

BookletChart™

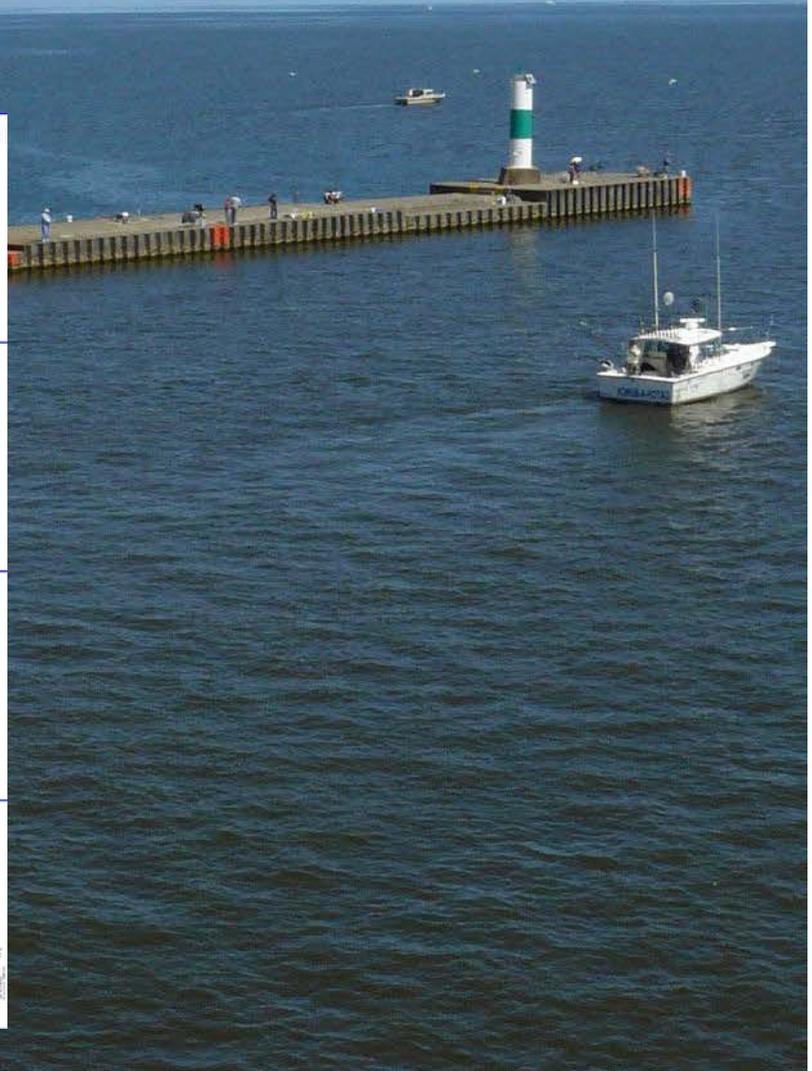
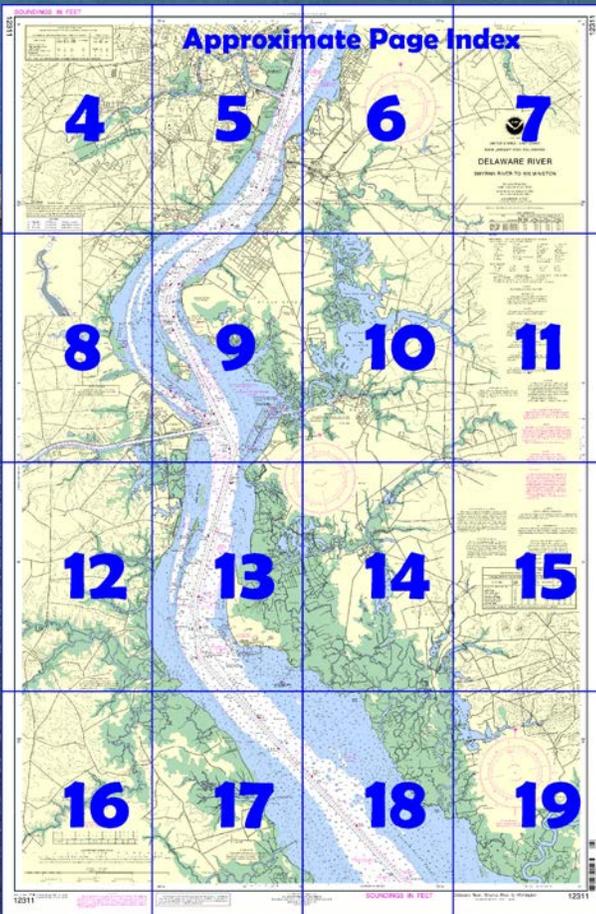


Delaware Bay – Smyrna River to Wilmington NOAA Chart 12311

*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.

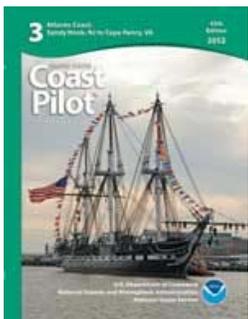
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

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=12311>



(Selected Excerpts from Coast Pilot)

Artificial Island. The domes of the Salem Nuclear Power Plant, at the south end of the island, are prominent. An unmarked channel leads to a basin south of the powerplant; 18 feet was reported in the channel and basin. **Alloway Creek** has a depth of 3 feet to Quinton. The approach is unmarked. The shoals on either side of the mouth must be avoided. Above the mouth, the best water is not always in midstream, and local

knowledge is needed. The current velocity is 2.1 knots 0.2 mile above the entrance and 1.4 knots at New Bridge.

The Mill Street bridge at **Hancocks Bridge** has a clearance of 4 feet. Salem County Bridge at **New Bridge** has a clearance of 3 feet. The State

Route 49 bridge at **Quinton** has a clearance of 3 feet. The bridge is in the closed position.

Salem River is entered through **Salem Cove** across from the Chesapeake and Delaware Canal. The approach channel is marked by a lighted buoy, lights, and a lighted **027.3°** range; the depth was 13.4 feet (15.4 feet at midchannel) to Light 14; 12.2 feet through the landcut with 14 to 16 feet in the basin; 16.0 feet to near the bridge at Salem. Above the bridge the depths were 2 feet or less.

Several marinas and boatyards are along the north bend of Salem River and at Salem; slips, gasoline, and marine supplies are available.

Appoquinimink River is used by pleasure craft. Controlling depth to Odessa is 2 feet. The current velocity in the entrance is 1.1 knots. The bridge 3 miles above the mouth has a clearance of 6 feet. The bridge at **Odessa** has a clearance of 4 feet.

Reedy Island. The pier on the channel side of the island has a depth of 10 feet; the current velocity is about 2.5 knots off the pier. A submerged dike extends 3 miles southward from Reedy Island and parallels the western shore; the dike is marked by lights, and unlighted seasonal warning buoys.

Port Penn. The approach, through the Reedy Island dike south of the island, is 5 feet deep and 150 feet wide, and marked on each side by a daybeacon. Approaches to the village from north of Reedy Island or from south of the dike are over flats with depths of 2 feet. Anchorage depths off Port Penn are 15 feet or more.

Delaware City Branch Channel. A light marks the entrance to Delaware City Branch Channel; the controlling depth was 5 feet in the channel entrance from the Delaware River shoaling rapidly along the sides; thence the controlling depth was 6 feet in the channel. Depths alongside the Delaware City bulkhead were 7½ feet to bare. The entrance channel at the Chesapeake and Delaware Canal end was reported to have a depth of 7 feet. Mariners are cautioned to stay inside the north and south entrance channels.

A highway bridge with a clearance of 6 feet crosses the channel 0.6 mile above the entrance; the bridge is maintained in the closed position. Berths, gasoline, diesel fuel, ice, and marine supplies are available on the west side of Delaware City Branch Channel southwest of the northeast entrance.

Anchorage.—Vessels must not anchor in Christina River channel within the city limits of Wilmington or tieup at any wharf more than two abreast without permission of the harbor commissioners. A general anchorage is off Deepwater Point, south of the river entrance. (See **110.1 and 110.157(a)(7) and (b)**, chapter 2, for limits and regulations, and page 391 for **Wilmington climatological table**.)

Bridges.—There are no bridges or overhead power cables over the deepwater section of Christina River. From Lobdell Canal to just above the bridge at Newport, 6.8 miles above the mouth, the least clearance of drawbridges is 2 feet and fixed bridges, 22 feet. (See **117.1 through 117.59 and 117.237**, chapter 2, for drawbridge regulations.) In May 2008, it was reported that the Christina River swing bridge at mile 5.4 was in ruins; caution is advised.

In 1984, partially submerged concrete structures of a former bridge were reported about 4.9 miles above the mouth of the river near Interstate 95 fixed bridge; caution is advised.

Currents.—The current velocity is about 0.8 knot at Wilmington.

Quarantine, customs, immigration, and agricultural quarantine.—(See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

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

RCC Norfolk	Commander	
	5th CG District	(575) 398-6231
	Norfolk, VA	

Navigation Managers Area of Responsibility



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

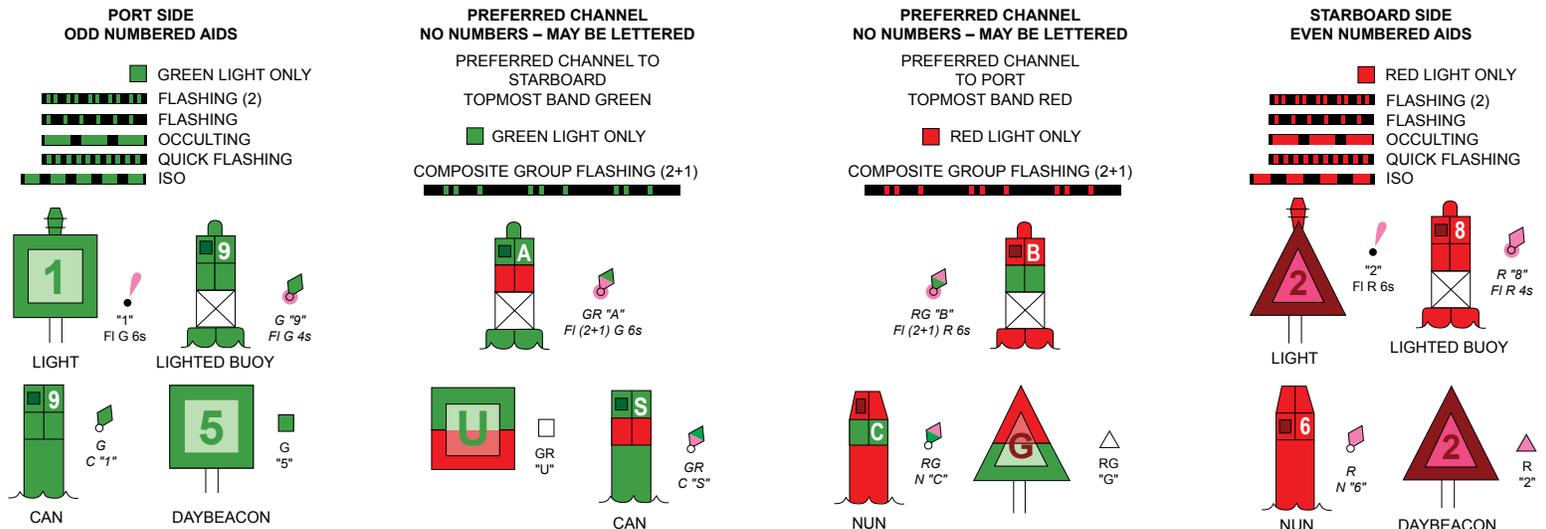
They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit nauticalcharts.noaa.gov/service/navmanagers

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

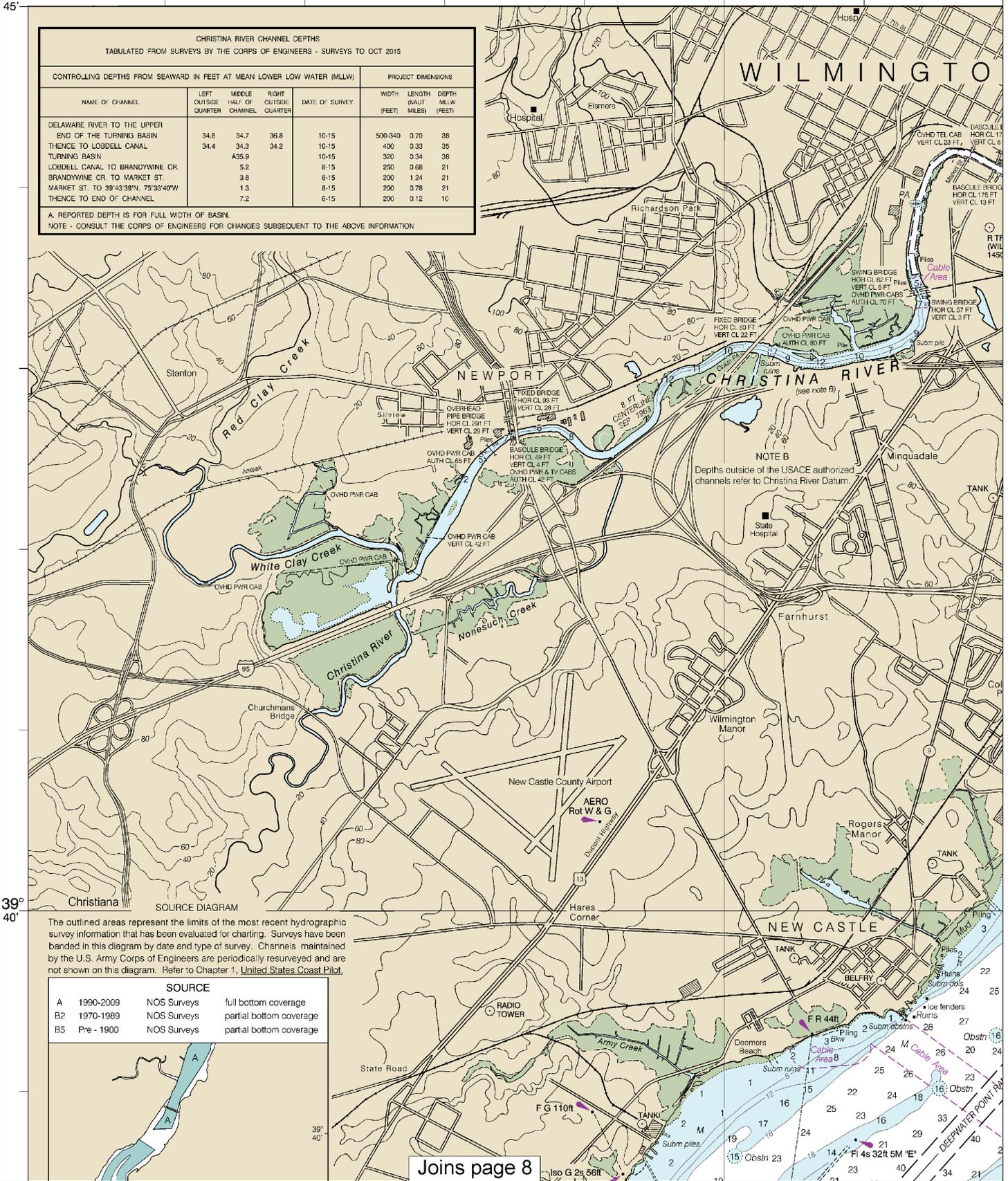


For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

SOUNDINGS IN FEET

12311

75° 35'



Joins page 8

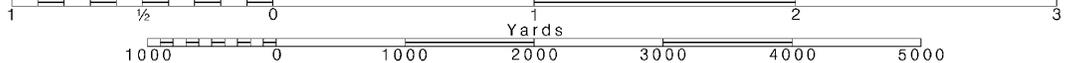
Printed at reduced scale.

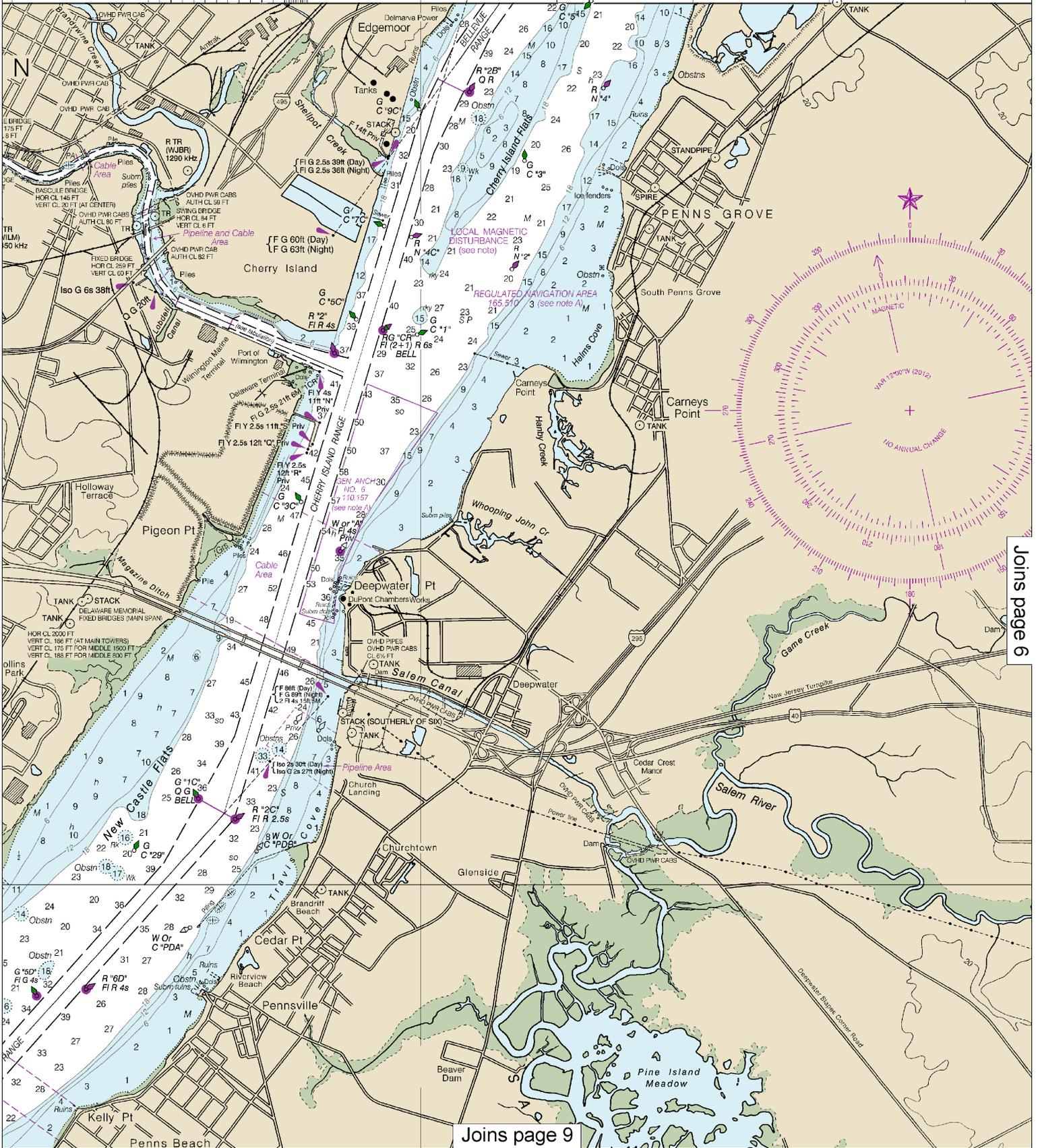
SCALE 1:40,000
Nautical Miles

See Note on page 5.

4

Note: Chart grid lines are aligned with true north.





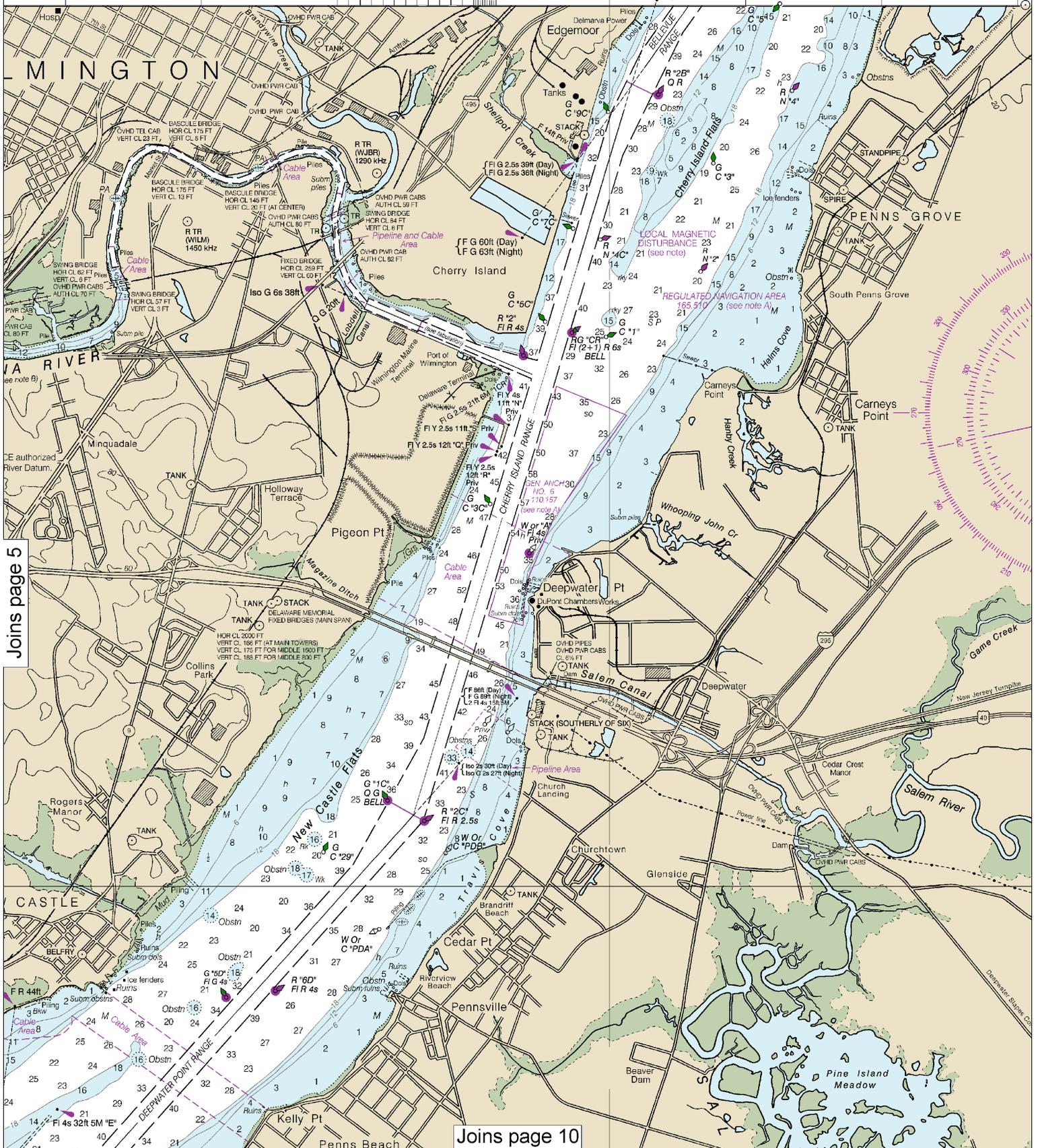
Joins page 6

Joins page 9

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.



32° 45' 30' 15' 31' 50' 30' Iso R 2s 50ft L 2 FI 4s 15ft 4M JOINS CHART 12312



Joins page 5

Joins page 10

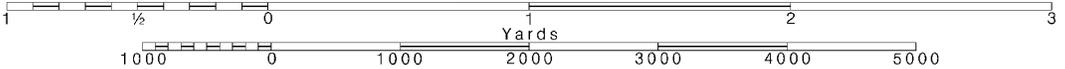


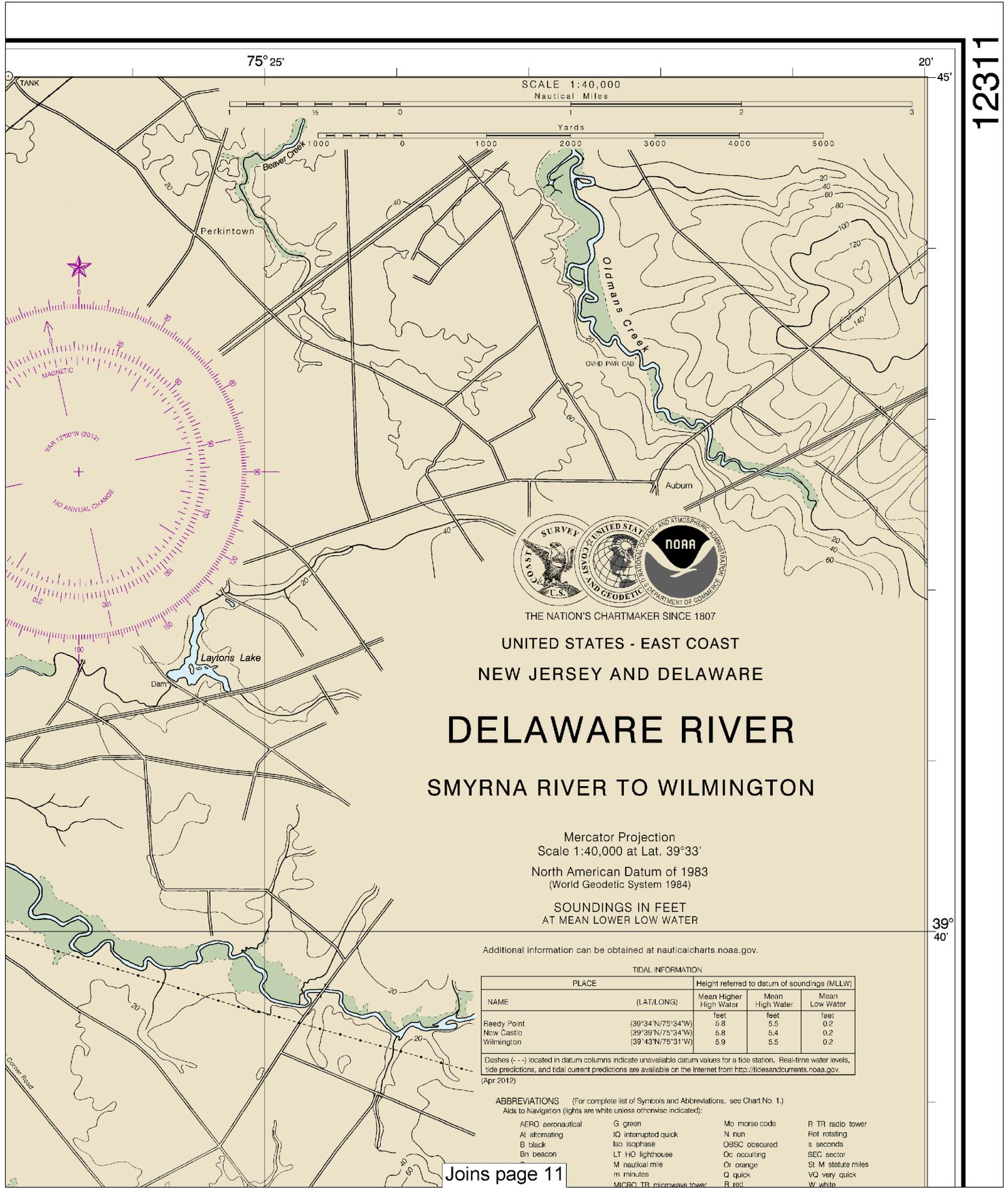
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.





75° 25' 20'

SCALE 1:40,000
Nautical Miles

Yards
1000 0 1000 2000 3000 4000 5000



THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - EAST COAST
NEW JERSEY AND DELAWARE

DELaware RIVER

SMYRNA RIVER TO WILMINGTON

Mercator Projection
Scale 1:40,000 at Lat. 39°33'
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

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

TIDAL INFORMATION

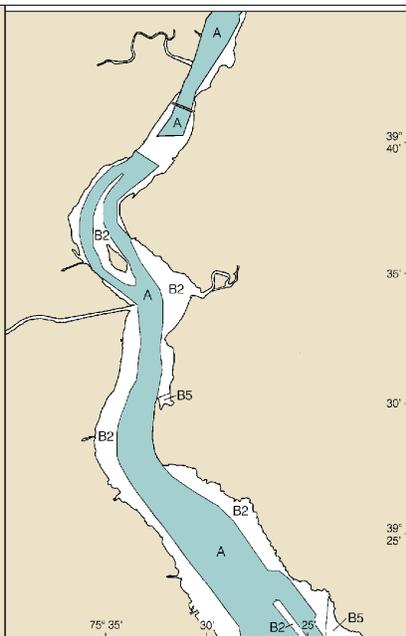
PLACE	NAME	(LAT/LONG)	Height referred to datum of soundings (MLLW)		
			Mean Higher High Water	Mean High Water	Mean Low Water
			feet	feet	feet
	Reedy Point	(39°34'N/75°34'W)	5.8	5.5	0.2
	New Castle	(39°39'N/75°34'W)	5.8	5.4	0.2
	Wilmington	(39°43'N/75°31'W)	5.9	5.5	0.2

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 2012)

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

- AFO aeronautical
- Al alternating
- B black
- Bn beacon
- G green
- IQ interrupted quick
- Isa isophase
- LT HO lighthouse
- M nautical mile
- m minutes
- MICRO TR microwave tower
- Mo morse code
- N nun
- OBSC obscured
- OC occulting
- Or orange
- Q quick
- R red
- R TR radio tower
- Rot rotating
- s seconds
- SEC sector
- St M statute miles
- VQ very quick
- W white

Joins page 11



PRIVATE CHANNELS
 Bulkhead Shoal Channel and the turning basin are projects of the Star Enterprise Co. Aids to navigation are private.



Note: Chart grid lines are aligned with true north.

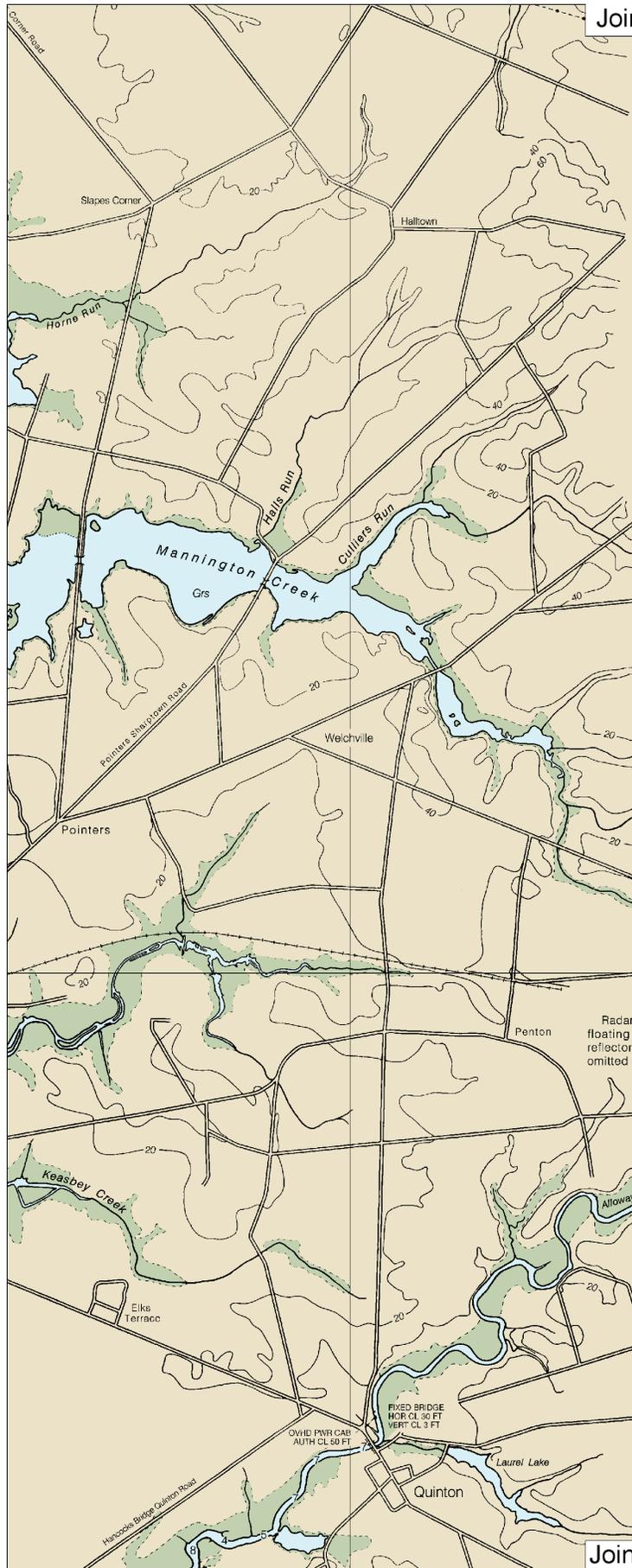
Printed at reduced scale.

SCALE 1:40,000
 Nautical Miles

See Note on page 5.



(Apr 2012)



ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

- | | | | |
|------------------|--------------------------|------------------------|--------------------|
| AFO aeronautical | G green | Mb moose code | R TR radio tower |
| Al alternating | IQ interrupted quick | N nun | Rot rotating |
| B black | Isb isophase | OBSC obscured | s seconds |
| Bn beacon | LT HO lighthouse | Oc occulting | SEC sector |
| C can | M nautical mile | Or orange | St M statute miles |
| DIA diaphone | m minutes | Q quick | VQ very quick |
| F fixed | MICRO TR microwave tower | R red | W white |
| Fl flashing | Mkr marker | Ra Ref radar reflector | WHIS whistle |
| | | R Bn radiobeacon | Y yellow |

Bottom characteristics:

- | | | | | |
|--------------|-----------|---------|-------------|-----------|
| Bls boulders | Co coral | Gy gray | Oys oysters | so soft |
| bk broken | G gravel | h hard | Rk rock | Sh shells |
| Oy clay | Grs grass | M mud | S sand | sy sticky |

Miscellaneous:

- | | | | |
|-----------------------|-------------------------|----------------------|-----------------|
| AUTH authorized | Obstn obstruction | PD position doubtful | Subrn 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.

AUTHORITIES

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

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.

CAUTION

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

HEIGHTS

Heights in feet above Mean High Water.

AIDS TO NAVIGATION

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

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 3 for important supplemental information.

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.

CAUTION

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

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.

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)

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 2° to 5° from the normal variation have been observed along the channel from Artificial Island, New Jersey to Marcus Hook, Pennsylvania.

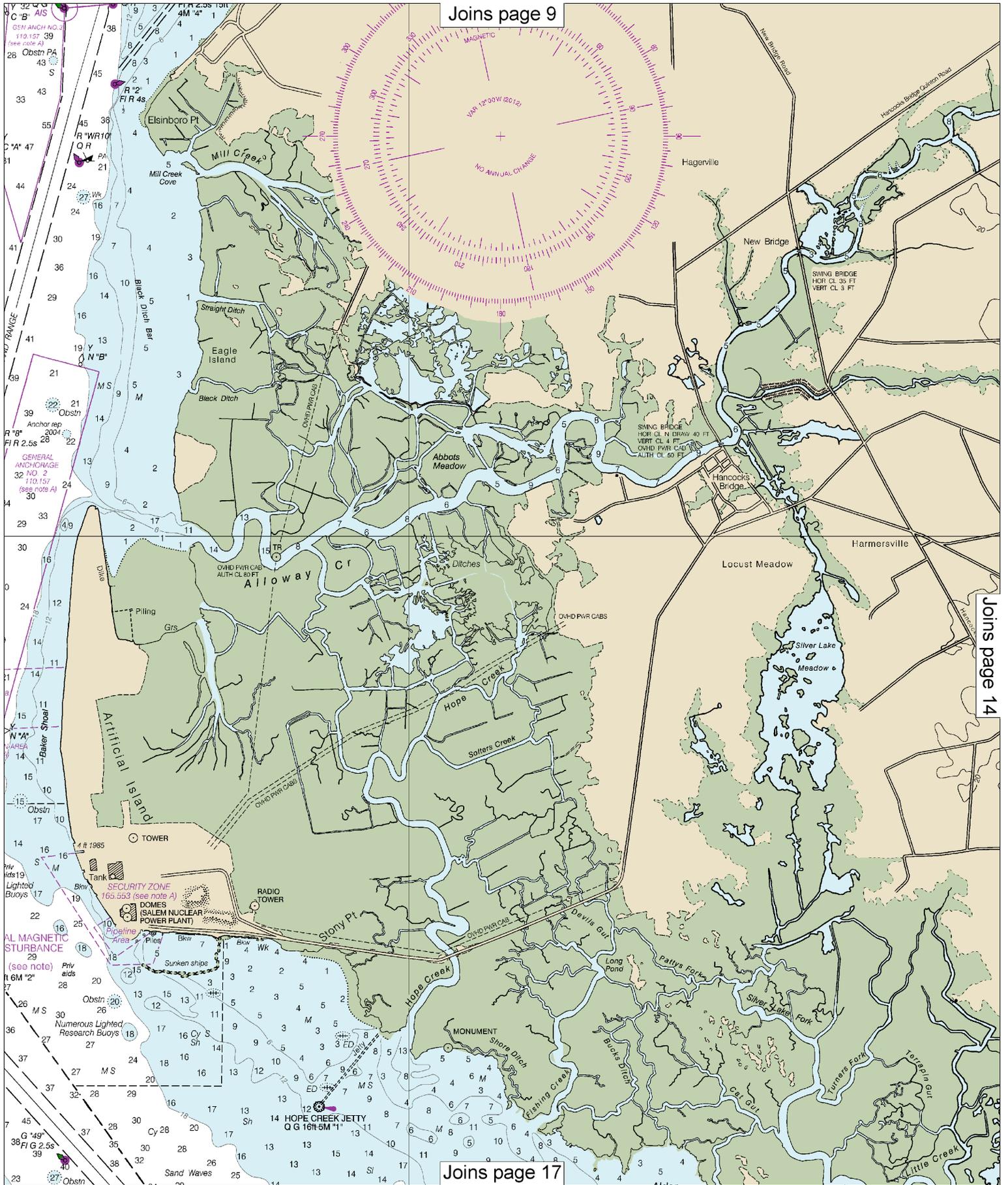
NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3. 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, 5th Coast Guard District in Portsmouth, Virginia or at the Office of the District Engineer, Corps of Engineers in Philadelphia, Pennsylvania.
Refer to charted regulation section numbers.

SALEM RIVER CHANNEL				
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 2014				
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)				PROJECT DIMENSIONS
LEFT SIDE OF CHANNEL	MIDDLE HALF OF	RIGHT SIDE OF	DATE OF SURVEY	WIDTH (FEET) LENGTH (NAUTICAL MLLW) DEPTH (FEET)

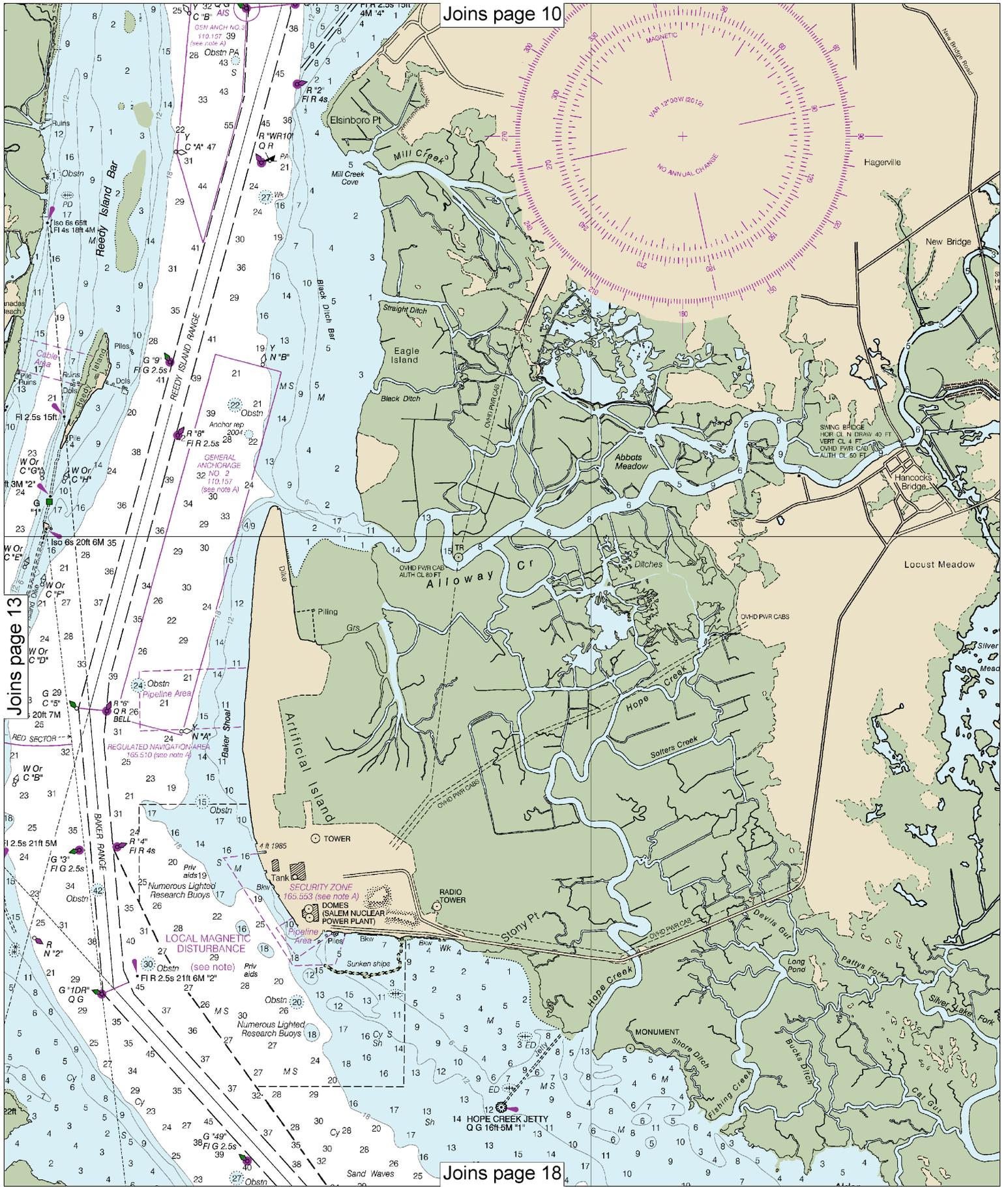
35'
34'
45'
30'
15'
33'
50'

Joins page 9



Joins page 14

Joins page 17

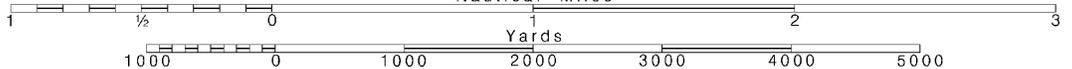


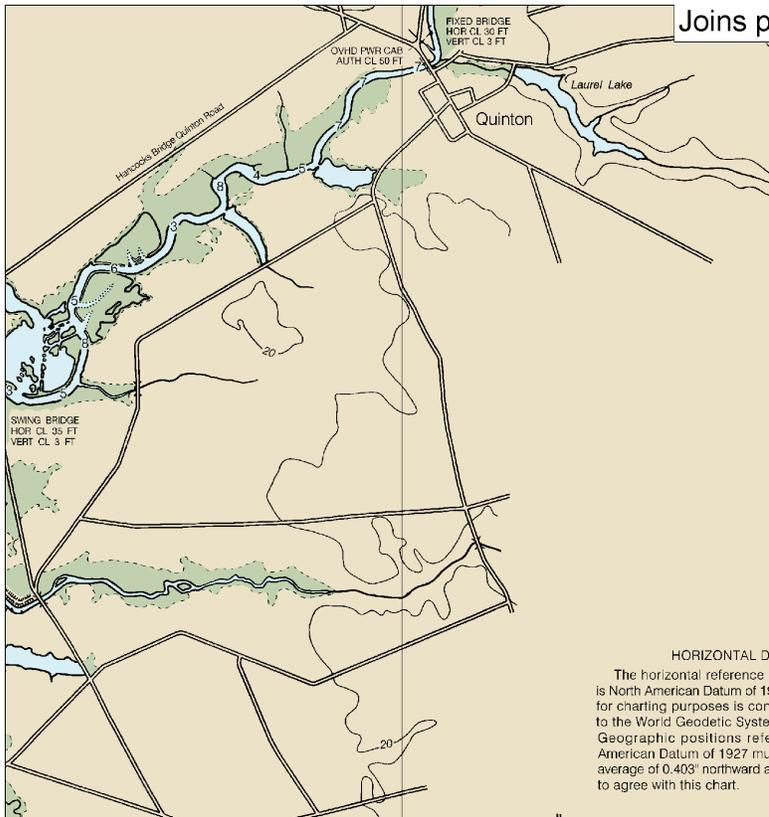
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.





SALEM RIVER CHANNEL						
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO AUG 2014						
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 (NAUTICAL MILES)	DEPTH (FEET)
ELSINBORO POINT TO OAKWOOD BEACH	13.4	12.4	11.9	8-14	150	1.48 16
OAKWOOD BEACH TO SINNICKSON LANDING	13.6	15.3	15.8	8-14	150	1.56 16
SINNICKSON LANDING TO END OF PROJECT	18.2	17.0	17.7	8-14	150	0.71 16
TURNING BASIN	80%		100%	8-14	320	0.2 16
	12.0	9.7				

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

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.

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).

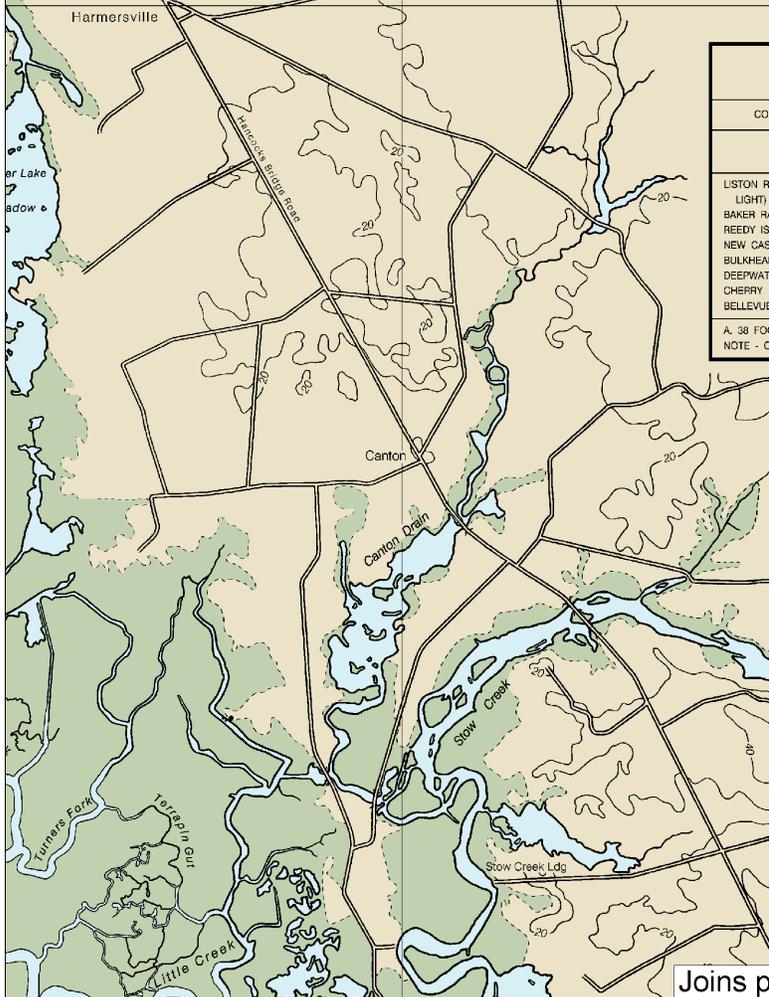
NOAA WEATHER RADIO BROADCASTS

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.

Philadelphia, PA	KIH-28	162.475 MHz
Lewes, DE	WXJ-94	162.550 MHz
Sudlersville, MD	WXK-97	162.500 MHz

HORIZONTAL DATUM

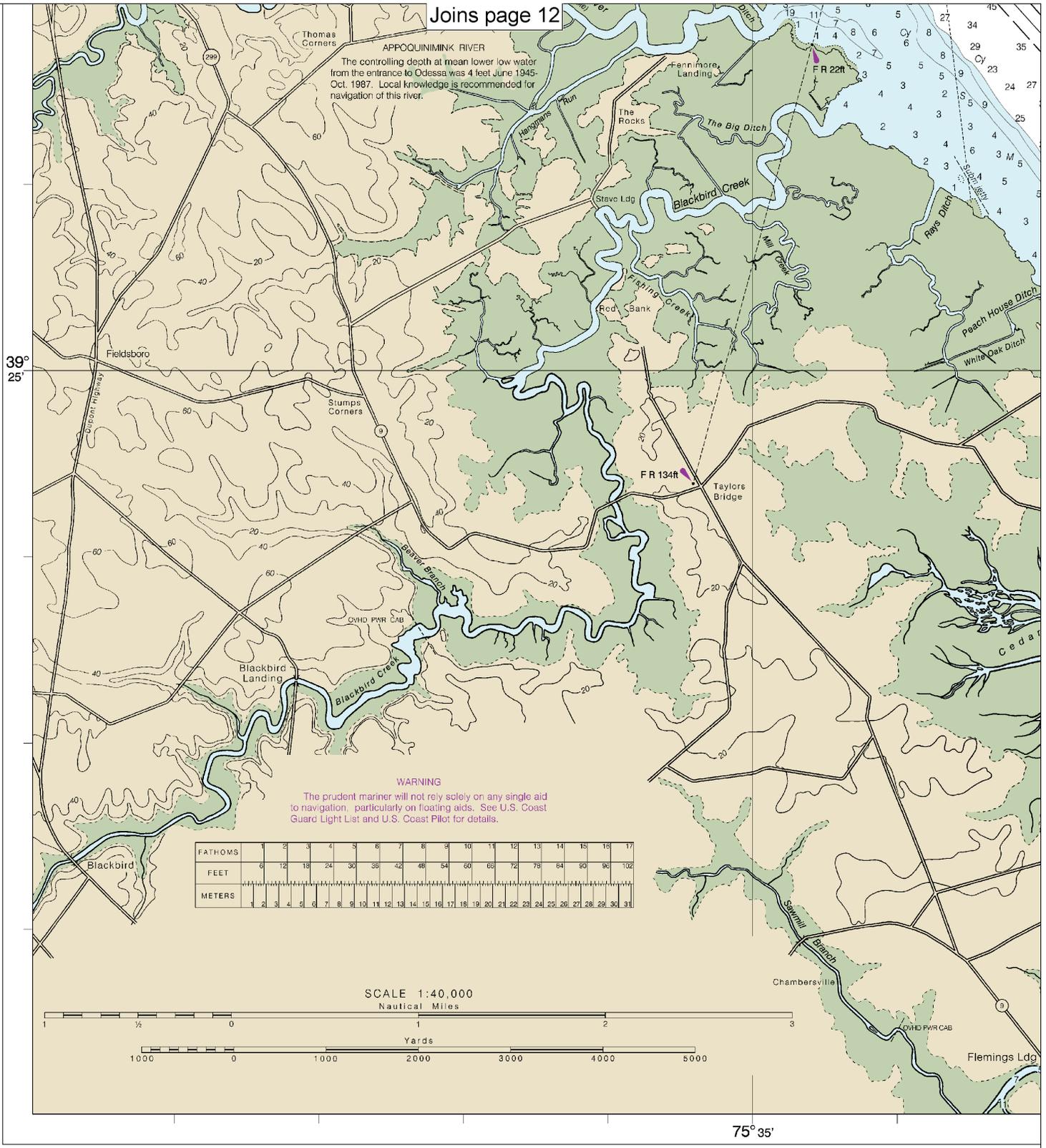
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.403' northward and 1.269' eastward to agree with this chart.



DELAWARE RIVER CHANNEL DEPTHS						
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF AUG 2014						
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)					PROJECT DIMENSIONS	
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	LEFT INSIDE QUARTER	RIGHT INSIDE QUARTER	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	DEPTH (FEET)
LISTON RANGE (ABOVE SHIP JOHN LIGHT)	41.5	42.6	42.9	41.6	4-14	1000-800 12.42 40
BAKER RANGE	38.1	44.5	43.9	39.5	3-14	800 1.65 40
REEDY ISLAND RANGE	38.0	40.9	41.8	41.2	2-14	800 4.28 40
NEW CASTLE RANGE	A40.0	40.7	40.7	38.0	6-14	800 4.34 40
BULKHEAD BAR RANGE	20.4	45.2	45.2	38.8	5-14	1600 5.56 40
DEEPWATER POINT RANGE	39.7	40.5	40.1	36.9	6-14	800 3.76 40
CHEERY ISLAND RANGE	42.6	44.0	43.8	43.1	6-14	800 4.33 40
BELLEVUE RANGE	40.3	42.2	43.1	41.9	9-13	800 3.05 40

A. 38 FOOT OBSTRUCTION LOCATED AT 39°33'15.5"N, 75°32'39.0"W.

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



FATHOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102
METERS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17

SCALE 1:40,000
Nautical Miles



12311

46th Ed., May 2012. Last Correction: 11/4/2016. Cleared through:
LNM: 4816 (11/29/2016), NM: 5016 (12/10/2016)

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.

NOAA encourages users to submit inquiries, discrepancies about this chart at <http://www.nauticalcharts.noaa.gov/staff/cont>

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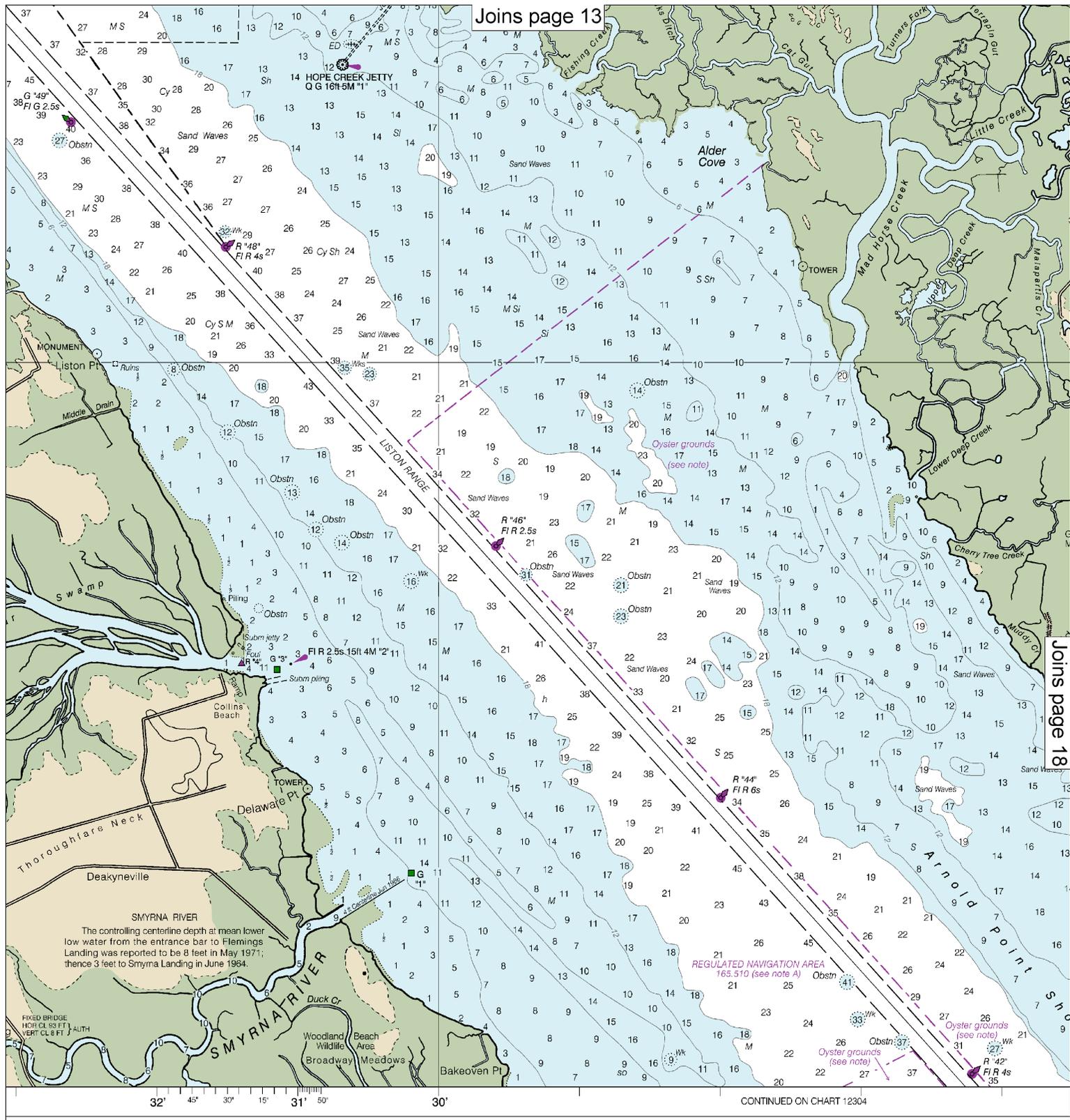
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.





SMYRNA RIVER
 The controlling centerline depth at mean lower low water from the entrance bar to Flemings Landing was reported to be 8 feet in May 1971; thence 3 feet to Smyrna Landing in June 1964.

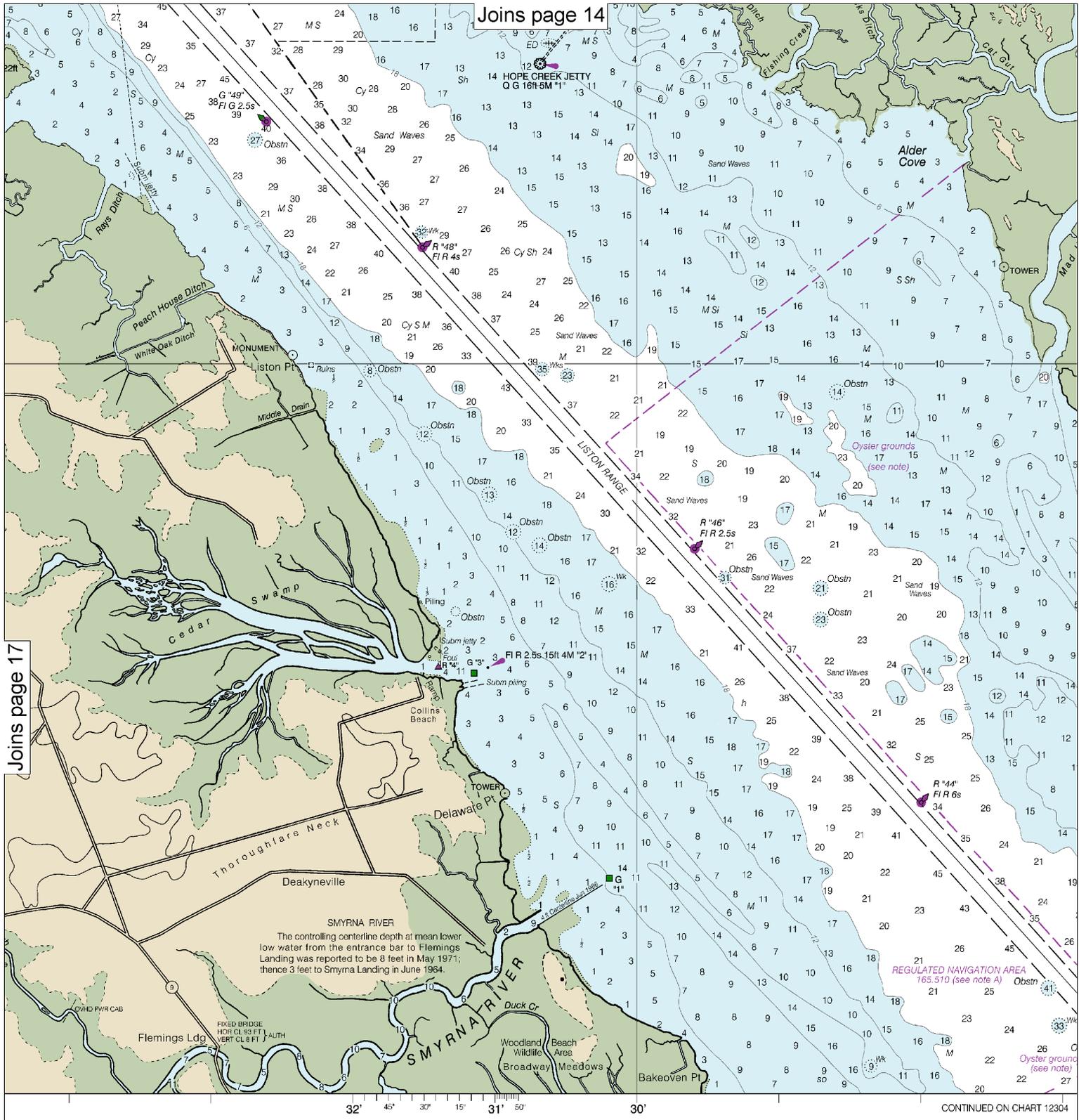
REGULATED NAVIGATION AREA
 165.510 (see note A)

CONTINUED ON CHART 12304

s or comments
 nctact.htm.

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

SOUNDINGS IN



Joins page 14

Joins page 17

CONTINUED ON CHART 12304

Encourages users to submit inquiries, discrepancies or comments at <http://www.nauticalcharts.noaa.gov/staff/contact.htm>.

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 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

SC

18

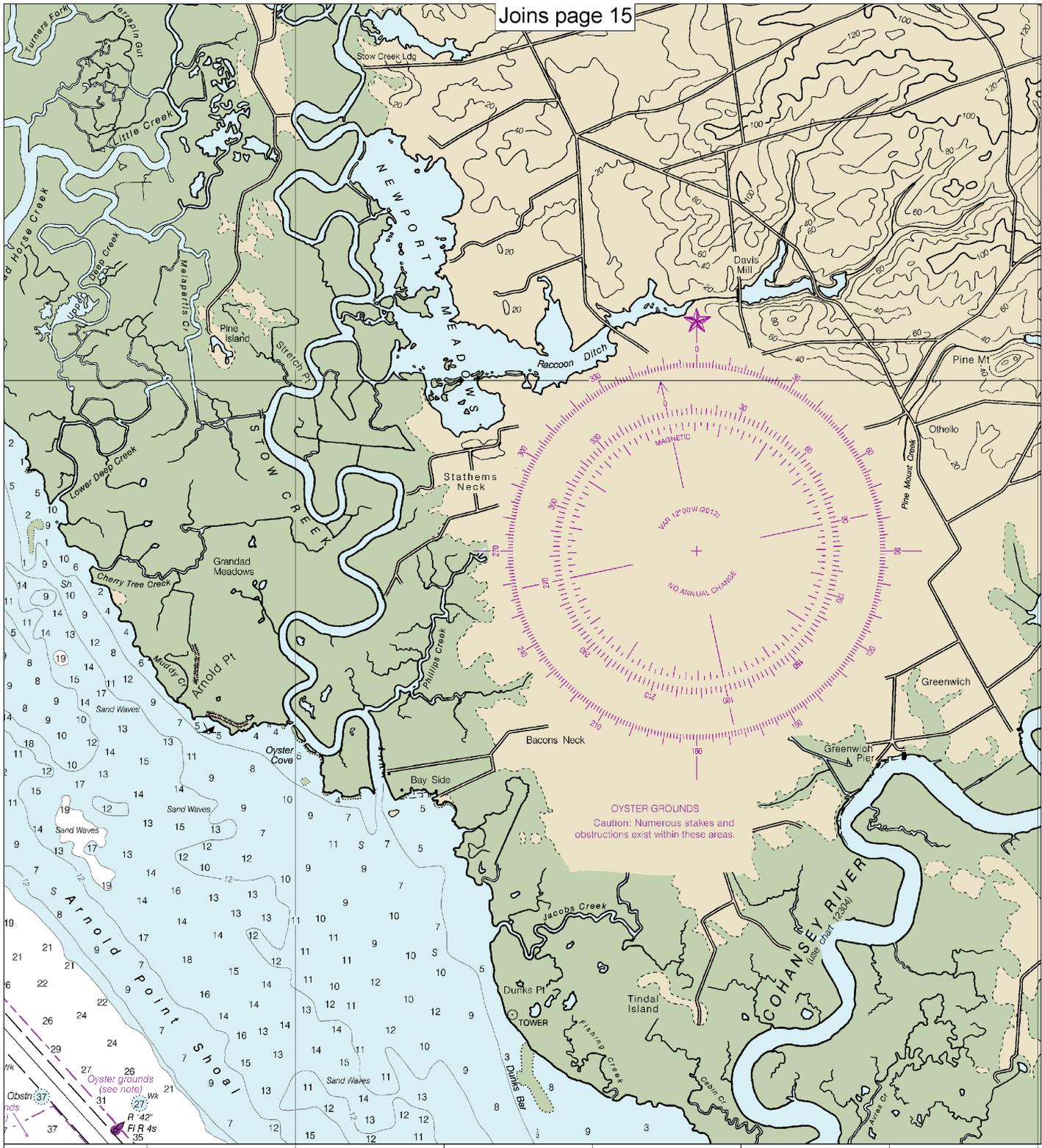
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
 Nautical Miles

See Note on page 5.





39° 25'

75° 25'

1110.3 x 716.3 mm 20'

SOUNDINGS IN FEET

Delaware River, Smyrna River to Wilmington
SOUNDINGS IN FEET - SCALE 1:40,000

12311



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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