

BookletChart™

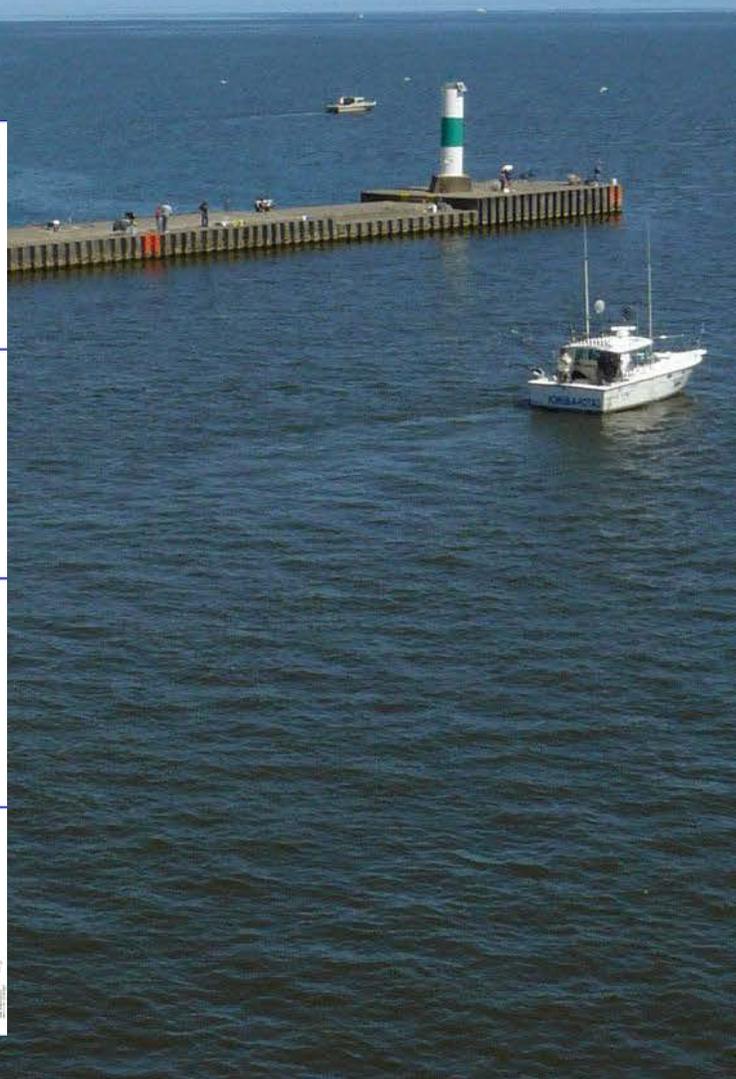
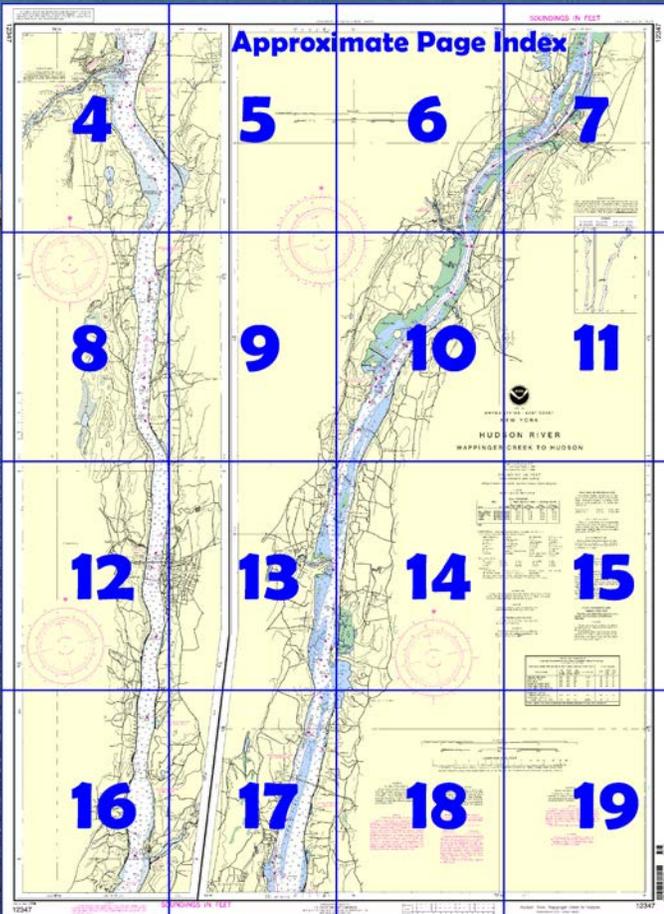


Hudson River – Wappinger Creek to Hudson NOAA Chart 12347

*A reduced-scale NOAA nautical chart for small boaters
When possible, use the full-size NOAA chart for navigation.*



- Complete, reduced-scale nautical chart
- Print at home for free
- Convenient size
- Up-to-date with Notices to Mariners
- Compiled by NOAA's Office of Coast Survey, the nation's chartmaker



**Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA**

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

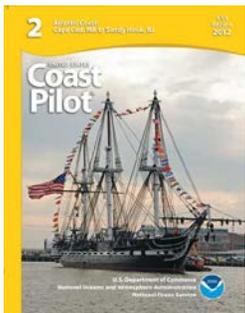
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at <http://www.nauticalcharts.noaa.gov/nsd/searchbychart.php?chart=12347>.



(Selected Excerpts from Coast Pilot)
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, NY, 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.

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.

On the opposite side of Hudson River from New York City are Jersey City, Hoboken, Weehawken, West New York, Guttenberg, Edgewater, Fort Lee and Englewood Cliffs. The shoreline from Jersey City to Edgewater is lined with ruined piers and piling fields. Mariners must check with local authorities and property owners for approval prior to mooring.

Channels.—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. (See Notice to Mariners and latest editions of charts for controlling depths.)

Seasonal buoyage.—The lighted buoys marking the Hudson River channel are replaced during the winter by smaller lighted ice buoys or unlighted buoys.

Bridges.—The bridges over Hudson River from New York to Albany have either fixed or suspension spans.

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 134 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.

Anchorage.—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.)

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.

A buoyed anchorage, 400 feet wide and 2,400 feet long, is on the east side of the channel just above Stuyvesant (42°23'22"N., 73°46'53"W.), about 15 miles below Albany.

Dangers.—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 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.

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.

Regulated Navigation Area.—The Coast Guard established a regulated navigation area on the navigable waters of the Hudson River south of the Troy Locks, effective during certain ice conditions. (See **33 CFR 165.165**, chapter 2, for limits and regulations.)

**U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies**

RCC Boston Commander
1st CG District (617) 223-8555
Boston, MA

Navigation Managers Area of Responsibility



NOAA's navigation managers serve as ambassadors to the maritime community.

They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit nauticalcharts.noaa.gov/service/navmanagers

To make suggestions or ask questions online, go to nauticalcharts.noaa.gov/inquiry.

To report a chart discrepancy, please use ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx.

Lateral System As Seen Entering From Seaward

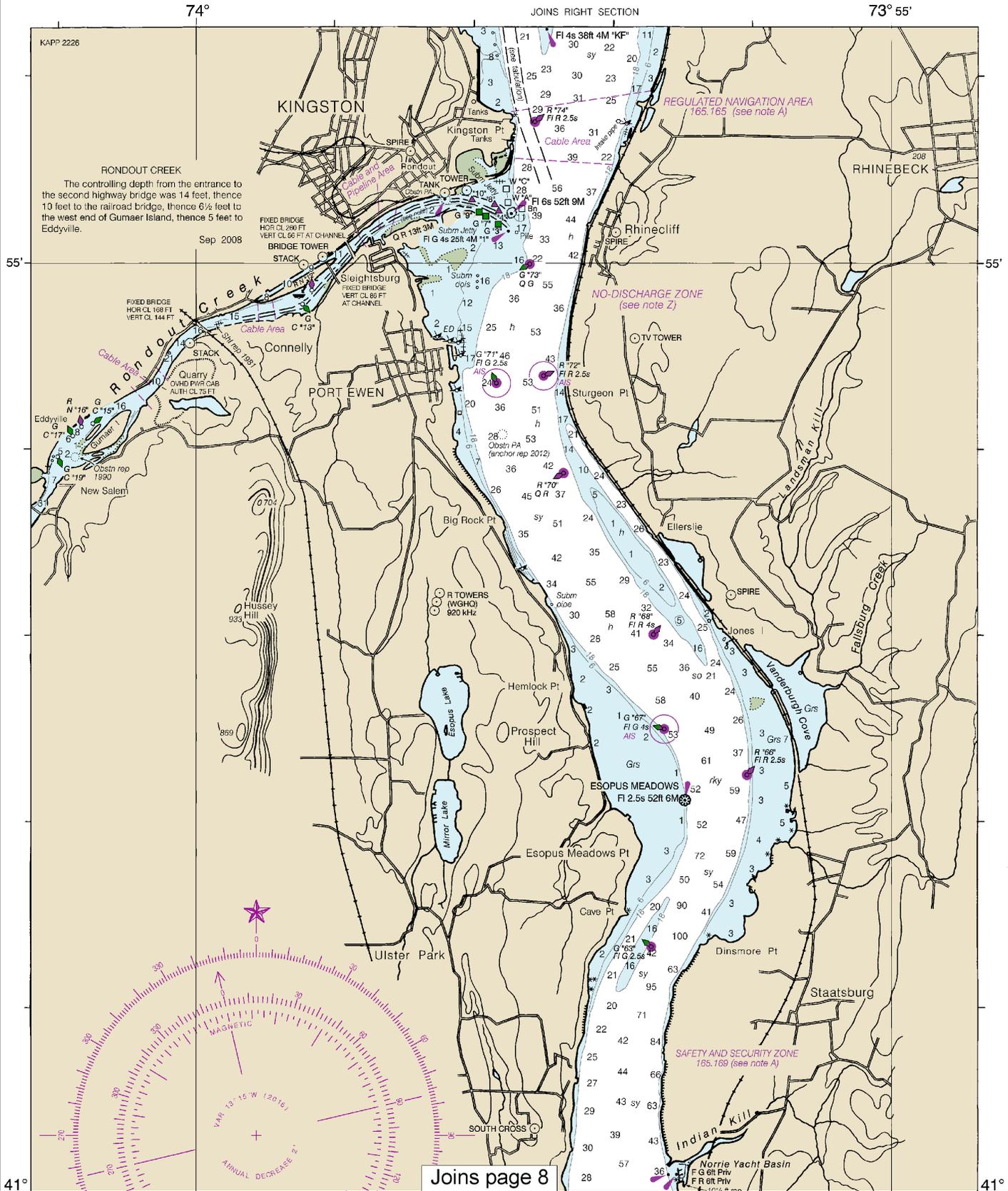
on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

12347



Joins page 8

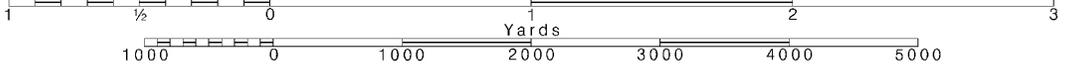
4

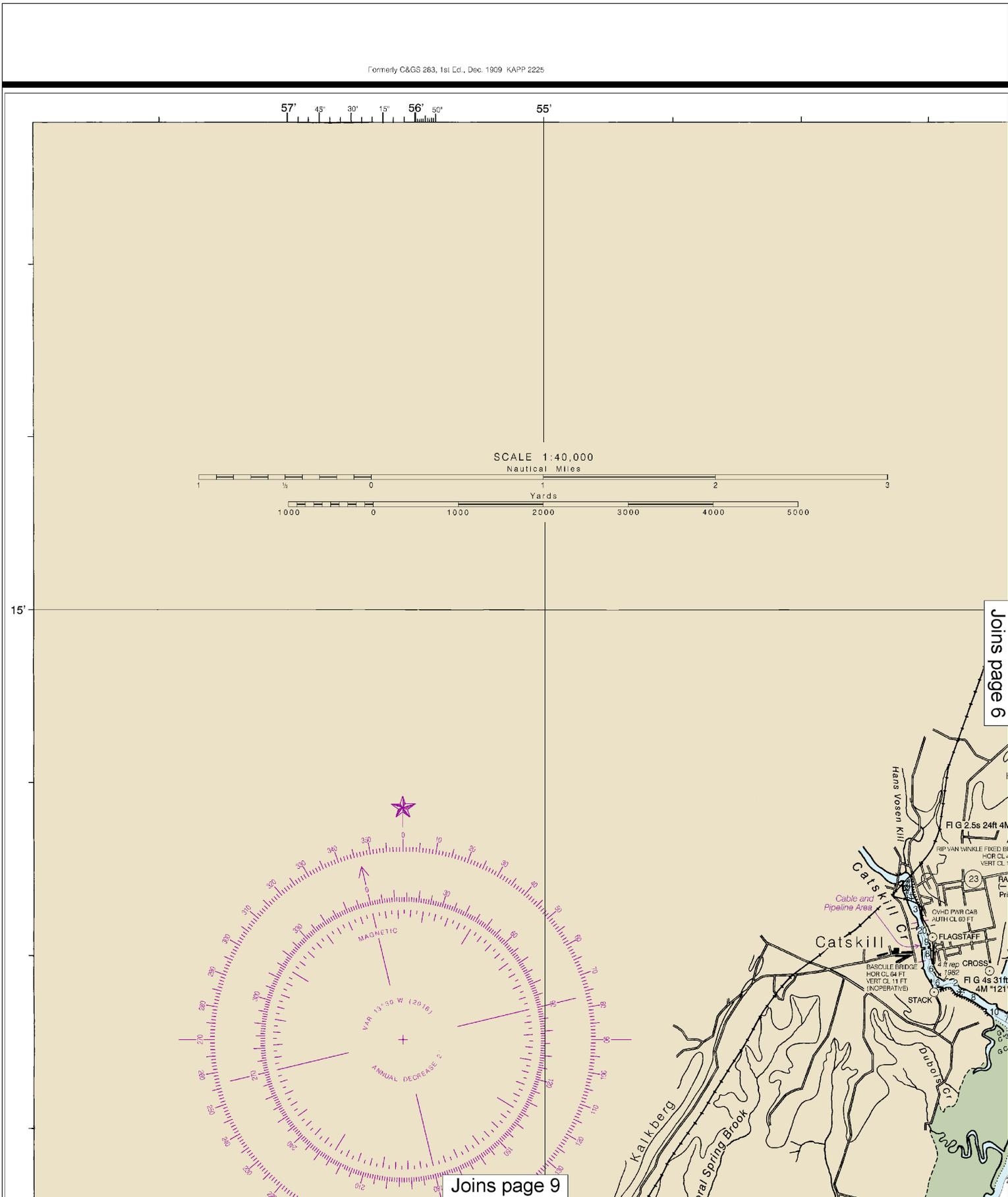
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

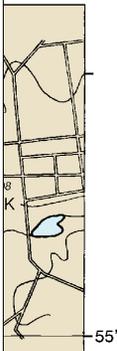
See Note on page 5.



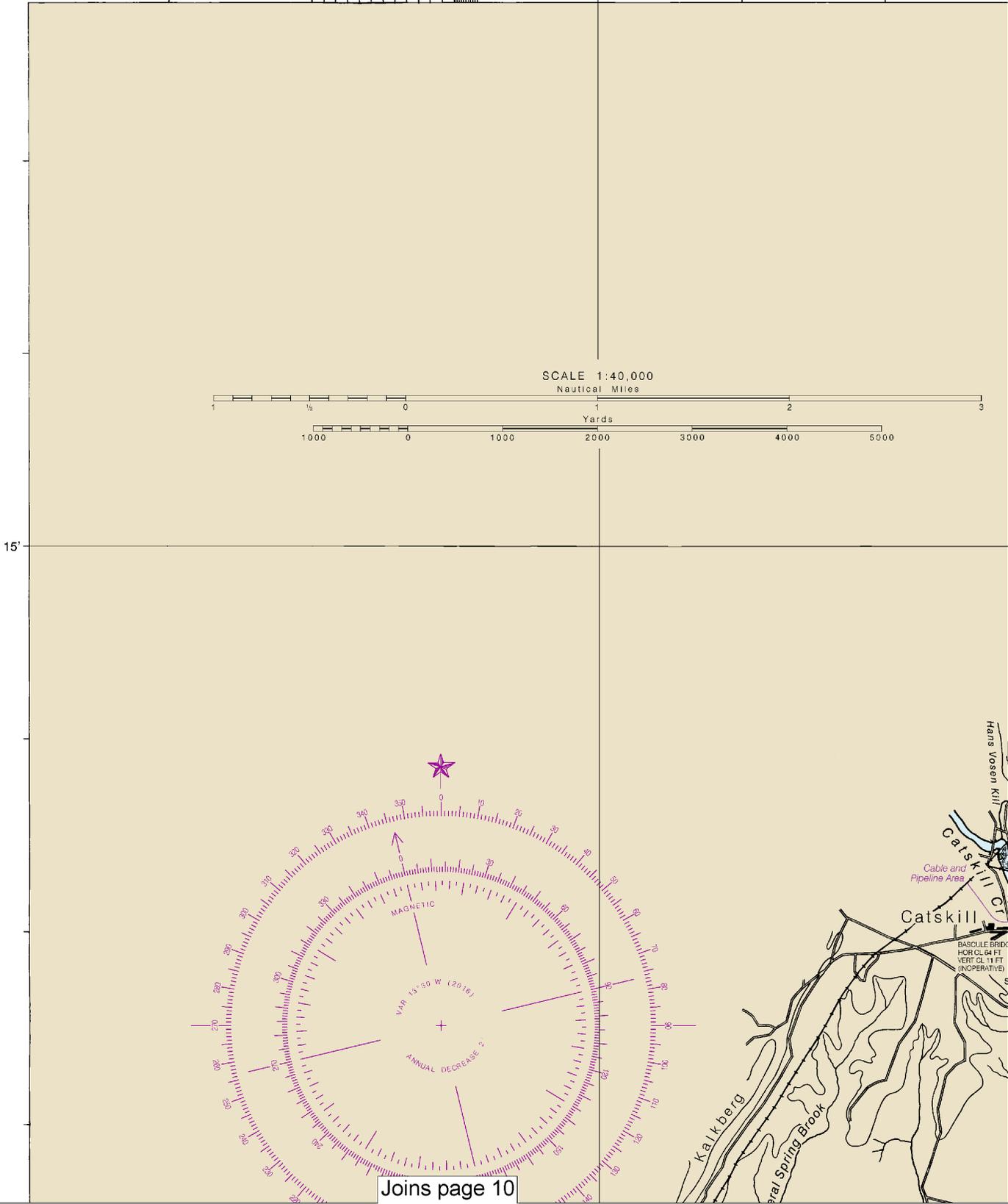
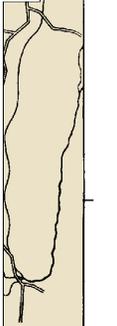


This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:53333. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.

57' 45' 30' 15' 56' 50' 55'



Joins page 5



Joins page 10

41°

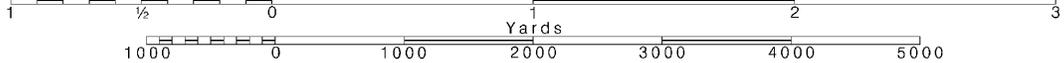


Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000 Nautical Miles

See Note on page 5.



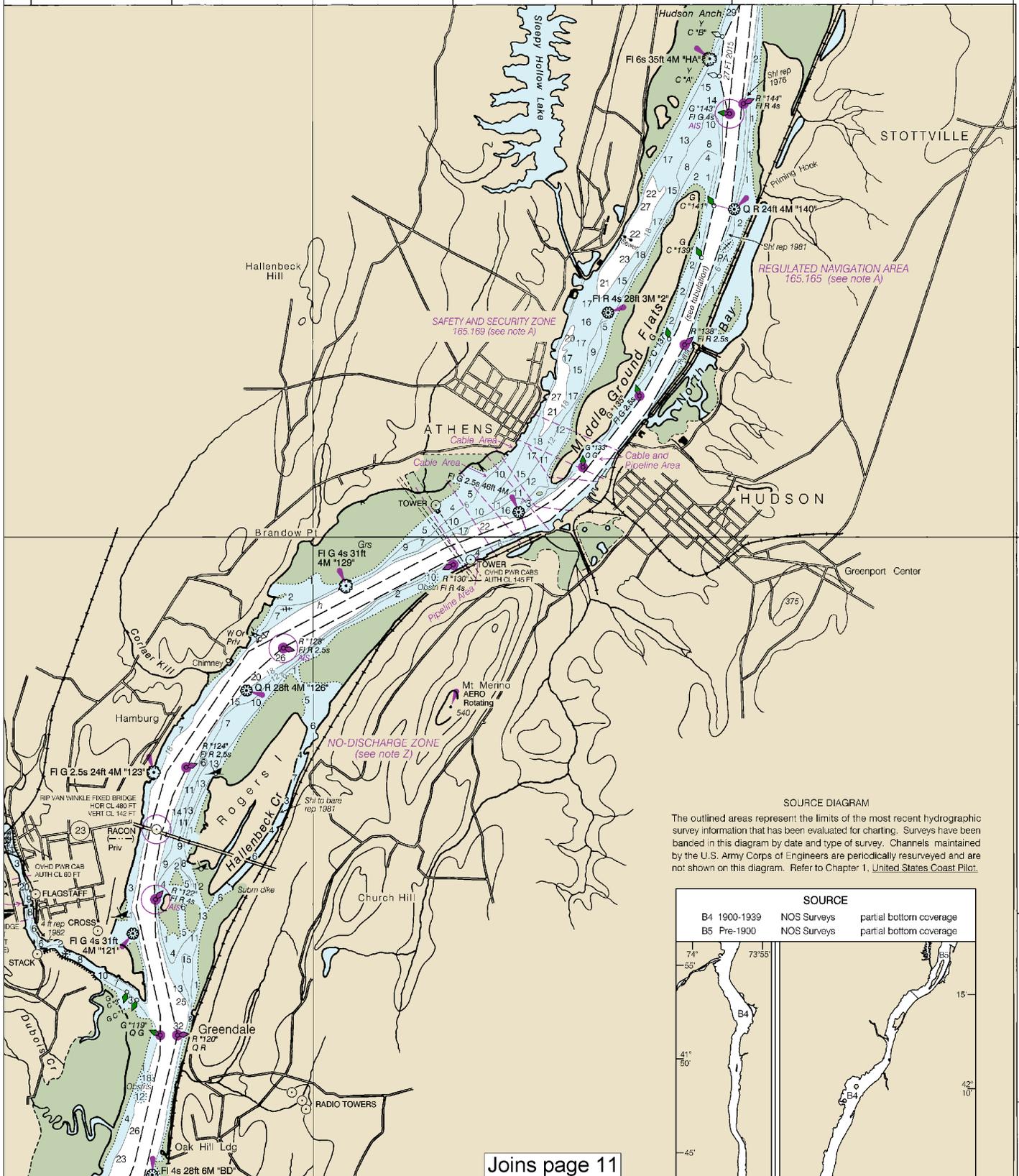
SOUNDINGS IN FEET

73° 50'

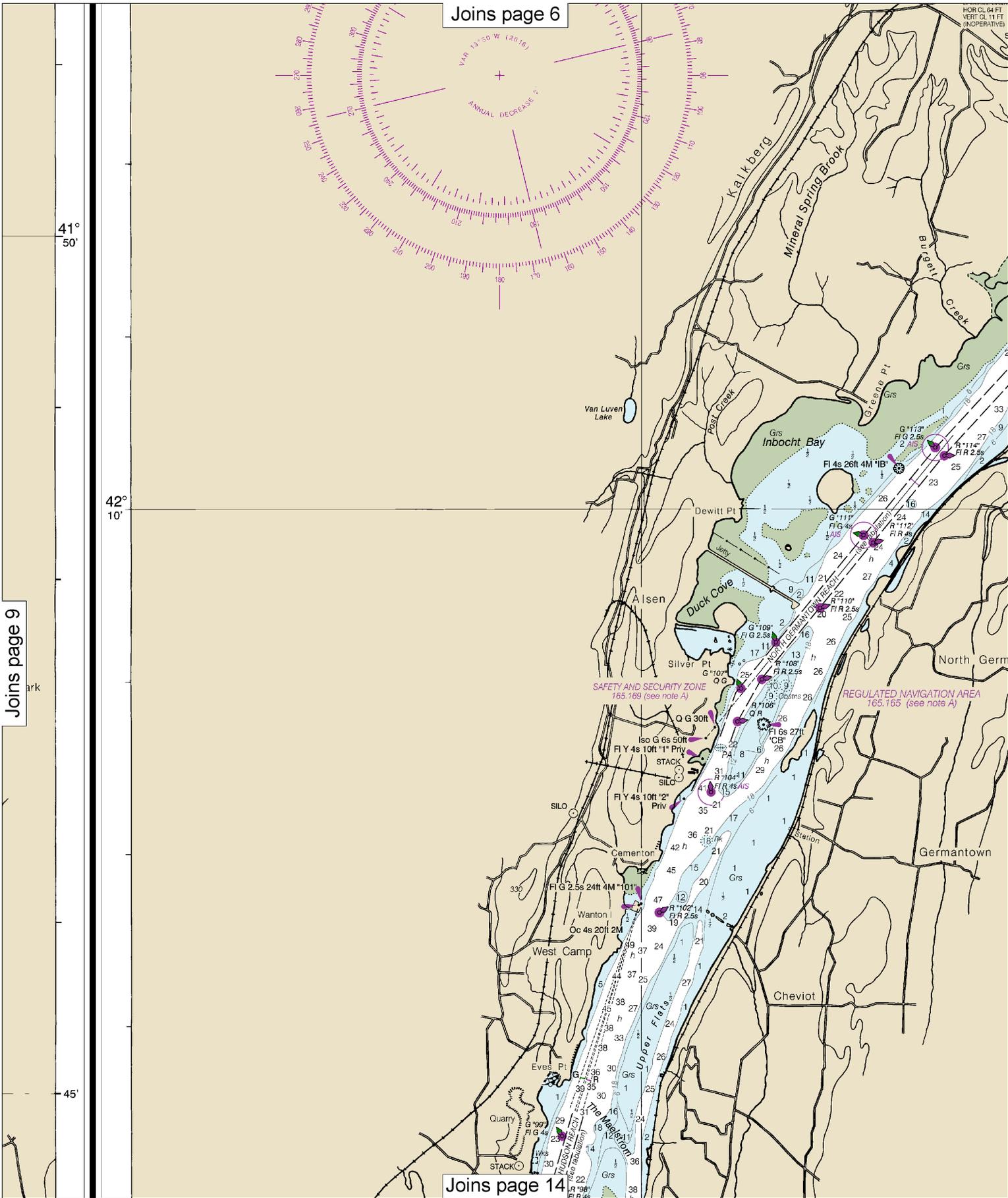
JOINS CHART 12348

45'

12347



31st Ed., Jul. 2010. Last Correction: 12/14/2016. Cleared through:
LNM: 4916 (12/6/2016), NM: 5116 (12/17/2016), CHS: 1116 (11/25/2016)

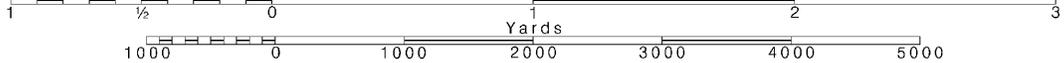


Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.

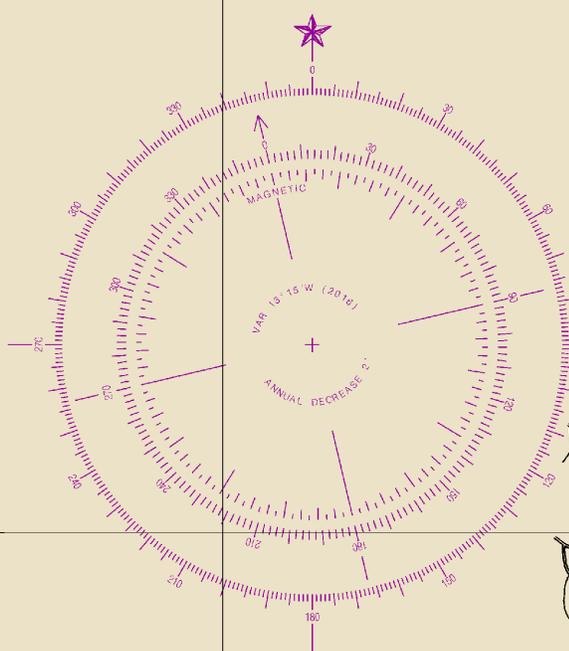


45°

45°

CAUTION
POTABLE WATER INTAKE ZONE
 Zone extends from the southern end of Houghtaling Island southward to the line formed by Roseton on the west shore and Low Point on the east shore in the vicinity of Chelsea, New York. Vessels operating in this zone shall not discharge sewage, ballast, or bilge water (40 CFR 140). Consult U.S. Coast Pilot 6 for important supplemental information.

⊙ RADIO TOWER



Highland

REGULATED NAVIGATION AREA
 165.765 (see note A)

Cable and Pipeline Area
 Highland Ldg
 FIXED BRIDGE
 HOR CL 490 FT (C SPAN)
 VERT CL 167 FT

BRIDGE PIER
 Subm pile
 rep (1971)
 63 48 51
 53 39
 59 169
 2.88 51
 68 54
 57 53

MID HUDSON SUSPENSION BRIDGE
 VERT CL 134 FT FOR MIDDLE 1930 FT

POUGHKEEPSIE

⊙ RADIO TOWER

SPIRE

HORN PW

RACON (---)

STACK

FOX Pt

Tanks

Blue Pt

Mine Pt

TOMB

MILTON

NORTH TANK

41°
40'

41°
40'

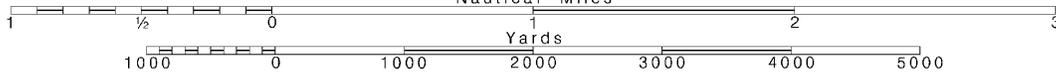
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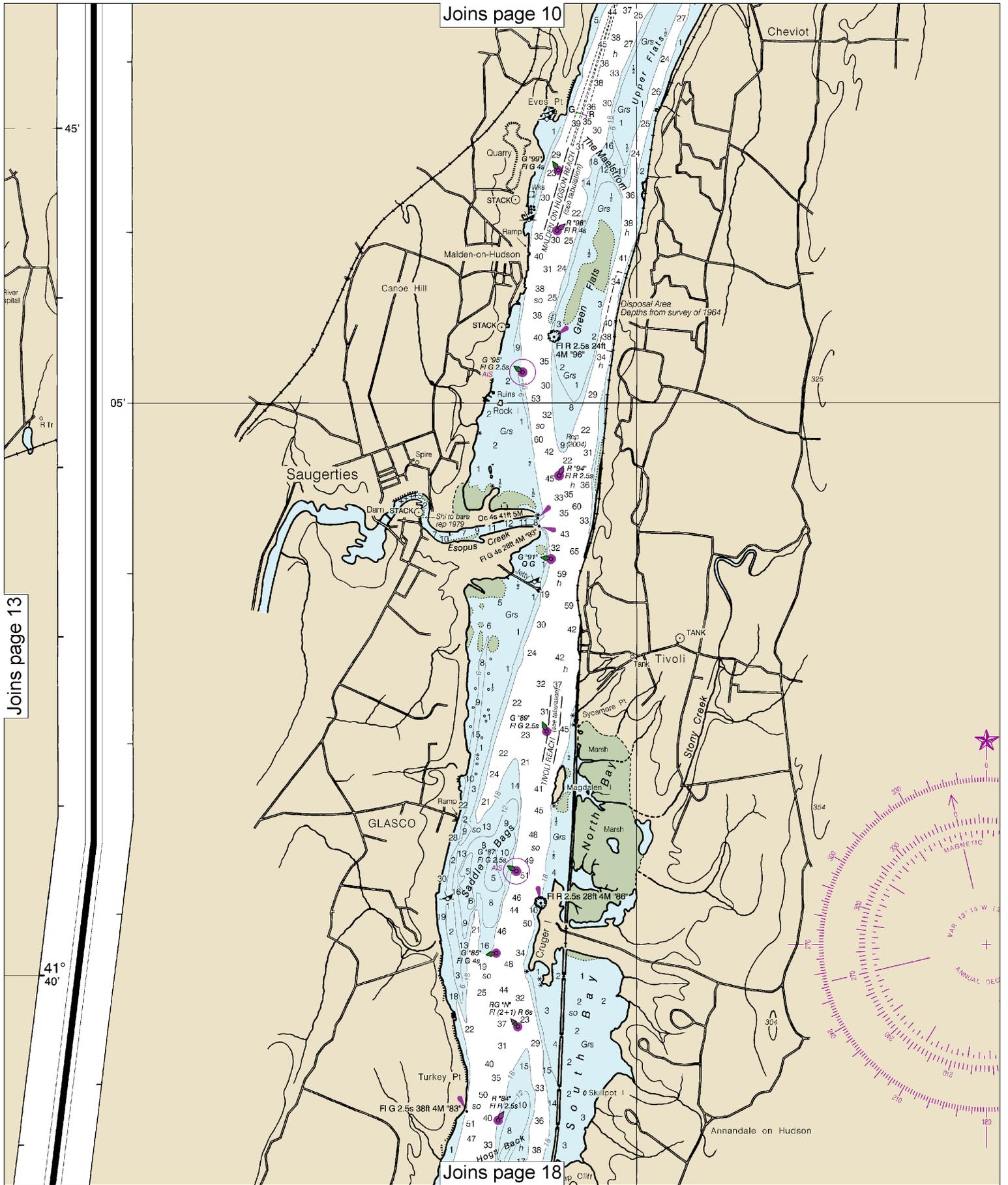
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
 Nautical Miles

See Note on page 5.





Joins page 13

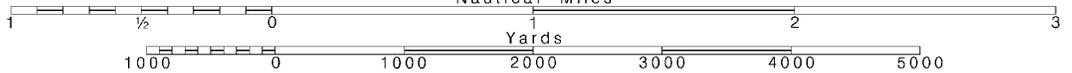
14

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.



HEIGHTS

Heights in feet above Mean High Water.

Additional information can be obtained at nauticalcharts.noaa.gov.

AUTHORITIES

Hydrography and topography by the National Ocean Service, Coast Survey, with additional data from the Corps of Engineers, U.S. Coast Guard, and National Geospatial-Intelligence Agency.

TIDAL INFORMATION

NAME	PLACE (LAT/LONG)	Height referred to datum of soundings (MLLW)		
		Mean Higher High Water	Mean High Water	Mean Low Water
Now Hamburg	(41°35'N/73°57'W)	3.3	3.0	0.1
Poughkeepsie	(41°42'N/73°57'W)	3.5	3.3	0.2
Kingston	(41°55'N/73°59'W)	4.2	3.9	0.2
Tivoli	(42°04'N/73°56'W)	4.2	3.9	0.2

Dashes (---) located in datum columns indicate unavailable datum values for a tide station. Real-time water levels, tide predictions, and tidal current predictions are available on the internet from <http://tidesandcurrents.noaa.gov>. (Apr 2010)

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.331' northward and 1.510' eastward to agree with this chart.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 2 for important supplemental information.

POLLUTION REPORTS

Report all spills of oil and hazardous substances to the National Response Center via 1-800-424-8802 (toll free), or to the nearest U.S. Coast Guard facility if telephone communication is impossible (33 CFR 153).

CAUTION

Improved channels shown by broken lines are subject to shoaling, particularly at the edges.

CAUTION

POTABLE WATER INTAKE

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental information.

CAUTION

Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution. Station positions are shown thus:
 ○ (Accurate location) ◐ (Approximate location)

CAUTION

Temporary changes or defects in aids to navigation are not indicated on this chart. See Local Notice to Mariners.

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details see U.S. Coast Guard Light List.

AIDS TO NAVIGATION

Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation.

RADAR REFLECTORS

Radar reflectors have been placed on many floating aids to navigation. Individual radar reflector identification on these aids has been omitted from this chart.

WARNING

The prudent mariner will not rely solely on any single aid to navigation, particularly on floating aids. See U.S. Coast Guard Light List and U.S. Coast Pilot for details.

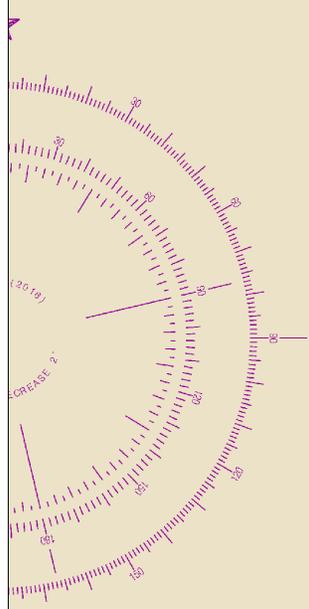
CAUTION

BASCULE BRIDGE CLEARANCES

For bascule bridges, whose spans do not open to a full upright or vertical position, unlimited vertical clearance is not available for the entire charted horizontal clearance.

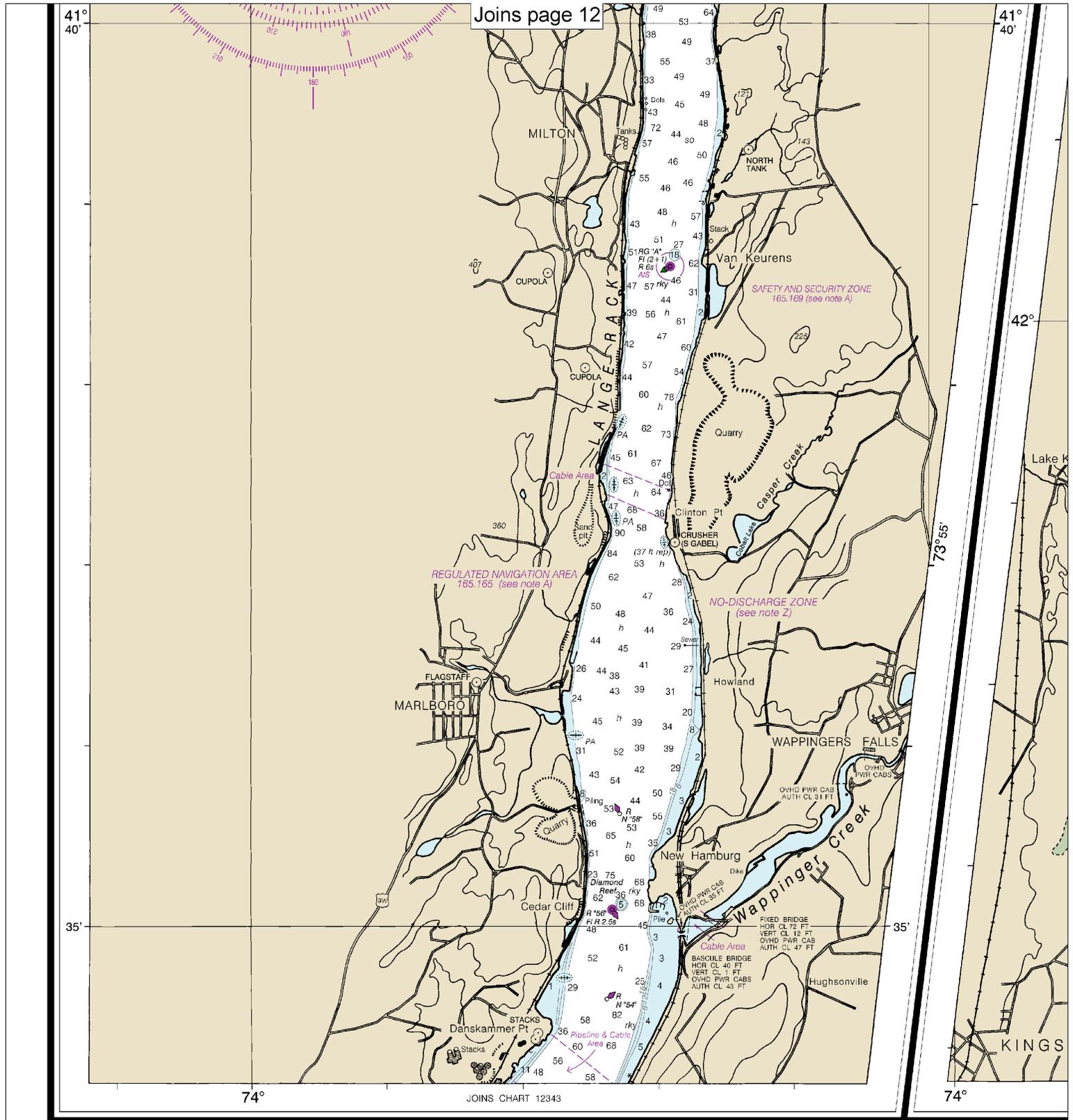
CAUTION

Mariners are warned to stay clear of the protective riprap surrounding navigational light structures shown thus: 



HUDSON RIVER CHANNEL DEPTHS						
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF NOV 2015 AND SURVEYS TO SEP 2015						
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)				PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES) DEPTH (FEET)
KINGSTON POINT REACH	34.0	28.5	28.4	9-15	400	2.2 32
BARRYTOWN REACH	33.9	31.2	30.2	9-15	400	0.9 32
TIVOLI REACH	28.8	30.4	33.5	9-15	400	0.4 32
WALDEN ON HUDSON REACH	32.8	28.2	29.0	9-15	400	0.5 32
NORTH GERMANTOWN REACH	28.6	28.4	29.0	9-15	400	2.0 32
NORTH GERMANTOWN REACH TO HUDSON CITY LIGHT	32.6	27.7	27.1	9-15	400	6.4 32
HUDSON CITY LIGHT TO HUDSON RIVER LIGHT "140"	27.4	29.1	36.6	9-15	400	2.1 32
HUDSON RIVER LIGHT "140" TO FOURMILE POINT (CHART 12348)	27.1	30.1	30.1	9-15	400	1.5 32

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION



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JOINS CHART 12343

12347

CAUTION

This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

31st Ed., Jul. 2010. Last Correction: 12/14/2016. Cleared through:
 LNM: 4916 (12/6/2016), NM: 5116 (12/17/2016), CHS: 1116 (11/25/2016)

16

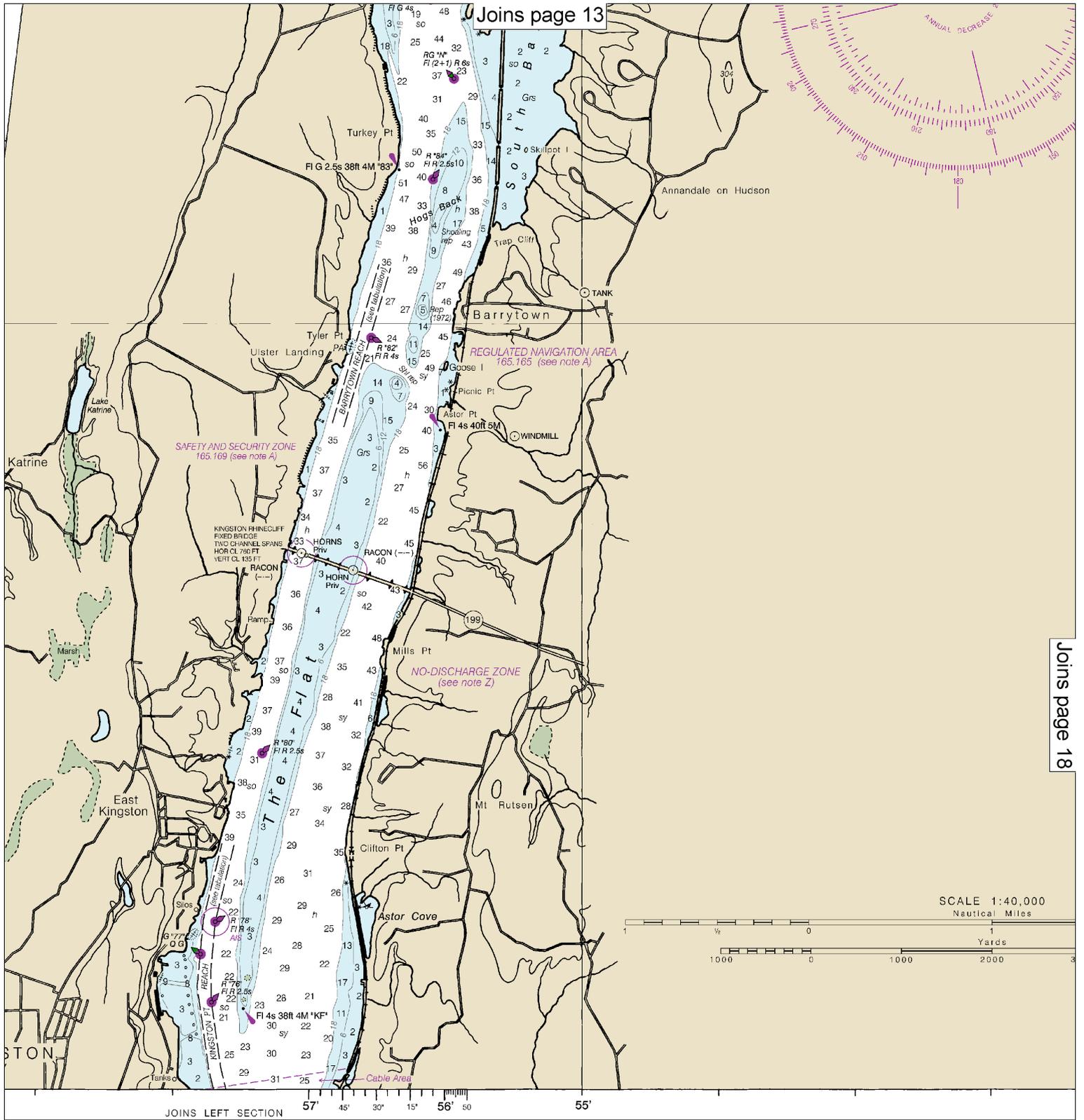
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

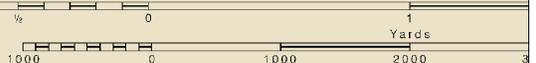
SCALE 1:40,000
Nautical Miles

See Note on page 5.





SCALE 1:40,000
Nautical Miles

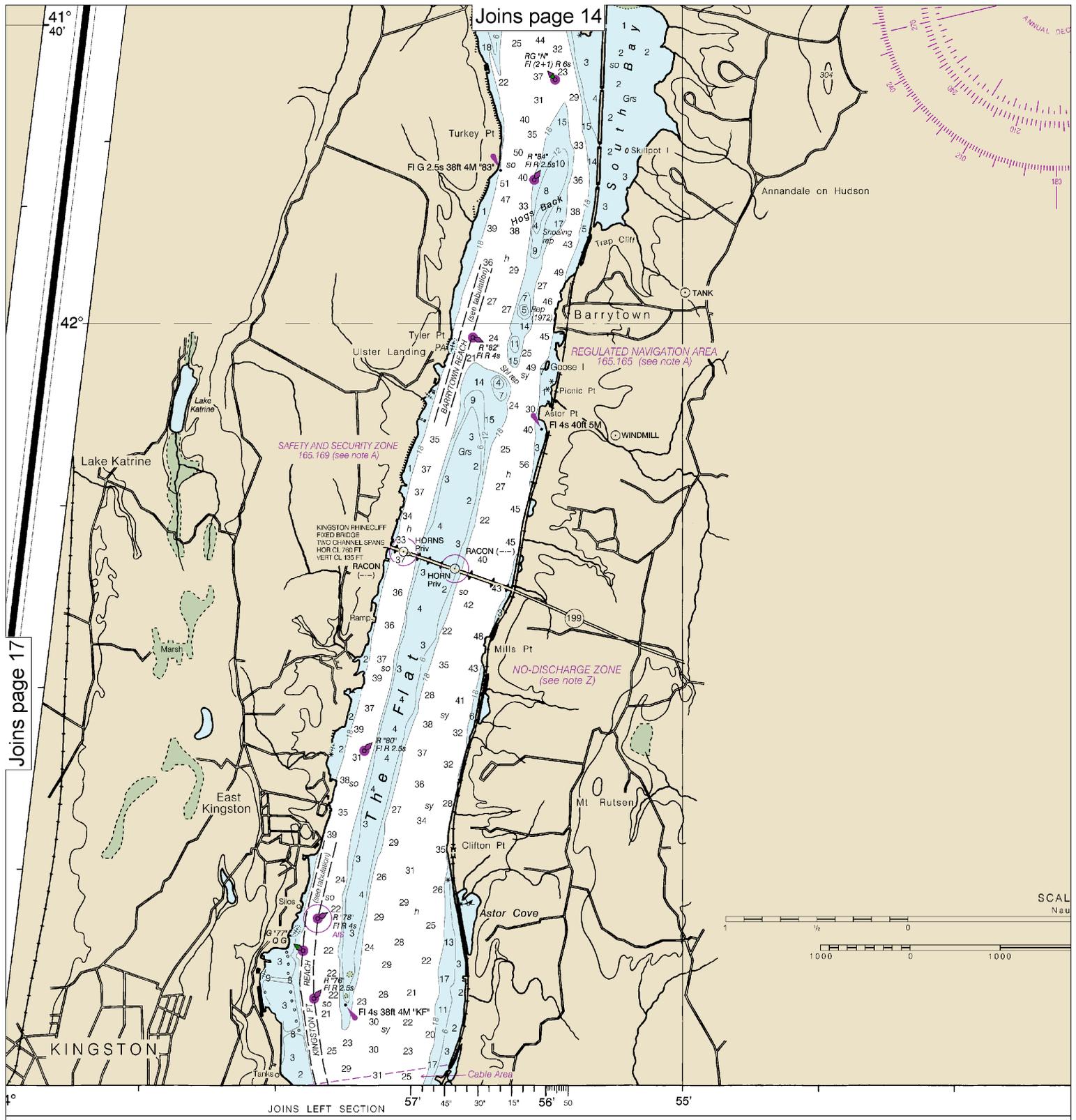


JOINS LEFT SECTION

UNDINGS IN FEET

Published at Washington, D.C.
 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

FATHOMS	1	2	3	4	5	6	7	8
FEET	6	12	18	24	30	36	42	48
METERS	1	2	3	4	5	6	7	8



Joins page 17

Joins page 14

SOUNDINGS IN FEET

Published at Washington, D.C.
 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

FATHOMS	1	2	3
FEET	6	12	18
METERS	1	2	3

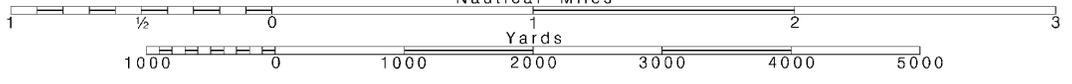
18

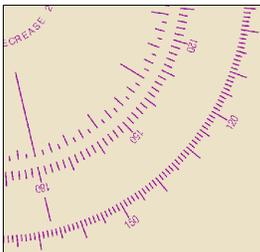
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.





NAME OF CHANNEL	CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)			DATE OF SURVEY	PROJECT DIMENSIONS		
	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER		WIDTH (FEET)	LENGTH (NAUT. MILES)	DEPTH (FEET)
KINGSTON POINT REACH	34.0	28.5	28.4	9-15	400	2.2	32
BARRYTOWN REACH	33.9	31.2	30.2	9-15	400	0.9	32
TIVOLI REACH	28.8	30.4	33.5	9-15	400	0.4	32
WALDEN ON HUDSON REACH	32.8	28.2	29.0	9-15	400	0.5	32
NORTH GERMANTOWN REACH	28.6	28.4	29.0	9-15	400	2.0	32
NORTH GERMANTOWN REACH TO HUDSON CITY LIGHT	32.6	27.7	27.1	9-15	400	6.4	32
HUDSON CITY LIGHT TO HUDSON RIVER LIGHT "140"	27.4	28.1	36.6	9-15	400	2.1	32
HUDSON RIVER LIGHT "140" TO FOURMILE POINT (CHART 12348)	27.1	30.1	30.1	9-15	400	1.5	32

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 2. Additions or revisions to Chapter 2 are published in the Notice to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 1st Coast Guard District in Boston, MA or at the Office of the Division Engineer, Corps of Engineers in New York, NY.
Refer to charted regulation section numbers.

CAUTION

SUBMARINE PIPELINES AND CABLES

Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:



Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels in depths of water comparable to their draft in areas where pipelines and cables may exist, and when anchoring, dragging, or trawling.
Covered wells may be marked by lighted or unlighted buoys.

**NOTE Z
NO-DISCHARGE ZONE, 40 CFR 140**

The State of New York waters in the Hudson River the Battery in Manhattan to the Federal Dam in Troy designated a No-Discharge Zone (NDZ).

Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.

NOAA WEATHER RADIO BROADCASTS

The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Kingston, NY	WXL-37	162.475 MHz
Albany, NY	WXL-34	162.550 MHz

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	iso isophase	OBSC obscured	s seconds
Bn beacon	LI HO lighthouse	OC occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphane	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
F flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

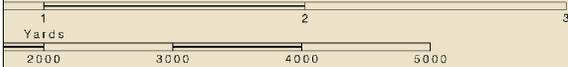
Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstr obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

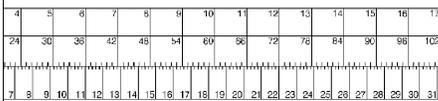
(1) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

Scale 1:40,000
Nautical Miles



73° 50'

45'



Hudson River - Wappinger Creek to Hudson
SOUNDINGS IN FEET - SCALE 1:40,000

12347



EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.

Channel 9 – Communications between boats and ship-to-coast.

Channel 13 – Navigation purposes at bridges, locks, and harbors.

Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.

Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.

Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help – Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!



NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.

<http://www.nws.noaa.gov/nwr/>

Quick References

- Nautical chart related products and information — <http://www.nauticalcharts.noaa.gov>
- Interactive chart catalog — <http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml>
- Report a chart discrepancy — <http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx>
- Chart and chart related inquiries and comments — <http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs>
- Chart updates (LNM and NM corrections) — http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
- Coast Pilot online — <http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm>
- Tides and Currents — <http://tidesandcurrents.noaa.gov>
- Marine Forecasts — <http://www.nws.noaa.gov/om/marine/home.htm>
- National Data Buoy Center — <http://www.ndbc.noaa.gov/>
- NowCoast web portal for coastal conditions — <http://www.nowcoast.noaa.gov/>
- National Weather Service — <http://www.weather.gov/>
- National Hurricane Center — <http://www.nhc.noaa.gov/>
- Pacific Tsunami Warning Center — <http://ptwc.weather.gov/>
- Contact Us — <http://www.nauticalcharts.noaa.gov/staff/contact.htm>



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