyack, has a boatyard with a 50-ton mobile hoist and a 20-ton fixed crane. The boatyard wharf has depths of about 5 feet at the face. Berths, electricity, gasoline, water, diesel fuel, ice, marine supplies, and complete engine and hull repairs are available.

(70) **Hook Mountain**, 730 feet high, is on the west side of Tappan Zee at Mile 27W. The summit is only 0.3 mile inland and is very prominent from the river.

(71) **Ossining** is on the east side of Tappan Zee at Mile 29E. In May 1981, depths of 5 to 6 feet were reported on the flats off the oil storage receiving facility piers at Ossining. **Sing Sing Prison**, a State penitentiary, is on the low flat shore on the south side of Ossining. Two water towers near the prison are prominent. A marina at the north end of town can handle craft to 15 tons for hull and engine repairs; marine supplies are available. There are also two boat clubs and a yacht club at Ossining; gasoline, water, ice, and guest berths are available. In May 1981, a reported depth of 4 feet could be carried to the yacht club gasoline dock.

(72) From Hook Mountain, Mile 27W, northward to Haverstraw, Mile 33W, the west bank of the Hudson River rises precipitously to heights of more than 800 feet.

(73) **Croton Point**, Mile 30E, is a long peninsula that extends 1.5 miles channelward from the main shore. Croton Point Park is on the southwest part of the peninsula. There are several prominent brick buildings at **Harmon,** near the inner end of Croton Point.

(74) **Haverstraw Bay** is the wide stretch of Hudson River between Croton Point and Stony Point, 5 miles to the northward; the greatest width is about 2.5 miles. The extensive flats in the eastern half of the bay have depths of 5 to 9 feet. The dredged channel through Haverstraw Bay is marked by seasonal lighted buoys and two lighted ranges.

(75) **Croton-on-Hudson**, on the east side of Haverstraw Bay at Mile 31.5E, has a yacht club.

(76) **High Tor**, 820 feet high, is on the west side of Haverstraw Bay at Mile 32W.

(77) **Haverstraw**, on the west side of Haverstraw Bay at Mile 33W., has several abandoned brickyards along its waterfront. Prominent on Bowline Point (41°12.2'N., 73°57.6'W.) are the cement stacks and large red rectangular buildings of a powerplant. A T-shaped pier, operated by the powerplant and marked by private lights, extends off Bowline Point.

(78) Two marginal wharves, used by barges and operated by sand, stone, and gravel companies, are about 0.7 mile southward of Bowline Point. In May 1981, depths of 7½ feet were reported alongside the wharves. A small private boat club is in the cove immediately northward of the more northerly wharf.

(79) **Grassy Point** is on the west side of Haverstraw Bay at Mile 34W. A gypsum pier, marked on its outer end by a private light, is on the south side of the point; depths of about 31 feet are reported alongside. Numerous small-craft facilities are north and south of Grassy Point. Berths, electricity, gasoline, diesel fuel, water, ice, storage, marine supplies, lifts to 40 tons, and engine and hull repairs are available. In August 2001, a reported depth of 17 feet could be carried into the cove south of the point.

(80) **Stony Point**, Mile 35W, is marked at the outer end by a light.

(81) **Verplanck Poin**t, Mile 35.5E, is marked on its northwestern side by prominent gray eroded banks of tailings from a trap-rock plant. Two oil receiving facilities at Verplanck Point have depths of 8 to 12 feet reported alongside. Small-craft facilities on the point can provide berths, electricity, gasoline, diesel fuel, water, ice, storage, and limited marine supplies; lifts to 30 tons are available for hull and engine repairs. In May 1981, reported depths of 4 feet could be carried to the facilities.

(82) **Indian Point**, on the east side of Hudson River, 1.7 miles northward of Verplanck Point, is the site of a nuclear powerplant. A tall red and white banded stack, lighted on top, and two large domes are conspicuous on the point.

(83) **Tomkins Cove**, a town at Mile 36W, has a large stone quarry, a rock crusher, and a trap-rock plant. The offshore pier connected to the shore by a conveyor system has 700 feet of berthing space with dolphins; depths of 15 to 25 feet are reported alongside. Crushed rock is shipped by barge. Numerous beached barges south of the pier are prominent. A powerplant pier, just northward of the wharf, consists of four cement steel-filled cells, the center two of which are connected to each other and the shore by a steel catwalk. Depths of about 40 feet were reported alongside.

(84) An overhead power cable with a clearance of 160 feet crosses the Hudson River north of Tompkins Cove.

(85) **Peekskill** is at the head of a shallow bight at Mile 38E. A dredged U-shaped channel extends northeastward from deep water in Hudson River to the wharf area and thence northwestward back to deep water. The southern channel is marked by buoys and a light. In 1990, the controlling depths were 5 feet in the south

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channel, 4½ feet in the north channel, and 2½ feet in the channel west of the wharves except for shoaling to 1½ feet near the ramps in the southeast corner of the turn leading from the south channel to the waterfront.

(86) A yacht club at Peekskill has guest berths, electricity, water, ice, and engine repairs.

Caution

(87) In August 1985, it was reported that the channel on the north side of Peekskill Bay was obstructed by a sewer outfall extending across from the entrance to Annsville Creek; caution is advised.

(88) **Annsville Creek** is a very shallow creek on the north side of Peekskill. The railroad bridge over the entrance has a bascule span with a clearance of 3½ feet. The bridge is maintained in the closed position. (See **117.805,** chapter 2, for drawbridge regulations.) The highway bridge about 0.2 mile above the railroad bridge has a fixed span with a clearance of 19 feet.

(89) An oil receiving pier at **Roa Hook**, on the north side of Peekskill, has a reported depth of about 13 feet alongside.

(90) **Dunderberg Mountain**, 1,110 feet high, is a densely wooded mountain at Mile 38W. The mountain slopes eastward to **Jones Point**, which is low and flat.

(91) The river becomes much narrower at Jones Point and has an average width of 0.3 mile for the next 8 miles between the bases of the highlands on both sides. When approaching the sharp turns in this reach, caution should be exercised and a warning signal should be given.

(92) **Iona Island**, formerly a naval depot at Mile 40W, is controlled by the Palisades Interstate Park Commission. A light, shown from a skeleton tower on the north side of the island, is conspicuous.

(93) A rock, with a depth of 10 feet over it and marked by a buoy, is 0.2 mile north-northwestward of the northernmost point of Iona Island. When descending the river, particularly with a strong fair current, a careful watch should be maintained to avoid being set on this rock.

(94) **Bear Mountain State Route 6**, Mile 40.3W, is 1,305 feet high and has its summit about 1 mile inland. There are wharves at **Day Line Park**, on the riverbank at the foot of the mountain.

(95) **Anthonys Nose**, 900 feet high, is a steep, thickly wooded hill at Mile 40.5E.

(96) **Bear Mountain Bridge**, Mile 40.6 crosses the Hudson River from Bear Mountain to Anthonys Nose. The suspension span has a clearance of 155 feet.

(97) **Con Hook,** a small island at Mile 43W, is marked on its channel side by a light. A rock, with a depth of 7 feet over it and marked by a seasonal lighted buoy, is about 0.3 mile southward of Con Hook. When descending the river, particularly with a fair current, there is a tendency to set toward the rock; caution is advised.

(98) A tower at **Highland Falls**, Mile 44W, is prominent. Highland Falls has a small marina with transient berths for small craft up to 35 feet. The reported depth alongside the dock is 30 feet; electricity and water is available. A launching ramp is at the marina.

(99) A yacht club at **Garrison**, Mile 45E, has depths of about 20 feet alongside its fuel dock. Craft up to 60 feet in length can be accommodated at the slips; gasoline, water, electricity, and some marine supplies are available.

(100) **West Point**, Mile 45W, is the site of the **U.S. Military Academy**. The academy is easily recognized from the prominence of the buildings and the road leading up the hillside from the railroad station and wharfs on the riverbank.

(101) A **special anchorage** is at West Point. (See **110.1 and 110.60 (p-2),** chapter 2, for limits and regulations.)

(102) The northeastern extremity of West Point descends to **Gees Point**, a rocky feature which is marked by a light with a fog signal. About 0.2 mile south of Gees Point, another light marks the outer edge of a rocky shallow area along the west bank.

(103) Worlds End, a sharp bend in the Hudson River at Mile 46, has depths of more than 100 feet. Extreme caution should be exercised when passing through Worlds End; the view is obstructed and vessels should reduce speed and sound a warning signal.

(104) **Constitution Island** is on the upper side of Worlds End at Mile 46.5E. **Magazine Point**, on the channel side of the island, is marked by a light.

(105) **Crows Nest**, Mile 47W, is 1,403 feet high and prominent. A boat club is at **Cold Spring**, Mile 47.3E.

(106) **Little Stony Point,** Mile 48E, is the site of a rock quarry.

(107) **Storm King Mountain**, 1,355 feet high, is prominent at Mile 49W.

(108) **Breakneck Point**, on the opposite side of Hudson River from Storm King Mountain, is marked by one highway tunnel and two railroad tunnels; the lights are prominent at night. Behind Breakneck Point is **Breakneck Ridge**, 1,196 feet high.

(109) **Cornwall-on-Hudson** is at Mile 50W. The wharf at Cornwall is in ruins. A boat club and a yacht club, about 0.6 mile southeastward of the wharf in ruins, can provide gasoline, water, and ice; guest moorings and a launching ramp are available. In May 1981, the reported depths were 10 feet at the gasoline dock and 3 feet in the basin.

(110) **Pollepel Island**, Mile 50E, is a private estate with buildings that resemble a medieval castle. A light is

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shown from a skeleton tower 0.1 mile off the west side of the island.

(111) **Newburgh**, Mile 53W, is a major petroleum distribution center. Most of the piers of the major oil companies are at **New Windsor**, the southern end of the 2-mile waterfront at Newburgh. Depths at the piers are reported to range from about 14 feet at the northern end to 35 feet at the southern end of the waterfront.

(112) The yacht club landing near the north end of the Newburgh waterfront has reported depths of about 10 feet alongside. The marine railways here can handle craft up to 46 feet for minor engine and hull repairs; berths, electricity, gasoline, diesel fuel, water, ice, launching ramps, and marine supplies are available. A shipbuilding company at Newburgh can make emergency repairs to commercial vessels. A marine railway at the yard can handle vessels to 140 feet, and cranes to 150 tons are available.

(113) **Beacon**, on the east bank of the Hudson River opposite Newburgh, has some manufacturing facilities. An oil pier at the southern end of the waterfront has a reported depth of 5 feet alongside. The **Newburg-Beacon Bridge (IS 84)**, two spanned fixed highway bridges, with a clearance of 147 feet for a middle 760-foot width and 172 feet at the center, crosses the river between Beacon and Newburgh. A private fog signal is at the bridge and a RACON is atop the center of the main channel span of the southernmost bridge.

(114) Two submerged obstructions are reported about 150 yards south of seasonal Lower Hudson River Lighted Buoy 40, Mile 55. A submerged obstruction, covered ½ foot, is reported about 700 yards west of Buoy 40.

(115) **Chelsea**, Mile 56.5E, has a boatyard and yacht club; berths, electricity, gasoline, water, ice, marine supplies, and complete hull and engine repairs are available. A 12-ton mobile crane is available for do-it-yourself repairs.

(116) **Danskammer Point**, Mile 58W, is marked by a conspicuous powerplant with two large buildings, four stacks, a radio tower, and an oil receiving pier. There are numerous brickyards on both sides of the river between Newburgh and Danskammer Point, but most of them have been abandoned.

Chart 12347 – Wappinger Creek

(117) **Wappinger Creek** is entered at Mile 58.5E through a channel that leads to just below **Wappingers Falls,** 1.6 miles above the entrance. In 1977, it was reported that the creek had silted in and was no longer navigable.

(118) The railroad bridge across the mouth of Wappinger Creek has a bascule span with a clearance of 1 foot. (See **117.813**, chapter 2, for drawbridge regulations.) The nearby overhead cables have a clearance of 43 feet over the creek. The fixed highway bridge about 300 yards above the railroad bridge has a clearance of 12 feet. An overhead power cable at the bridge has a clearance of 47 feet. An overhead power cable with a clearance of 31 feet crosses the creek about 1.5 miles above the mouth.

(119) **Diamond Reef**, with a depth of 5 feet over it and marked by a seasonal lighted buoy, lies in about the middle of Hudson River 0.2 mile above the entrance to Wappinger Creek. Between Diamond Reef and Poughkeepsie the west side of the river should be favored to avoid two 18-foot spots which are buoyed.

(120) A marina at **New Hamburg**, just north of the entrance to Wappinger Creek, has berths, electricity, gasoline, water, ice, a 12-ton lift, and marine supplies; hull and engine repairs can be made. In June 1981, depths of 20 feet were reported alongside the gasoline dock and 3 feet alongside the berths.

(121) A boat club at **Marlboro,** Mile 59.7W, can provide gasoline and water.

(122) **Poughkeepsie**, Mile 66E, is an important industrial center specializing in manufactured goods, oil, and lumber.

(123) **Mid Hudson Bridge (U.S. 44)**, a fixed span with a clearance of 134 feet, and a fixed railroad bridge with a clearance of 167 feet, 0.5 mile northward, cross the river at Poughkeepsie; both bridges are well lighted at night and are equipped with private fog signals. The Mid Hudson Bridge also has a RACON in the middle of the span. Submerged pilings, covered 2 feet, are reported to exist on the westerly side of the Hudson River between the second and third abutments of the railroad bridge.

(124) Several bulk oil receiving wharves with reported depths of 13 to 20 feet alongside are on the east shore about 1 mile south of the Mid Hudson Highway Bridge. A town park and a small-craft launching ramp are about 0.2 mile north of the highway bridge.

(125) A marina, on the east side of the river near Mile 68E, has berths, electricity, gasoline, water, ice, a launching ramp, marine supplies, and a 20-ton crane; hull, engine, and electronic repairs can be made. In August 2001, 17 feet was reported alongside the docks.

(126) **Hyde Park**, Mile 71E, is the birthplace of Franklin Delano Roosevelt, the 32nd President of the United States. The residence and library are about 0.4 mile inland.

(127) A **special anchorage** is just west of Hyde Park. (See **110.1 and 110.155 (c)(6),** chapter 2, for limits and regulations.) The Poughkeepsie Yacht Club, about 0.5 mile north of the anchorage area, has berths, electricity, gasoline, diesel fuel, water, a 15-ton mobile hoist,

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ice, and a sewage pump-out facility. In 1981, 8 feet was reported available alongside the gasoline dock.

(128) **Esopus Island**, Mile 73, is marked by a light on the south end. A ledge, partly bare at low water and extending about 300 yards from the north end, is marked by a buoy. The better channel is westward of the island. A prominent large graystone building is on the west side of the river above **Esopus**, about 1 mile north of Esopus Island.

(129) **Indian Kill** flows into the Hudson River at Mile 73.8E. At the entrance to Indian Kill is a small-boat basin operated by the State of New York as part of Taconic State Park. Private seasonal lights and buoys mark the entrance to the boat basin. In June 1981, the reported controlling depth was 7½ feet in the entrance channel with 5½ feet available in the basin. Gasoline, diesel fuel, water, ice, a sewage pump-out facility, and a 20-foot concrete launching ramp are available in the basin. Supplies can be obtained nearby.

(130) A shoal about 0.6 mile long and 150 yards wide with a least depth of about 16 feet is just west of the center of the channel, about 1.1 miles above Indian Kill entrance. The shoal is marked by a seasonal lighted buoy about midway along the east edge.

(131) **Middle Hudson River Light** 11, Mile 75.8, 21 feet above the water, is shown from a pole with a square green daymark on the northeast corner of the old lighthouse on the west side of the main channel. Shoals with depths less than 3 feet extend as much as 0.4 mile from either shore from about 1 mile below the light to Rondout Creek at Kingston. The shoal area on the east side of the river is marked by buoys.

(132) **Rondout Creek** is entered from the Hudson River at Mile 79W through a dredged channel that leads between two long, submerged jetties to **Eddyville**, about 3 miles above the channel entrance. The jetties are marked by lights at the outer ends and by daybeacons. In 1982, the controlling depth was 13 feet from the entrance to the highway bridge about 1.1 miles above the mouth, thence 10 feet to the southwest end of Gumaer Island, thence 7 feet to the head of the dredged channel at Eddyville. The channel is partially marked by lights and buoys. The head of practical navigation is at the lock of the abandoned **Delaware and Hudson Canal**, 3.3 miles above the entrance. The lower 2-mile portion of Rondout Creek serves as a harbor for Kingston.

(133) **Kingston** is partly on the lowlands adjacent to the north bank of Rondout Creek and partly on the elevated plateau to the north and westward of it. Waterborne traffic consists chiefly of sand, gravel, crushed rock, brick, and petroleum products.

Bridges

(134) Rondout Creek is crossed by a fixed highway bridge with a clearance of 56 feet, about 1 mile above the entrance, a highway suspension bridge with a clearance of 86 feet, about 0.1 mile above the fixed bridge, and the Conrail fixed railroad bridge with a clearance of 144 feet, about 2 miles above the entrance. An overhead power cable with a clearance of 75 feet crosses the creek about 0.45 mile above the railroad bridge.

Tides

(135) The mean range of tide at the entrance to Rondout Creek is about 3.7 feet.

Small-craft facilities

(136) There are several small-craft facilities on Rondout Creek. Berths, electricity, gasoline, diesel fuel, water, ice, marine supplies, launching ramps, a sewage pump-out facility, and wet and dry storage are available as far upstream as Eddyville. Lifts to 35 tons and a 75-foot marine railway can handle craft for hull and engine repairs.

Charts 12347, 12348 – Kingston

(137) In the Hudson River above Kingston many shoals with depths less than 3 feet are in midriver or extend from the shore on either side. The bottom is rocky at many of the bar crossings. Most of the channels through the critical areas are marked with lights and buoys, but strangers in all except small boats are advised to take a pilot. Pilots are engaged at New York.

Chart 12347 – Kingston Point

(138) **Kingston Point**, Mile 80W, is an oil terminal. Tugs and barges drawing 15 to 20 feet transport petroleum products both up and down the river from this terminal.

(139) **Kingston-Rhinecliff Bridge State Route 199** crosses the Hudson River at Mile 82.7. The fixed channel spans have a clearance of 135 feet. A private fog signal is at the bridge and a RACON is in the center of the west channel span.

(140) **Esopus Creek** is entered at Mile 88.5W. The entrance is between two dikes; both are marked by lights. **Saugerties** is on the north bank of the creek about 1 mile above the entrance. In July-August 1983, the controlling depth was 7½ feet (11 feet at midchannel) to the steamboat wharf about 0.7 mile above the entrance. The mean range of **tide** is about 4 feet. Above the steamboat wharf several shoals bare at low water and there

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are many large boulders. Small craft, with local knowledge, use this area as an anchorage, but it should be avoided by strangers. A dam crosses the creek about 1.3 miles above the entrance. Small-craft facilities below the steamboat wharf can provide berths, electricity, gasoline, diesel fuel, water, ice, outside storage, and some marine supplies. A forklift can handle craft to 2 tons for engine and hull repairs; launching ramps are also available. In June 1981, depths of 15 to 20 feet were reported alongside the fuel dock.

(141) A rescue vessel of the Ulster County Sheriff's Department is at Saugerties. The Sheriff's office can be contacted through the Coast Guard on VHF-FM channel 16 or directly by telephone (914-338-3640).

(142) **The Maelstrom** is a dangerous whirlpool on the east side of the main channel about 2 miles north of Esopus Creek.

(143) Several large cement manufacturing plants that have prominent buildings and elevators are near **Cementon**, Mile 92.5W. Another cement factory is at **Dewitt Point**, 2 miles above Cementon. A wharf just below the point has a reported depth of 30 feet at the face. The landing for **North Germantown** is across the river opposite this wharf.

(144) **Catskill Creek**, marked at the entrance by buoys, is entered at Mile 97.5W. **Catskill** is about 1 mile above the mouth. A controlling depth of 6½ feet is available to about 100 yards above the highway bridge, 0.9 mile above the mouth. The bridge has a fixed span with a vertical clearance of 11 feet. An overhead power cable about 200 yards above the bridge has a clearance of 60 feet. The north edge of the channel leads close to the end of the wharf at the entrance, then passes 75 feet off the first small pier, lying 200 yards inside the end of the wharf, and then passes close to the next small pier on the north side. The best water is then in midcreek when approaching the first sharp bend to avoid a rock with 4 feet over it about 50 feet off the western end of the wharf. The channel then favors the south bank until about 350 yards from the highway bridge, then follows the north bank to the highway bridge.

(145) A long wharf extends along the north side of Catskill Creek from the entrance to Catskill. Several small-craft facilities are on the creek. Berths, electricity, gasoline, diesel fuel, storage facilities, water, ice, marine supplies, a sewage pump-out facility, and lifts to 20 tons are available; hull and engine repairs can be made.

(146) **Rip Van Winkle Bridge State Route 23** crosses the Hudson River at Mile 98.7. The fixed span over the channel has a clearance of 142 feet. A private fog signal is at the bridge and a RACON is the center of the main channel span. High-voltage power cables with a clearance of 145 feet cross the river about 2.4 miles above the bridge. Red lights are atop the suspension towers on both sides of the river.

(147) **Hudson**, Mile 102E, is on a slope that rises from the east bank of the Hudson River. Waterborne commerce is in petroleum products. The bulk petroleum pier has reported depths of about 10 feet alongside. Gasoline, berths, electricity, water, and a launching ramp are available at a boat club at Hudson. In June 1981, depths of 20 feet were reported alongside the gasoline dock.

(148) **Athens** is on the west side of the Hudson River opposite Hudson. An asphalt receiving facility and a bulk petroleum storage facility are at Athens. Barges call at these facilities, which have reported depths of about 7 to 15 feet alongside. In June 1981, shoaling to an unknown extent was reported north of **Middle Ground Flats;** barges approach Athens through the channel south of the flats only. In October 1990, shoaling to an unknown extent was reported in the area between Athens and Middle Ground Flats. A small-craft facility at the north end of town has berths, electricity, gasoline, water, ice, and limited marine supplies, and can make minor engine repairs.

Chart 12348 – Coxsackie

(149) **Coxsackie** is at Mile 108W. Berths, gasoline, electricity, water, and ice are available at a yacht club at the north end of town. A State-owned 20-foot concrete launching ramp is also available at Coxsackie.

(150) Cement and coal are shipped and gypsum is received at facilities about 1 mile above Coeymans; the marginal wharf has 666 feet of berthing space with dolphins and 32 feet reported alongside.

(151) A 32-foot buoyed **anchorage** basin is on the east bank of the river north of **Stuyvesant** about 3.1 miles above Coxsackie.

(152) A boatyard at **New Baltimore,** Mile 113.5W, can provide berths, electricity, gasoline, diesel fuel, water, storage, and marine supplies. A launching ramp and a 20-ton mobile hoist are available; hull and engine repairs can be made. In June 1981, a reported depth of 20 feet was available at the fuel dock with 6 feet at the berths.

(153) **Coeymans**, Mile 115W, has a boatyard that can provide berths, electricity, gasoline, diesel fuel, water, ice, and a 12-ton lift; hull and engine repairs can be made.

(154) A submerged jetty, marked by daybeacons, is just E of Coeymans.

(155) A **special anchorage** is at Coeymans. (See **110.1 and 110.60 (v),** chapter 2, for limits and regulations.)

(156) The Conrail fixed railroad bridge with a clearance of 139 feet crosses the Hudson River at Mile 117.8. An overhead power cable just southward of the bridge has

a clearance of 185 feet. The **Castleton-on-Hudson Bridge (New York State Thruway, IS 90 E-W)**, a fixed highway bridge, about 150 yards above the railroad bridge has a clearance of 135 feet.

(157) **Castleton-on-Hudson**, Mile 119E, has a boat club that can provide berths, electricity, gasoline, diesel fuel, water, ice, and a launching ramp. Gin poles are available at the boat club for stepping masts. In June 1982, depths of 9 feet were reported alongside the docks.

(158) The Castleton Fire Department maintains a rescue vessel at the boat club for emergency medical assistance, firefighting, lifesaving, and damage control. The rescue vessel can be contacted through the Coast Guard on VHF-FM channel 16, or by telephone (518-272-5501).

(159) A **special anchorage** is at Mile 120W, just below **Cedar Hill.** (See **110.1 and 110.60 (w),** chapter 2, for limits and regulations.)

(160) Overhead power cables crossing the river at Mile 122.9 and Mile 123.1 have clearance of 169 and 194 feet, respectively.

(161) **Albany**, Mile 126W, is the capital of New York State and the principal port on the river above New York City. The port of Albany is the terminus for deep-draft vessels on the Hudson River and serves as a transshipping point for the immediate vicinity, large areas of New England, and most of the areas accessible by waterways.

(162) Waterborne commerce at the port is mostly in petroleum products, but grain, automobiles, coal, molasses, scrap iron, aggregates, lumber, wood byproducts, bananas, steel, chemicals, and general cargo are also handled.

(163) The Albany Port District includes the lower harbor between points about 0.2 mile below and 1.9 miles above the entrance to Island Creek (42°36'26"N., 73°45'50"W.), and the upper harbor extending northward of this point to the northern limits of Albany on the west side and **Rensselaer** on the east side.

Channels

(164) The Federal project depth is 32 feet from New York Harbor to Albany. Above the Port of Albany, the project depth is 14 feet to the Troy Lock and Dam. (See Notice to Mariners and latest editions of the charts for controlling depths.)

Anchorages

(165) The restricted width of the river at Albany is not sufficient to permit vessels to swing at anchor without interfering with passing craft. However, in an emergency, vessels sometimes anchor in midstream to wait for berthing space.

Bridges

(166) The Dunn Memorial fixed highway bridge with a clearance of 60 feet crosses Hudson River at Albany at Mile 126.4. The Conrail/Amtrak railroad bridge has a swing span with a clearance of 25 feet. (See **117.1 through 117.59 and 117.791**, chapter 2, for drawbridge regulations.) An overhead power cable at the railroad bridge has a clearance of 135 feet.

Tides

(167) The mean range of tide at Albany is 4.6 feet. (For daily predictions see Tide Tables.) **Tidal currents** for Hudson River are described at the beginning of this chapter.

Weather, Albany and vicinity

(168) The climate at Albany is primarily continental in character, but is subject to some modification from the maritime climate which prevails in the extreme southeastern portion of New York State. The moderating effect on temperatures is more pronounced during the warmer months than in the cold winter season when outbursts of cold air sweep down from Canada with greater vigor than at other times of the year. In the warmer portion of the year temperatures rise rapidly during the daytime to moderate levels. As a rule, temperatures fall rapidly after sunset so that the nights are relatively cool. Very occasionally, the area experiences extended periods of oppressive heat up to a week or more in duration.

(169) The highest temperature of record is 100°F (37.8°C) recorded both in July and September 1953. The extreme minimum temperature at Albany is -28°F (-33.3°C) recorded in January 1971. The average temperature for Albany is 48°F (8.9°C). The average high is 58°F (14.4°C) and the average low is 37°F (2.8°C). July is the warmest month with an average high of 83°F (28.3°C) and an average low of 60°F (15.6°C). January is the coldest month with an average high of 31°F (-0.6°C) and an average low of 13°F (-10.6°C). An average of 11 days each year records maximum temperatures in excess of 90°F (32.2°C) and an average of 147 days records extreme minimums below 32°F (0°C). An average of 22 days each year will have an extreme minimum below 5°F (-15°C).

(170) Precipitation is sufficient to serve the economy of the region in most years, and only occasionally do periods of drought become a threat. A considerable portion of the rainfall in the warmer months is from showers associated with thunderstorms, but hail is not usually of any consequence. Average annual precipitation

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totals nearly 36 inches (914 mm) and is evenly distributed throughout the year. The difference between the driest month, February, and the wettest month, June, averages exactly one inch (25.4 mm). Precipitation falls an average 205 days each year with the early winter season being the most likely time. Thunderstorms occur on average 24 days each year with June, July, and August being the most favored period.

(171) Winters are usually cold and occasionally fairly severe. Maximum temperatures during the colder winter months often are below freezing, and nighttime low temperatures frequently drop to 10°F (-12.2°C) or lower. Sub-zero temperatures (<-17.8°C) occur rather infrequently, about a dozen times a year. Snowfall in the area is quite variable and over some of the higher nearby areas ranges up to 75 inches (1905 mm) or more for a season. Snow flurries are quite frequent during the cold months. The average annual snowfall is 63 inches (1600 mm) and snow can be expected each month, October through May. January is the snowiest month averaging over 16 inches (406 mm). The 24-hour snowfall record is 22 inches (559 mm), and occurred in March 1993.

(172) On the whole, wind velocities are moderate. The north-south Hudson River Valley has had a marked effect on the lighter winds and the warm months usually average out as a south wind. Destructive winds occur infrequently.

(173) The area enjoys one of the highest percentages of sunshine that can be found in the State. This is true of the Hudson Valley area from Albany southward to the coast with slightly more sunshine progressively southward. Seldom does the area experience extended periods of cloudy days or extended periods of smog. Occasionally during the warm months, there are short periods when high humidity associated with temperatures above 85°F (29.4°C) is rather uncomfortable.

(174) Tornadoes are rather rare in the Albany area; six have been reported since 1826. Since 1871, eight tropical storms have approached within 25 miles of Albany. All have approached from the southwest, therefore have been greatly modified by the time traveled over land. The last storm to directly influence the Albany area was the remnants of Hurricane Gracie in September 1959. By the time Gracie reached Albany, it had completed the extra tropical transition and highest sustained winds were only 30 knots.

(175) (See page T-12 for **Albany climatological table.**)

Pilotage, Albany

(176) See Pilotage, Hudson River (indexed as such), earlier this chapter.

Towage

(177) Tugs up to 6,800 hp, based at New York City, and tugs up to 1,800 hp, based at Rensselaer, are available at Albany. Arrangements for tugs are usually made in advance by ships' agents.

(178) Albany is a **customs port of entry.**

Quarantine, customs, immigration, and agricultural quarantine

(179) (See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

(180) **Quarantine** is enforced in accordance with the regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

(181) Albany has several hospitals.

Harbor regulations

(182) Local rules and regulations for the port are handled by the Albany Port District Commission.

Wharves

(183) There are about 30 waterfront facilities at Albany and Rensselaer; most are located on the west side of the Hudson River at Albany. All have highway connections and, with the exception of the petroleum berths, railroad connections. Cargo is generally handled by ships' tackle. Crawler and truck cranes up to 140 tons can be rented. The alongside depths given for each facility are reported; for information on the latest depths, contact the operator. Only the major facilities are described. For a complete description of the port facilities refer to Port Series No. 6, published and sold by the U.S. Army Corps of Engineers. (See appendix for address.)

(184) **West side of Hudson River below Island Creek** (42°36'26"N., 73°45'50"W.):

(185) Sears Oil Co. Tanker Wharf: about 1.2 miles southward of Island Creek; offshore wharf, 191 feet with dolphins; 31 feet alongside; deck height, 10 feet; pipelines extend from wharf to storage tanks, total capacity of 2 million barrels; receipt of petroleum products; owned and operated by Sears Oil Co., Inc.

(186) Texaco North Wharf: about 0.85 mile southward of Island Creek; offshore wharf, 230 feet with dolphins; 32 feet alongside; deck height, 14 feet; pipelines extend from wharf to storage tanks, total capacity of 838,000 barrels; receipt and shipment of petroleum products; owned and operated by Texaco Inc.

(187) **West side of Hudson River above Island Creek:**

(188) Agway Petroleum Wharf: about 0.1 mile northward of Island Creek; offshore wharf, 260 feet with dolphins; 30 feet alongside; deck height, 11 feet; pipelines extend from wharf to storage tanks, total capacity of 334,000 barrels; receipt and shipment of petroleum products; owned and operated by Agway Petroleum, Inc.

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(189) Cibro Petroleum Ship Dock: about 0.5 mile northward of Island Creek; bulkhead wharf, 1000 feet; 28 to 32 feet alongside; deck height, 16½ feet; pipelines extend from wharf to storage tanks, total capacity of about 193,000 barrels of asphalt, 955,000 barrels of fuel oil, and 450,000 barrels of crude oil; receipt of crude oil and petroleum products; receipt and shipment of asphalt; owned by Albany Port District Commission and operated by Cibro Petroleum Products, Inc.

(190) **Albany Port District Commission Berths 1 through 9**: provide 3,770 feet of continuous berthing; depths of 32 feet alongside; deck heights, 16½ feet; water and electrical shore power connections; owned by Albany Port District Commission.

(191) Berths 7, 8, and 9: about 0.8 mile northward of Island Creek; 1,270-foot marginal wharf; 10½ million-bushel grain elevator; special grain-handling equipment; conveyor-belt loading system, rate 1,340 long tons per hour; pipelines extend from wharf to molasses storage tanks; total capacity of 4½ million gallons; shipment of grain; receipt and shipment of molasses; operated by Albany Port District Commission, National Molasses Co., and Cargill, Inc.

(192) Berths 5 and 6: immediately northward of Berth 7; 750-foot marginal wharf; 60,000 square feet covered storage; 35 acres open storage; pipelines extend from wharf to storage tanks, total capacity of 7½ million gallons of molasses and 1 million gallons of liquid fertilizer; receipt and shipment of general cargo and liquid fertilizer; receipt of molasses; operated by Albany Port District Commission, Pacific Molasses Co., and Allied Chemical Corp.

(193) Berth 4: immediately northward of Berth 5; 425-foot marginal wharf; 26,000 square feet of covered storage; 28 acres open storage; receipt and shipment of general cargo; receipt of automobiles; operated by Albany Port District Commission.

(194) Berth 3: immediately northward of Berth 4; 425–foot marginal wharf; 72,000 square feet of covered storage; receipt of bananas; operated by Albany Port District Commission and United Brands, Inc.

(195) Berth 2: immediately northward of Berth 3; 300-foot marginal wharf; 28 acres open storage; receipt and shipment of general cargo; receipt of automobiles; operated by Albany Port District Commission.

(196) Berth 1: immediately northward of Berth 2; 600–foot marginal wharf; 45,000 square feet of covered storage; receipt and shipment of general cargo; receipt of automobiles; operated by Albany Port District Commission.

(197) Mobil Oil Corp. Ship Dock: about 200 yards northward of Berth 1; offshore wharf, 200 feet with dolphins; 29 feet alongside; deck height, 16 feet; freshwater connections; pipelines extend from wharf to storage tanks, storage tanks have a total capacity of 2¼ million barrels; receipt of petroleum products; owned and operated by Mobil Oil Corp.

(198) **East Side of Hudson River:**

(199) Amerada Hess Corp. Wharf: about 0.3 mile northward of Island Creek; offshore wharf, 290 feet with dolphins; 30 feet alongside; deck height, 8 feet; pipelines extend from wharf to storage tanks, total capacity of 1 million barrels; receipt of petroleum products; owned by Amerada Hess Corp., operated by Amerada Hess Corp. and Sun Refining and Marketing Co.

(200) Ultramar Petroleum Wharf: about 0.5 mile northward of Island Creek; offshore wharf; 180 feet with dolphins; 12 feet alongside; deck height, 11 feet; pipelines extend from wharf to storage tanks, total capacity of 1 million barrels; receipt and shipment of petroleum products; owned and operated by Ultramar Petroleum, Inc.

(201) Atlantic-Richfield Co. Rensselaer Wharf: about 0.65 mile northward of Island Creek; offshore wharf, 295 feet with dolphins; 33 feet alongside; deck height, 11 feet; water connections; pipelines extend from wharf to storage tanks, total capacity 1½ million barrels; receipt of petroleum products; owned by Atlantic-Richfield Co., operated by Atlantic-Richfield Co., Gulf Oil Products Co. and Amoco Oil Co.

(202) Petroleum Fuel and Terminal Co. Rensselaer Marine Terminal: about 0.75 mile northward of Island Creek; offshore wharf, 375 feet with dolphins; 32 feet alongside; deck height, 14 feet; pipelines extend from wharf to storage tanks, total capacity of 668,000 barrels; receipt and shipment of petroleum products; owned and operated by Petroleum Fuel and Terminal Co.

(203) Bray Terminals: about 0.8 mile northward of Island Creek; offshore wharf, 250 feet with dolphins; 23 feet alongside; deck height, 12 feet; water and electrical shore power connections; receipt and shipment of petroleum products; pipelines extend from wharf to storage tanks, total capacity of 646,000 barrels; owned by Bray Terminals, Inc., operated by Bray Terminals, Inc., and Getty Refining and Marketing Co.

(204) Port of Albany Rensselaer Wharf: about 1.25 miles above Island Creek; marginal wharf, 1,205 feet; 32 feet alongside; deck height, 16½ feet; pipeline extends from wharf to storage tank, total capacity 500,000 gallons; 20 acres open storage; 43,000 square feet covered storage; receipt of caustic soda, shipment of scrap metal; owned by Albany Port District Commission, operated by Albany Port District Commission and Ashland Chemical Co.

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Supplies

(205) Bunkering services for deep-draft vessels are not available at Albany; this service is obtained in New York. Diesel fuel, through metered pumps, is available for small vessels; water, marine supplies, and provisions are available.

Repairs

(206) There are no drydocks or marine railway facilities for ocean-going vessels at the port of Albany. All types of repairs not requiring hauling out are available for steel and wooden hulls; machinery and boiler repairs and machine shop work are available.

(207) A marine repair facility at **Cohoes**, on the west side of the river 8 miles above Albany and 1.5 miles above the Troy Lock and Dam, is equipped to make all types of above-the-waterline repairs to tugs, barges, and other small vessels. The State of New York operates a drydock adjacent to Lock 3 of the Erie Canal at **Waterford,** just north of Cohoes. The graving dock is 450 feet long, 42 feet wide at the entrance, and has a depth of 14 feet over the keel blocks.

Small-craft facilities

(208) A yacht club is on the east side of the Hudson River at Rensselaer at Mile 126.4, about 0.2 mile south of the fixed highway bridge; berths, electricity, gasoline, diesel fuel, and water are available. In June 1981, reported depths of 15 feet were available on the west side of the yacht club dock with 8 feet on the east side. A municipal launching ramp is at Mile 127.2W.

Communications

(209) Albany is served by air and rail communications. The Delaware and Hudson Railroad serves facilities on the west side of the river while ConRail serves facilities on both sides of the river. The Albany Port Railroad Corporation, a terminal switching line, serves the waterfront facilities and property owned by the Albany Port District Commission and connects with the main line railroads.

(210) The **Patroon Island Bridge (IS 90)**, a fixed highway bridge, with a clearance of 60 feet crosses the Hudson River just above Albany at Mile 127.8.

(211) The **Troy-Menands Bridge (State Route 378)**, a fixed highway bridge, crossing the Hudson River at South Troy, Mile 130.5, has a clearance of 61 feet. The overhead power cables between Albany and Troy have a least clearance of 87 feet. Red lights are shown from the suspension towers on both sides of the river.

(212) Troy, Mile 132E, is a manufacturing center. **Watervliet**, on the west side of the river opposite Troy, is the site of the United States Arsenal with a 755-foot stone bulkhead. The harbor extends from the southern limits of the city of Troy to the Troy Lock and Dam. Vessels usually berth on arrival, because the narrow width of the river and character of the bottom are not suitable for anchorage.

(213) The **Congress Street Bridge (State Route 2)** connecting Watervliet and Troy, at Mile 132.2, has a fixed span with a clearance of 55 feet. The highway-railroad bridge 0.5 mile upstream has a lift span with a clearance of 24 feet down and 129 feet up. (See **117.1 through 117.59 and 117.791**, chapter 2, for drawbridge regulations.) The bridge collapsed in 1977 and was being removed in 1978. In 1979, a vertical lift highway bridge with a design clearance of 29 feet down and 60 feet up was under construction on the alinement of the destroyed bridge. In 1978, the **Green Island Bridge (State Route 7)**, a fixed highway bridge, with a design clearance of 60 feet was under construction at Mile 132.9. A rock ledge is on the east side of the river at the highway-railroad bridge in about 42°44'07"N., 73°41'22"W.

(214) Well-equipped wharves at Troy have berthing space of about 2,400 feet and depths of 9 to 14 feet alongside. A mile-long concrete bulkhead extends along the waterfront. The only public docking facility is at the State barge canal terminal. The oil storage terminals on the island under the railroad bridge have depths up to 14 feet alongside. Facilities for repairs to hulls, machinery, and boiler equipment are available for vessels not requiring hauling out.

(215) The **Troy Lock and Dam** is about 8 miles above Albany. The lock dimensions are: length 492.5 feet; width 44.4 feet; depth over upper miter sill 16.3 feet at normal pool level; and depth over lower miter sill 13 feet at lowest low water. The lift at the lowest stages is 17.3 feet. The mean range of **tide** is about 4.7 feet below the lock. (See **207.50 and 207.60,** chapter 2, for navigation regulations for the lock and operating regulations for the dam.)

Caution

(216) The area within about 500 feet below the Troy Dam is extremely dangerous because of the turbulence caused by water discharge from the dam. The danger area is marked by buoys.

(217) The Hudson River above the Troy Lock and Dam joins with the New York State Canal System to form a connecting waterway westward to Lake Erie and Lake Ontario, and northward to Lake Champlain.

(218) The **New York State Canal System**, comprising Erie Canal, Oswego Canal, Cayuga and Seneca Canal, and Champlain Canal, is under the jurisdiction of the State of New York. Navigation on the State canals is free except for mooring, dockage, wharfage, storage, or use

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of canal equipment or facilities for which a permit is required. Detailed data regarding movement through the New York State Canal System may be obtained from the New York State Canal Corporation, Office of Canals, 200 Southern Boulevard, P.O. Box 189, Albany, NY 12201-0189; telephone (518-471-5011).

(219) A toll free telephone number (1-800-422-1825) to receive prerecorded messages and for publicizing events and attractions along the canal system is available to mariners within the state of New York.

Controlling dimensions of channels, locks, and bridges

(220) The **Great Lakes-Hudson River Waterway Improvement** is that part of the barge canal system including the Erie Canal from Waterford west to Three Rivers and thence the Oswego Canal to Lake Ontario. This section of the system, funded by the U.S. Government and maintained by the State of New York, has a project depth of 14 feet at normal pool level between locks and 13 feet at normal pool level through all locks and guard gates. These channels have widths of 104 feet in earth cuts, 120 feet in rock cuts, and 200 feet in river and lake sections.

(221) Elsewhere in the New York State Canal System, the project depth is 12 feet in all channels and through all locks and guard gates. These channels have widths of 75 feet in earth cuts, 94 feet in rock cuts, and generally 200 feet in canalized rivers.

(222) Usable dimensions of the locks in the New York State Canal System are 300 feet in length and 43½ feet in width. The locks and guard gates have depths of 12 feet over the sills at normal pool level, except 13 feet over the sills in the Great Lakes-Hudson River Waterway Improvement.

(223) The least clearance of bridges and cables over the Great Lakes-Hudson River Waterway Improvement is 20 feet. The least clearance of bridges and cables over the other waterways of the New York State Canal System is 15 feet.

(224) The navigation season is normally from the first part of May to the latter part of November.

(225) **Erie Canal,** a 294-mile waterway, extends from the pool of the Troy dam in the Hudson River at Waterford westerly through the Mohawk River and landcuts to Oneida Lake, thence through Oneida, Seneca, and Clyde Rivers, landcuts, an artificial channel, and Tonawanda Creek to Niagara River at Tonawanda. The Niagara River connects the Erie Canal with Lake Erie at Buffalo.

(226) **Oswego Canal,** a 21-mile waterway, extends northward from the Erie Canal, 141 miles westward of the Troy dam, to Oswego where it joins Lake Ontario. For the most part the canal follows the Oswego River from its confluence with the Oneida and Seneca Rivers.

(227) **Cayuga and Seneca Canal** extends southward from the Erie Canal 177 miles west to the Troy dam. The canal follows the improved Seneca River to Cayuga Lake and extends through the lake to Ithaca at the south end. From the north end of Cayuga Lake, the canal follows Seneca River west to Seneca Lake and extends through the lake to Watkins Glen at the south end. A 2.2-mile canal extends south from Watkins Glen to Montour Falls. These lakes are two of the so-called Finger Lakes of central New York and are each about 30 miles in length.

(228) **Champlain Canal**, a 52-mile waterway, follows the Hudson River northward from Waterford for about 32 miles to Fort Edward, thence through a landcut and Wood Creek to Whitehall at the entrance to Lake Champlain.

(229) **Lake Champlain,** about 97 miles long from Whitehall to the Canadian border and up to 10 miles wide at its widest part, has considerable water commerce between the ports along its shores. The controlling depth is about 12 feet at low lake level through the main channel to the Canadian border and to the principal ports. The least overhead clearance is 92 feet at a fixed bridge at Crown Point, about 32 miles above Whitehall.

(230) An international waterway for commerce is available between the United States and Canada by the use of Champlain Canal, Lake Champlain, and the **Riviere Richelieu** and **Canal de Chambly,** which extend from the northerly end of Lake Champlain for about 70 miles in Canadian waters to the St. Lawrence River, 40 miles below Montreal. The size of vessels that can navigate this route is controlled by the least dimensions of the Canal de Chambly locks which are: usable length, 111 feet, 5 inches; width, 23 feet; depth over sills, 6½ feet. Bridges over the waterway are provided with draws; the least overhead clearance of cables is 120 feet. The least clearance for bridges across Canal de Chambly in the vicinity of the city of St. Jean, Quebec, is 29 feet. The navigation season is from about the middle of April to the middle of November.

(231) Permit requirements and toll charge information for Canal de Chambly and St. Ours Lock may be obtained from the Superintendent, Quebec Canals (see appendix for address).

Charts and Coast Pilot Information

(232) The National Ocean Service's nautical chart coverage of the New York State Canal System is as follows: chart 14786, all the canals from the Hudson River at Troy, N.Y., westward to Lyons, N.Y., and to Lake Ontario at Oswego; chart 14788, Oneida Lake; and chart 14791,

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Cayuga and Seneca Lakes. Charts of Lake Champlain are published by NOS.

(233) Coast Pilot information for the above waterways is contained in United States Coast Pilot 6 (formerly known as the Great Lakes Pilot), also published by NOS.

(234) Coverage of the canal system from Syracuse, west to the Niagara River at Tonawanda, NY, is contained in New York State Canal Guide, available from Mid-Lakes Navigation Company, Ltd., Box 61, Skaneateles, NY 13152, 1-800-545-4318; 315-685-8500.

(235) Charts and pilot information for the Riviere Richelieu, Canal de Chambly and other Canadian waters are available from the Canadian Hydrographic Chart Distribution Office (see appendix for address).

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