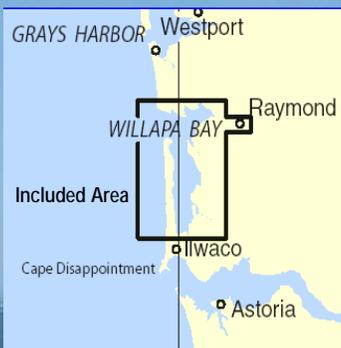


BookletChart™

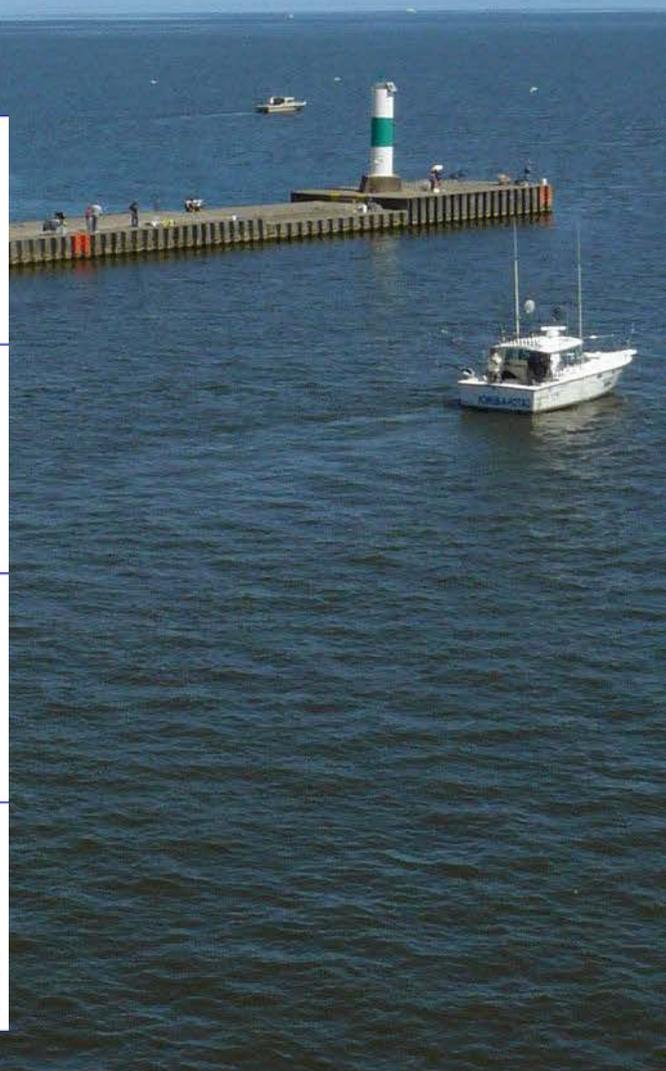
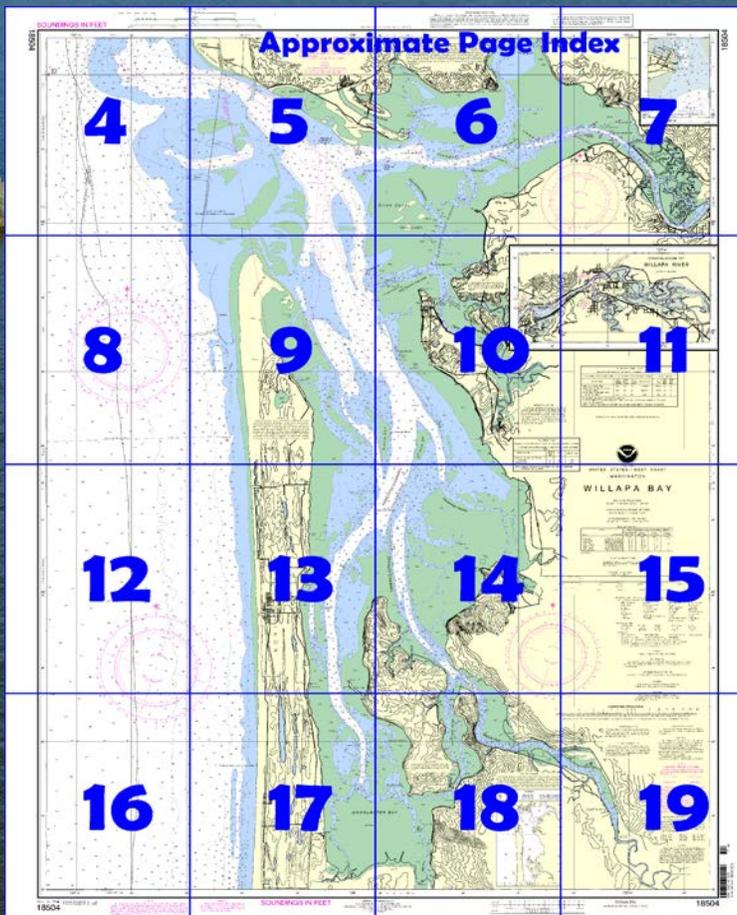
Willapa Bay NOAA Chart 18504



*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.

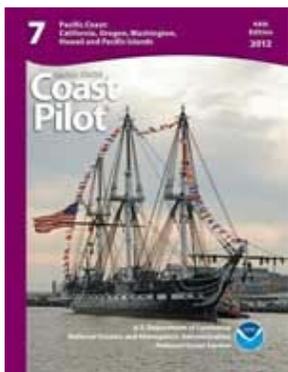
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

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=18504>.



(Selected Excerpts from Coast Pilot)
Willapa Bay entrance is 24 miles N of the Columbia River entrance. The bay is used primarily by fishing and oyster boats.

The entrance is in the N part of the bay, which consists of two arms; the S, 18 miles long, and the E, 10 miles long. Both arms are filled with extensive shoals, large areas of which bare at low water. The S arm is separated from the ocean by a strip of low sand and sand dunes, averaging 1.5 miles in width and

covered with trees until within 2.2 miles of Leadbetter Point. Numerous cottages and summer resorts are along the seaward face of the narrow

peninsula. The shore of the bay elsewhere is composed of low, rolling hills, 100 to 200 feet high, covered with dense growths of timber.

Willapa Bar extends about 3 miles outside of a line joining Cape Shoalwater and Leadbetter Point. The bar channel is continually shifting, and depths over it vary from season to season. Because of the frequent changes in the position of the bar and difficulty in dredging the bar to project depth, depths have consistently been less than the 26-foot project depth. The buoys marking the channel over the bar are non lateral and moved from time to time because of the shifting sands and changing channel. Dredging range lights are temporarily established at the entrance at times during dredging operations. The entrance buoys and the dredging range lights do not necessarily mark the best water. The major channels in the bay are marked by aids to navigation.

Willapa River flows into the E arm of the bay. Lights, buoys, daybeacons, and lighted and unlighted ranges mark the channel through the E arm and Willapa River to South Bend and Raymond.

Anchorage.—Anchorage with good holding ground may be had at almost any point inside the bay. The anchorage generally used is off Toke Point in 30 to 40 feet.

Dangers.—An underwater dike, 18 feet below the surface, extends 800 yards into the North Channel from a rock groin along the shore between Cape Shoalwater and North Cove in about 46°43'35"N., 124°03'30"W.

Currents.—In the entrance the current velocity is about 2.5 knots. Currents of 4 to 6 knots occur at times; the velocity is greatest on the ebb, particularly with S wind.

In the channel at South Bend, the velocity is about 1.2 knots on the flood and 1.4 knots on the ebb. (See Tidal Current Tables for predictions.)

South Bend is on the S bank of Willapa River, 8 miles above Toke Point. The principal industries are lumbering, oystering, and fishing; two canneries are operating here. Willapa Harbor Airport is on the N bank of the river about 2.5 miles NW of South Bend. **Raymond**, the principal town, is on the S bank of Willapa River at the junction of the South Fork, 3 miles above South Bend. There are sawmills here, and large quantities of lumber are shipped out.

Pilotage for Grays Harbor, discussed later in this chapter, also pertains to Willapa Bay.

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

Quarantine is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1, for details.) South Bend and Raymond are **customs ports of entry**.

Supplies.—Diesel oil, gasoline, water, ice, and some marine supplies are available in South Bend and Raymond. Both South Bend and Raymond have small-craft moorages operated by the respective towns.

North River, which enters the E arm 2 miles E of Toke Point, is navigated by small logging launches. The channel is marked by private daybeacons, and is navigable at high water to **Eatons Ranch**, 3 miles above the last daybeacon.

Palix River, on the E side of the bay, is navigable for small logging tugboats and fishermen for about 1 mile up each of the three forks above their junction. The fixed highway bridge, about 1 mile below the forks, has a clearance of 25 feet.

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

RCC Seattle Commander
13th CG District (206) 220-7001
Seattle, WA

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.

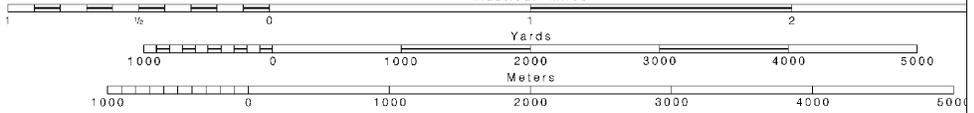
Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers



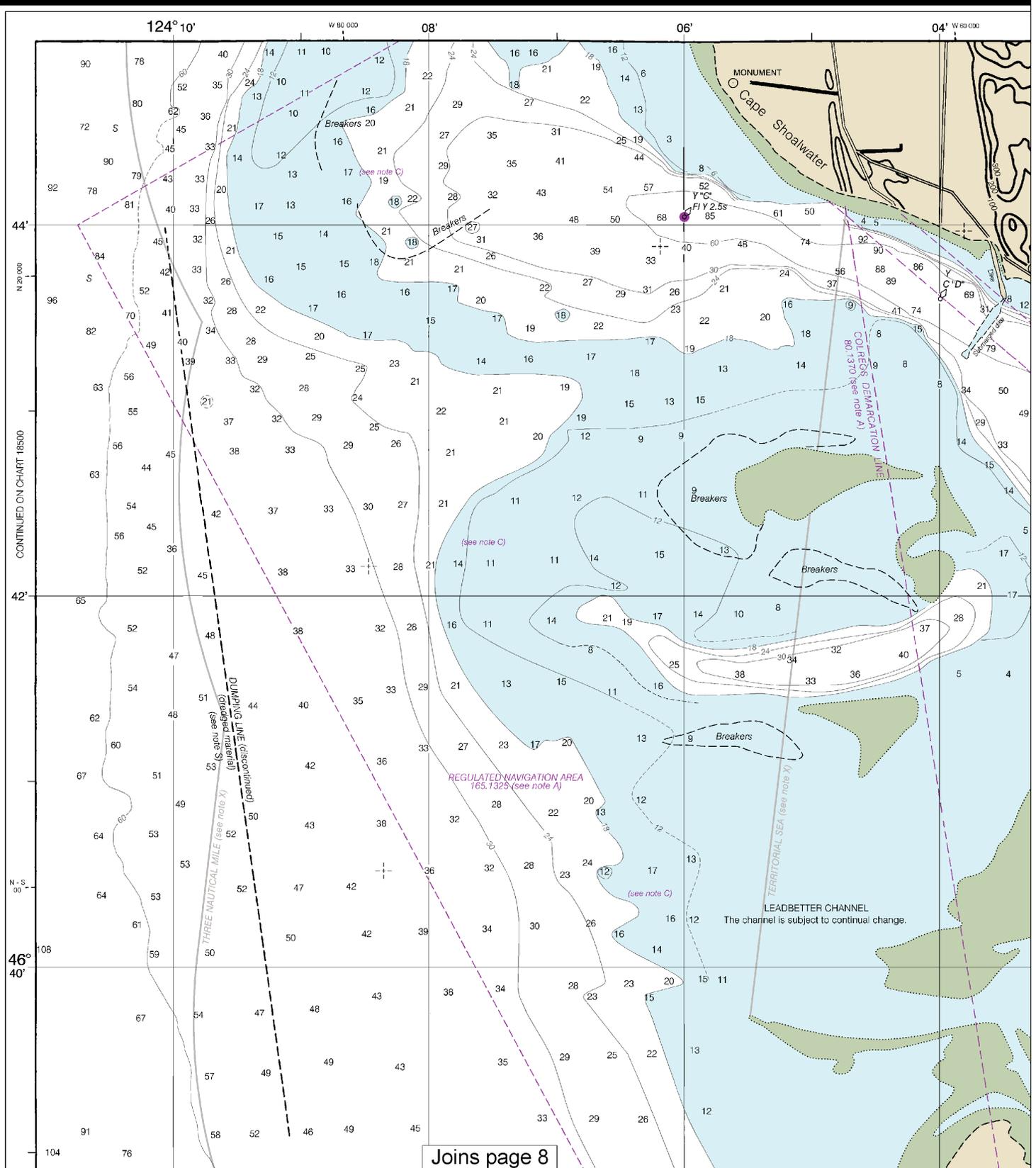
For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

SCALE 1:40,000
Nautical Miles



SOUNDINGS IN FEET

18504



Joins page 8

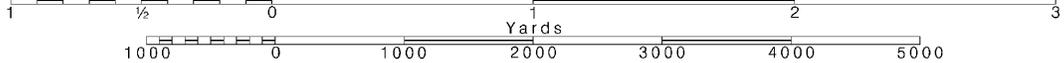
4

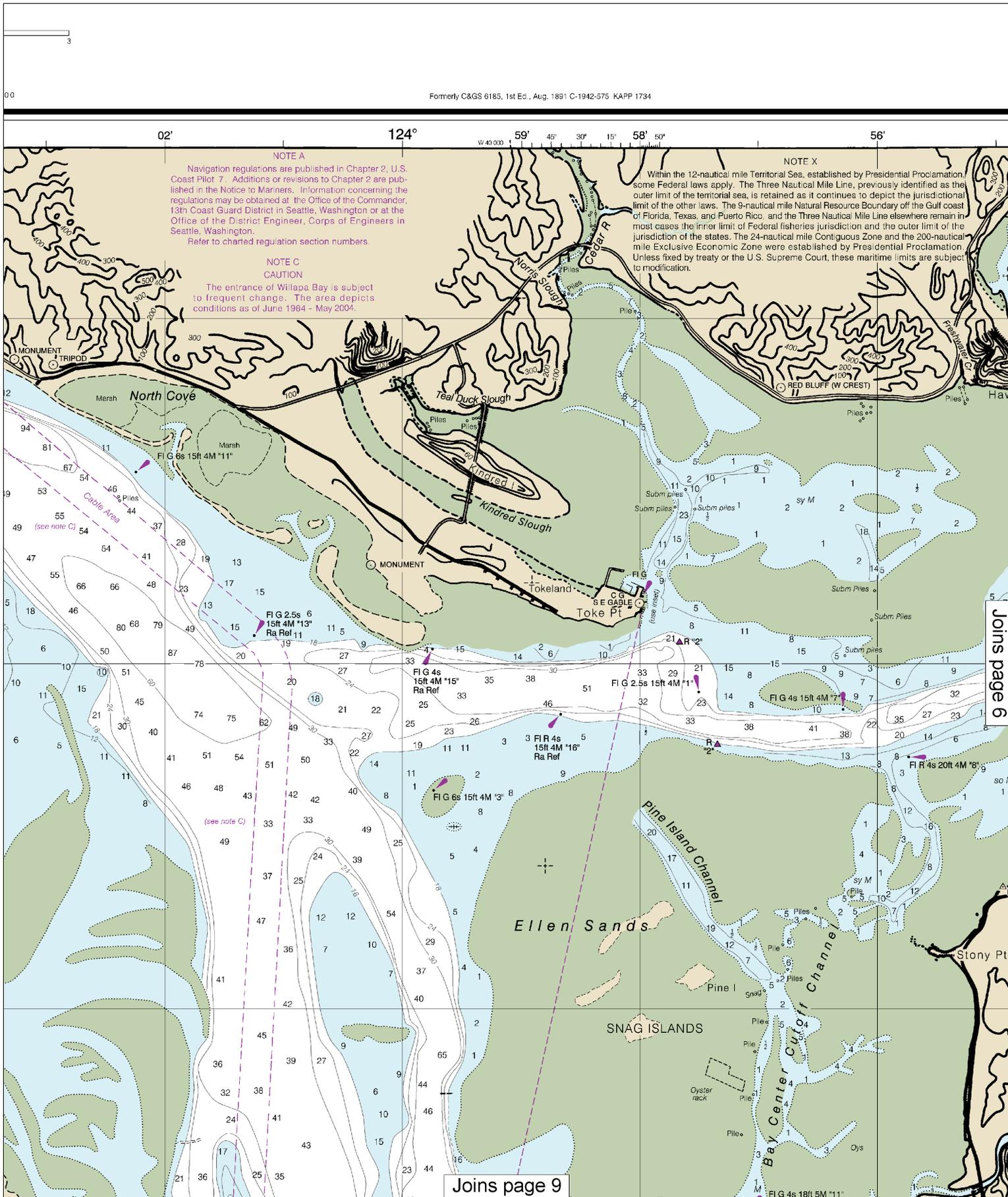
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.





NOTE A
 Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. 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, 13th Coast Guard District in Seattle, Washington or at the Office of the District Engineer, Corps of Engineers in Seattle, Washington.
 Refer to charted regulation section numbers.

NOTE C CAUTION
 The entrance of Willapa Bay is subject to frequent change. The area depicts conditions as of June 1964 - May 2004.

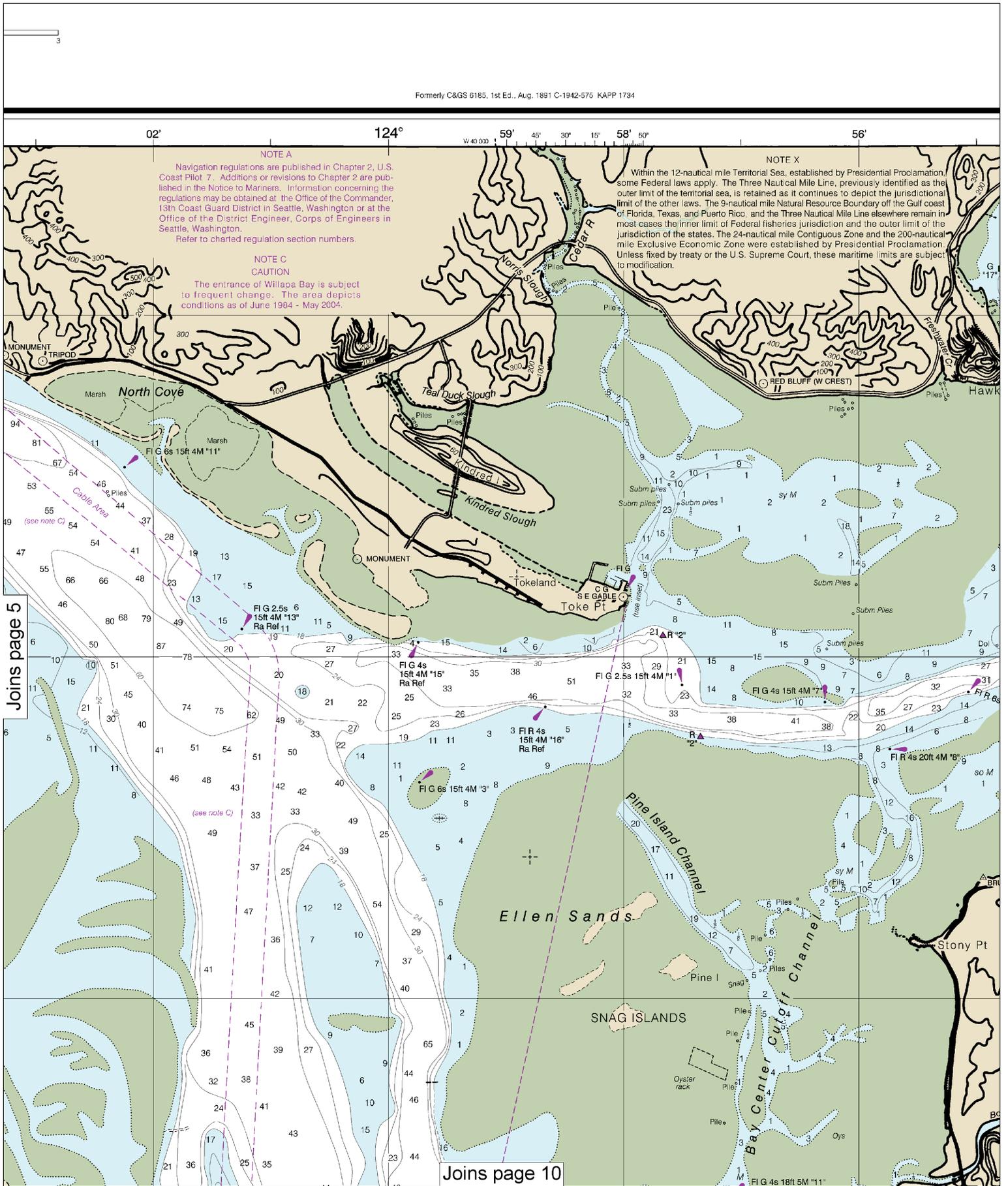
NOTE X
 Within the 12-nautical mile Territorial Sea, established by Presidential Proclamation, some Federal laws apply. The Three Nautical Mile Line, previously identified as the outer limit of the territorial sea, is retained as it continues to depict the jurisdictional limit of the other laws. The 9-nautical mile Natural Resource Boundary off the Gulf coast of Florida, Texas, and Puerto Rico, and the Three Nautical Mile Line elsewhere remain in most cases the inner limit of Federal fisheries jurisdiction and the outer limit of the jurisdiction of the states. The 24-nautical mile Contiguous Zone and the 200-nautical mile Exclusive Economic Zone were established by Presidential Proclamation. Unless fixed by treaty or the U.S. Supreme Court, these maritime limits are subject to modification.

Joins page 9

Joins page 6

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.





Joins page 5

Joins page 10

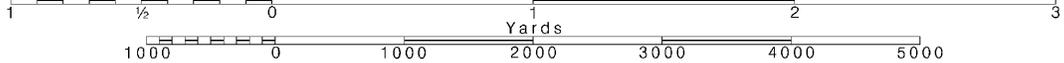


Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

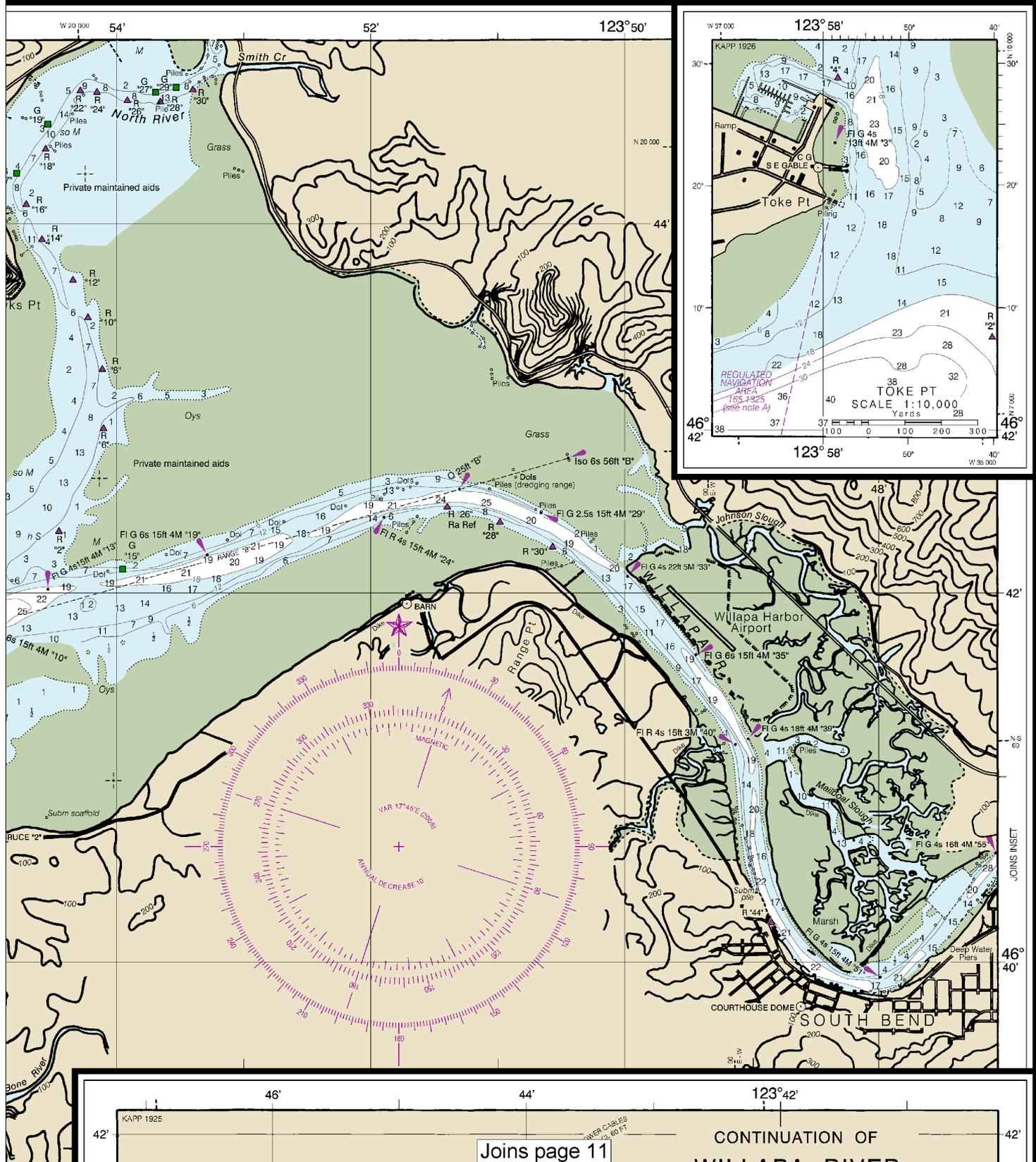
SCALE 1:40,000 Nautical Miles

See Note on page 5.



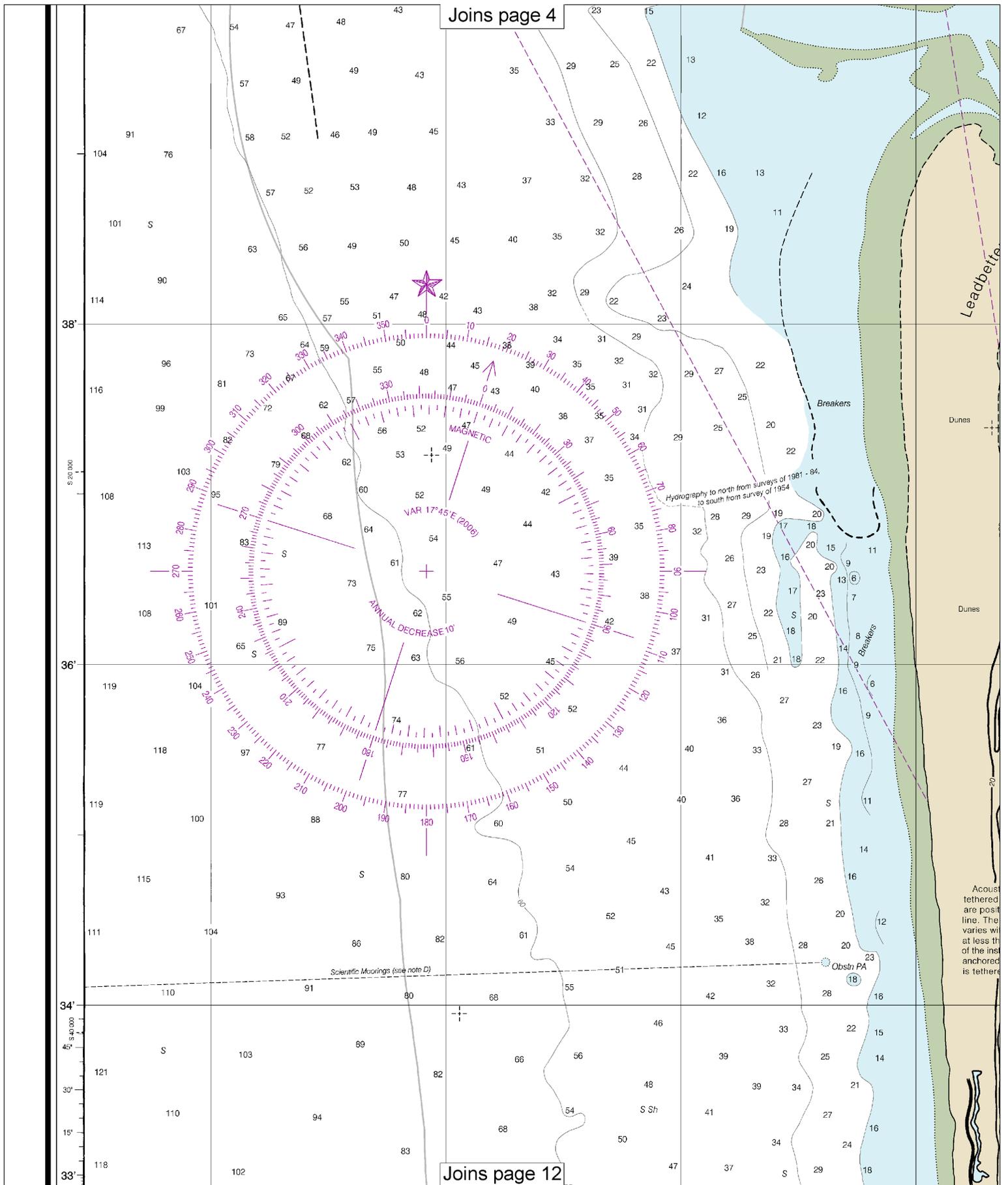
NOAA encourages users to submit inquiries, discrepancies or comments about this chart at <http://www.nauticalcharts.noaa.gov/staff/contact.htm>.

18504



66th Ed., Jul. 2006. Last Correction: 12/7/2016. Cleared through:
LNM: 4916 (12/6/2016), NM: 5016 (12/10/2016), CHS: 1116 (11/25/2016)

7

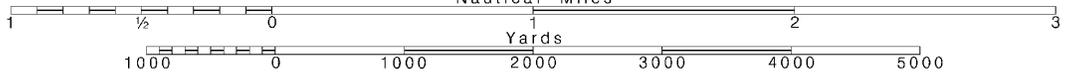


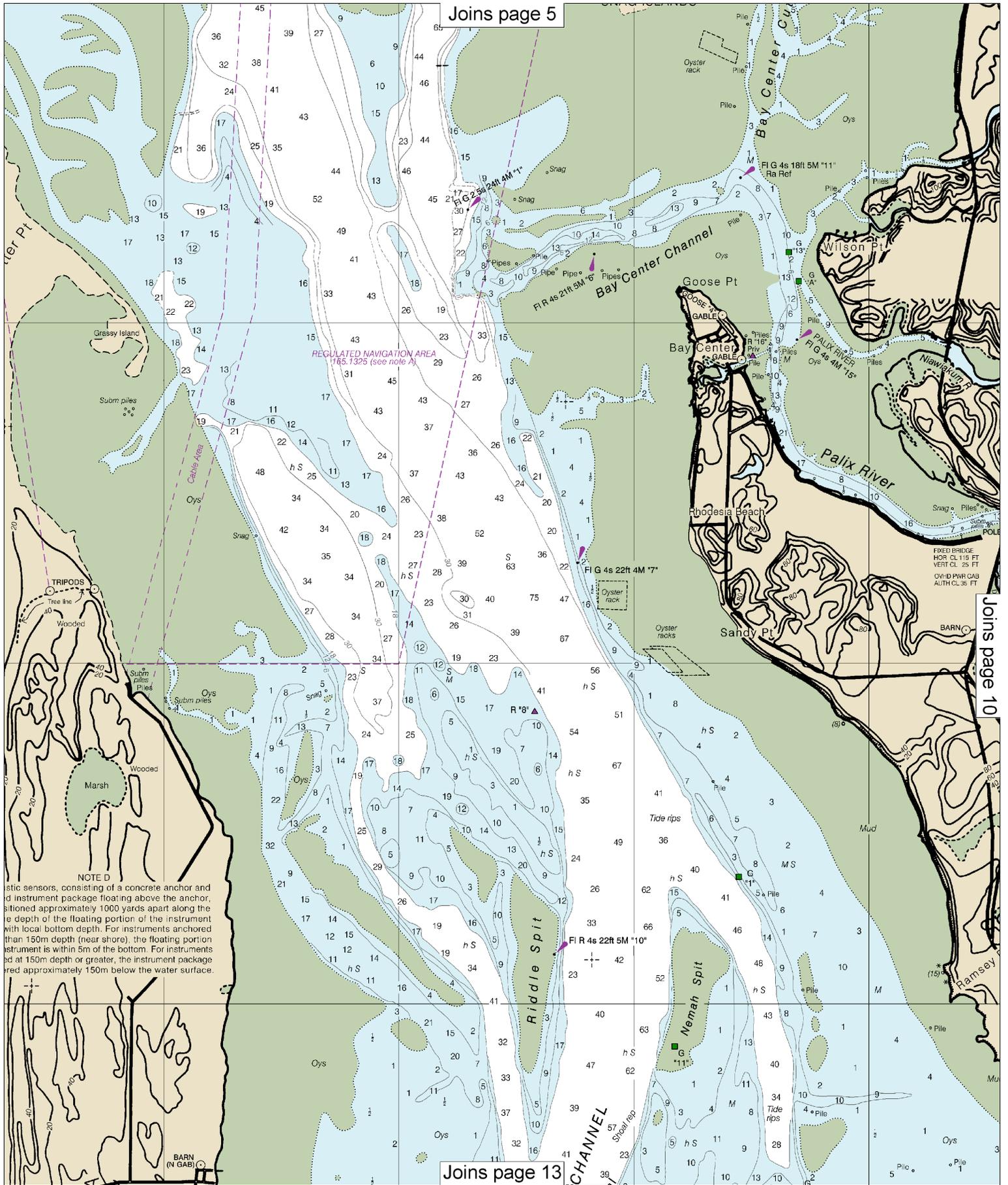
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

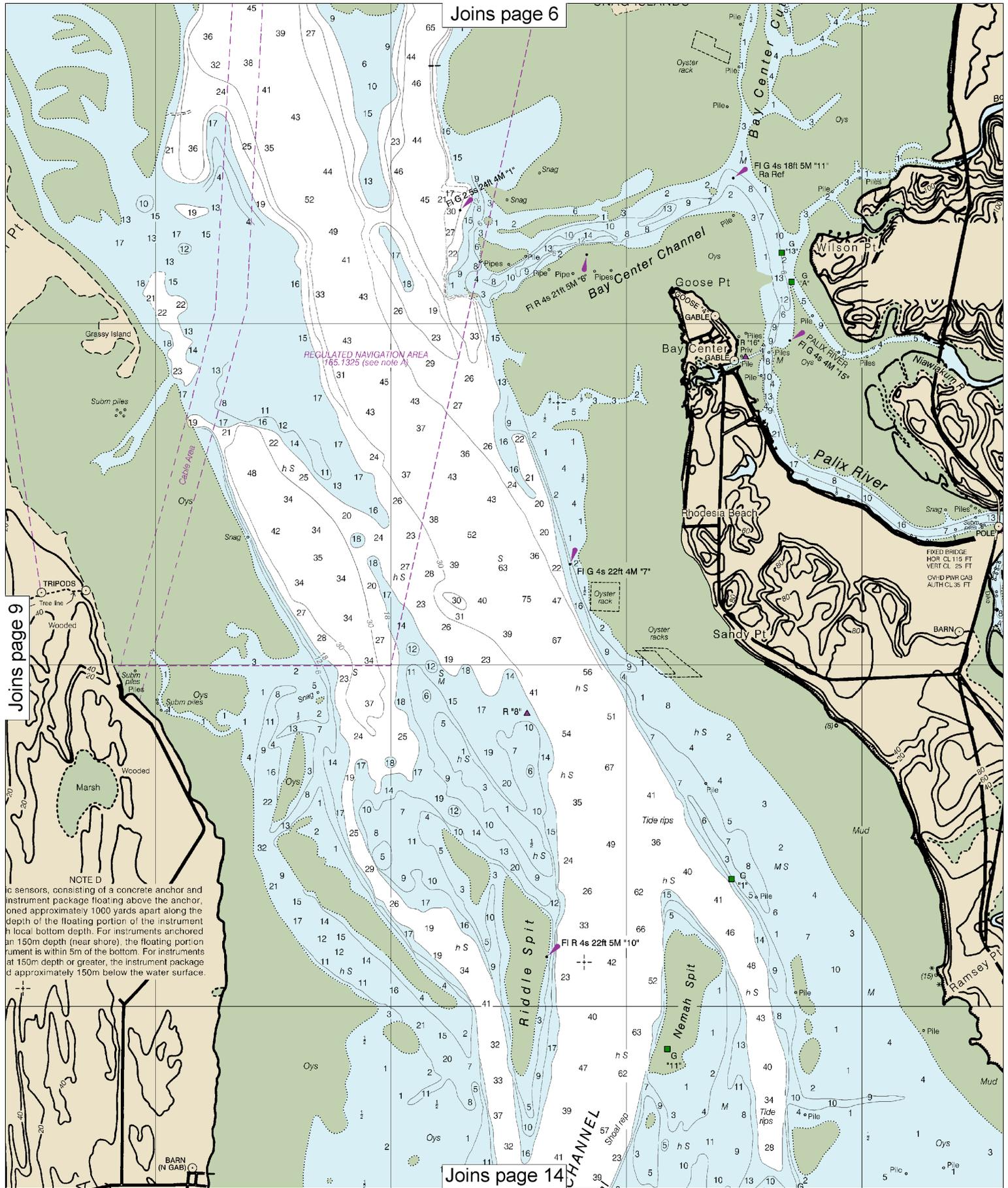
SCALE 1:40,000
Nautical Miles

See Note on page 5.





NOTE D
 stic sensors, consisting of a concrete anchor and
 d instrument package floating above the anchor,
 sioned approximately 1000 yards apart along the
 e depth of the floating portion of the instrument
 with local bottom depth. For instruments anchored
 than 150m depth (near shore), the floating portion
 instrument is within 5m of the bottom. For instruments
 ed at 150m depth or greater, the instrument package
 red approximately 150m below the water surface.



Joins page 6

Joins page 9

Joins page 14

NOTE D
 ic sensors, consisting of a concrete anchor and instrument package floating above the anchor, are spaced approximately 1000 yards apart along the depth of the floating portion of the instrument to local bottom depth. For instruments anchored at 150m depth (near shore), the floating portion is within 5m of the bottom. For instruments at 150m depth or greater, the instrument package is located approximately 150m below the water surface.

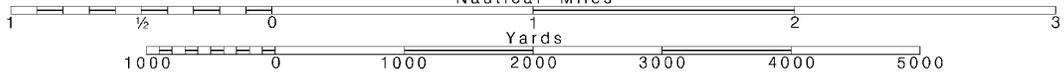
10

Note: Chart grid lines are aligned with true north.

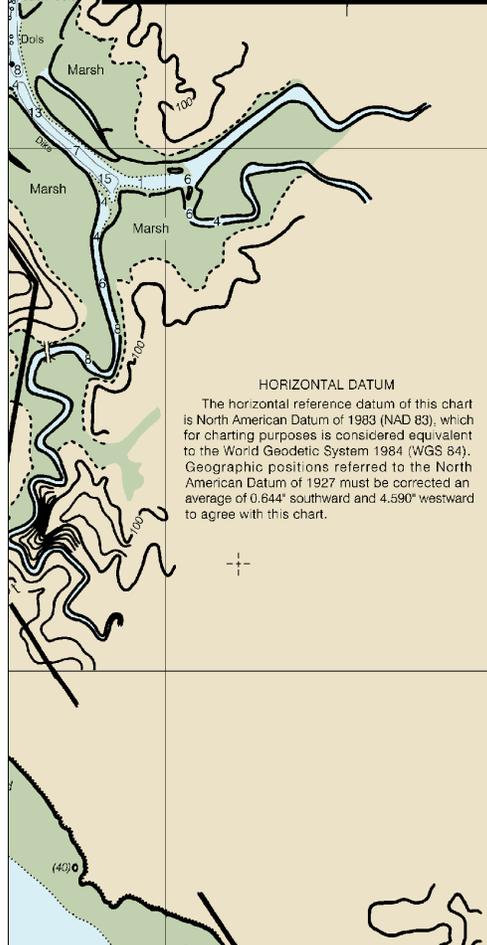
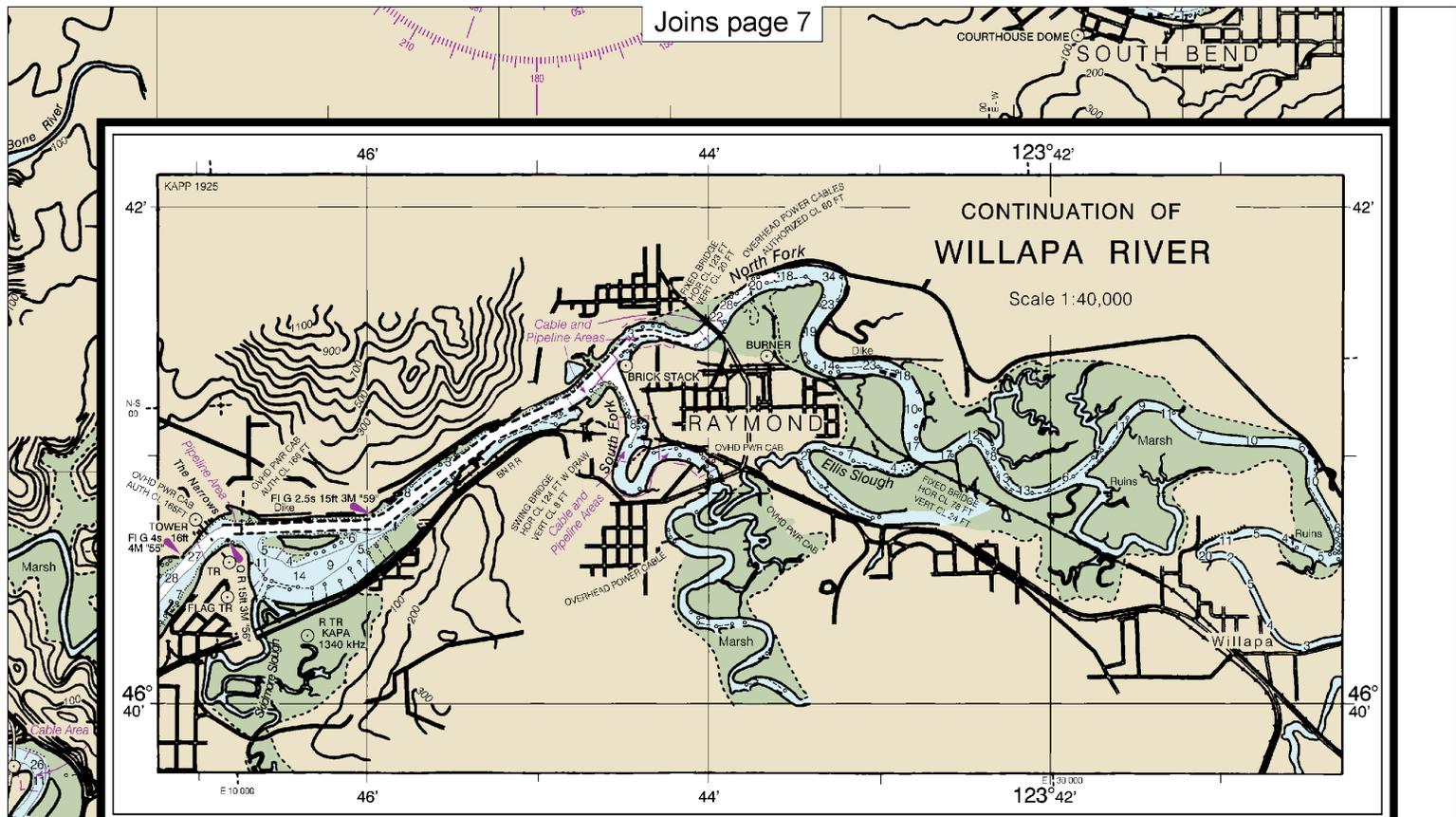
Printed at reduced scale.

SCALE 1:40,000
 Nautical Miles

See Note on page 5.



COURTHOUSE DOME SOUTH BEND



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 0.644' southward and 4.590' westward to agree with this chart.

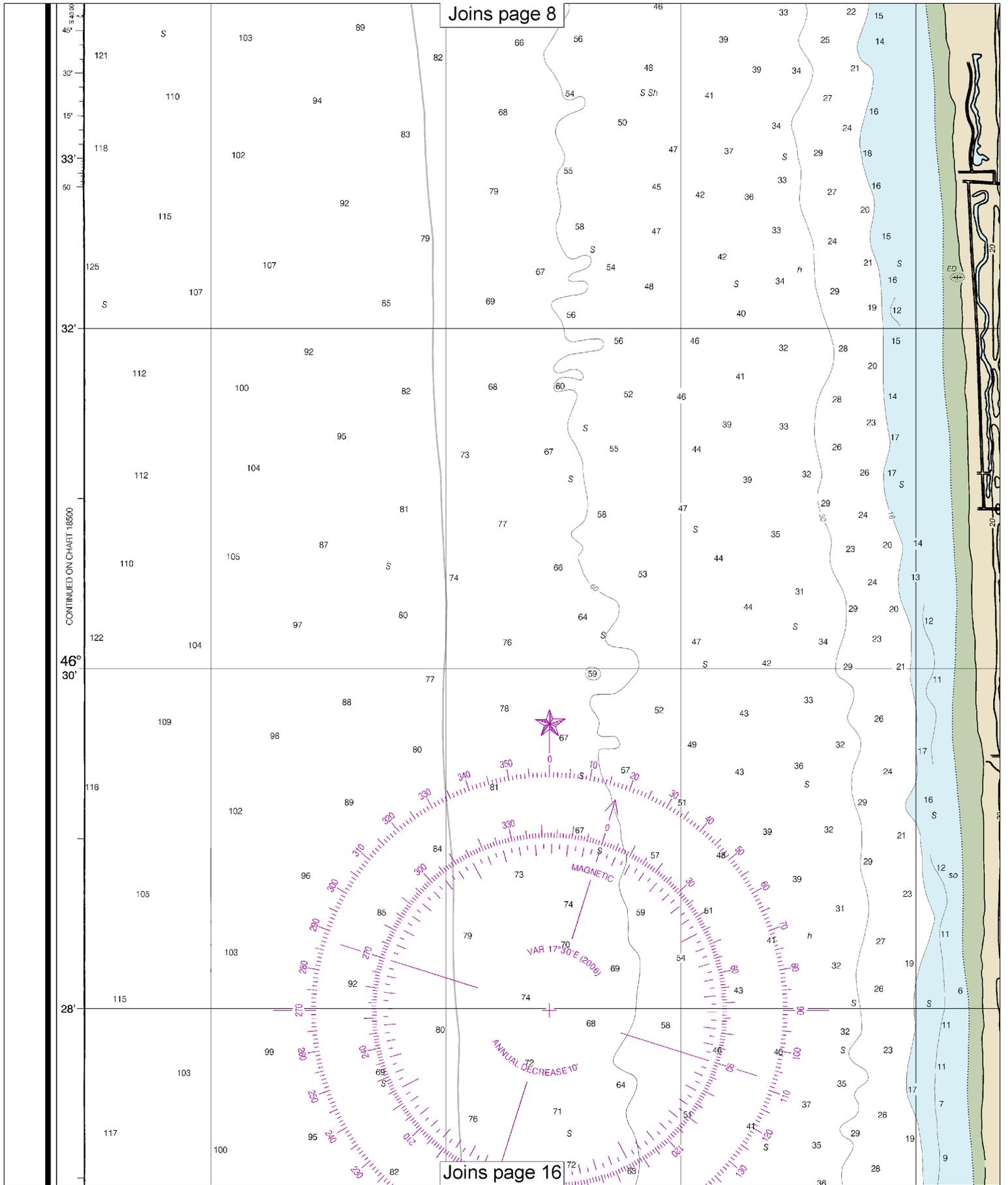
WILLAPA RIVER CHANNEL DEPTHS						
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUN 2004						
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)				PROJECT DIMENSIONS		
NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY	WIDTH (FEET)	LENGTH (NAUT. MILES) DEPTH (FEET)
LIGHT 56 TO NORTH FORK	A10.1	12.4	14.1	1,2-86-6-04	300-250	2.1 24
NORTH FORK TO 700 FEET BELOW HIGHWAY BRIDGE	B10.1	14.7	4.2	8-55-3-83	200-150	0.4 24
SOUTH FORK TO 500 FEET NORTH OF N.P. RY. BRIDGE	13.1	5.2	4.0	1,2-86	150	0.3 24

A. SHOALING TO 6.4 FEET AT 46°40'44.9" N 123°46'02.7" W.
 B. THE CHANNEL HAS SHOALED ALONG THE EDGE; A DEPTH OF 16.1 FEET WAS AVAILABLE IN THE INSIDE HALF OF THE QUARTER.
 NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE INFORMATION

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



UNITED STATES - WEST COAST
 WASHINGTON



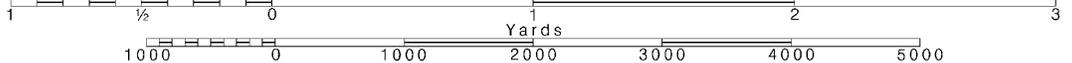
12

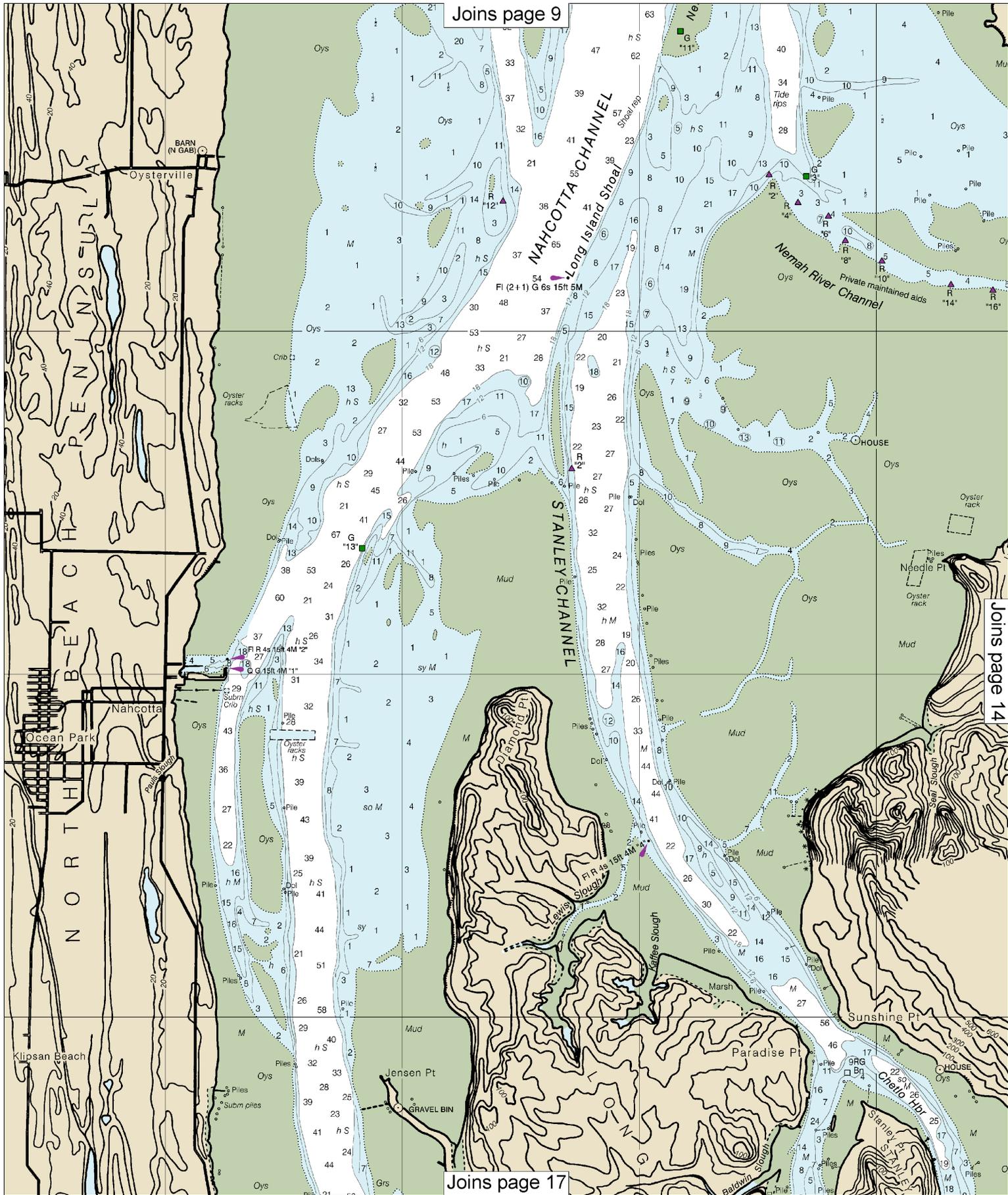
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
Nautical Miles

See Note on page 5.







UNITED STATES - WEST COAST
WASHINGTON

WILLAPA BAY

Mercator Projection
Scale 1:40,000 at Lat. 46°34'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

TIDAL INFORMATION

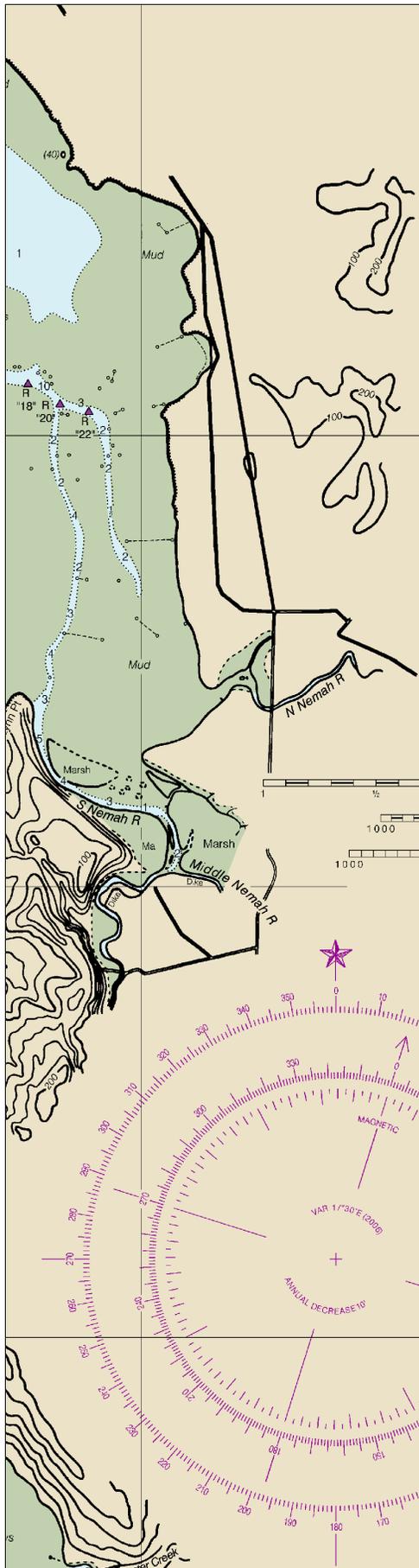
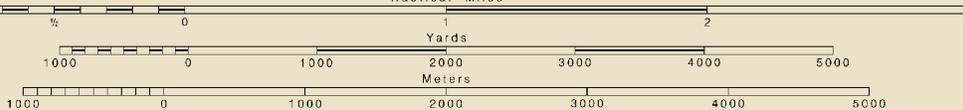
Place Name (LAT/LONG)	Height referred to datum of soundings (MLLW)			
	Mean Higher High Water	Mean High Water	Mean Low Water	Extreme Low Water
Nahcotta (46°30'N/124°02'W)	10.0	9.3	1.4	4.0
Toke Point (46°43'N/123°58'W)	8.9	8.2	1.4	---
Raymond (46°41'N/123°45'W)	10.0	9.3	1.4	---
Long Island (46°28'N/123°57'W)	10.2	9.4	1.4	---
Naselle River (46°23'N/123°50'W)	10.8	10.0	1.3	---
Bay Center (46°37'N/123°57'W)	9.2	8.5	1.4	---
South Bend (46°40'N/123°48'W)	9.8	9.1	1.4	---

(Jun 2006)

PLANE COORDINATE GRID

Local grid system, U.S. Corps of Engineers,
is indicated by dashed tick marks at 20,000
foot intervals.

SCALE 1:40,000
Nautical Miles



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

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

AERC 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	LT LHO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M stature 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:

Blds boulders	Co coral	gy grey	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Gr 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	

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.
COLREGS: International Regulations for Preventing Collisions at Sea, 1972.
Demarcation lines are shown thus: - - - - -

HEIGHTS

Heights in feet above Mean High Water.

AUTHORITIES

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

SUPPLEMENTAL INFORMATION

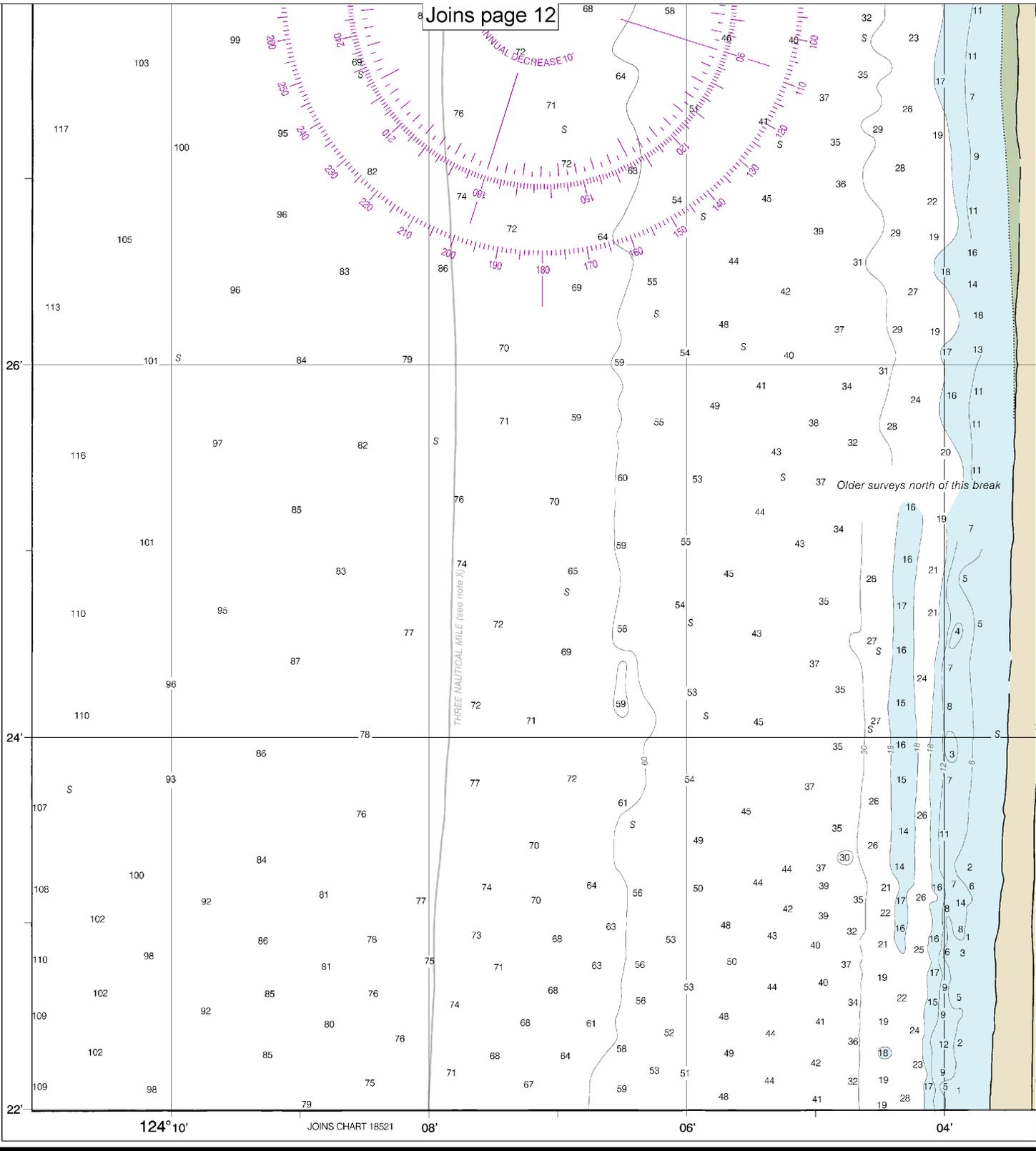
Consult U.S. Coast Pilot 7 for important supplemental information.

CAUTION

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

CAUTION

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



18504

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.

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.

66th Ed., Jul. 2006. Last Correction: 12/7/2016. Cleared through:
 LNM: 4916 (12/6/2016), NM: 5016 (12/10/2016), CHS: 1116 (11/25/2016)

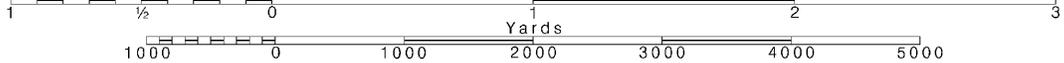
16

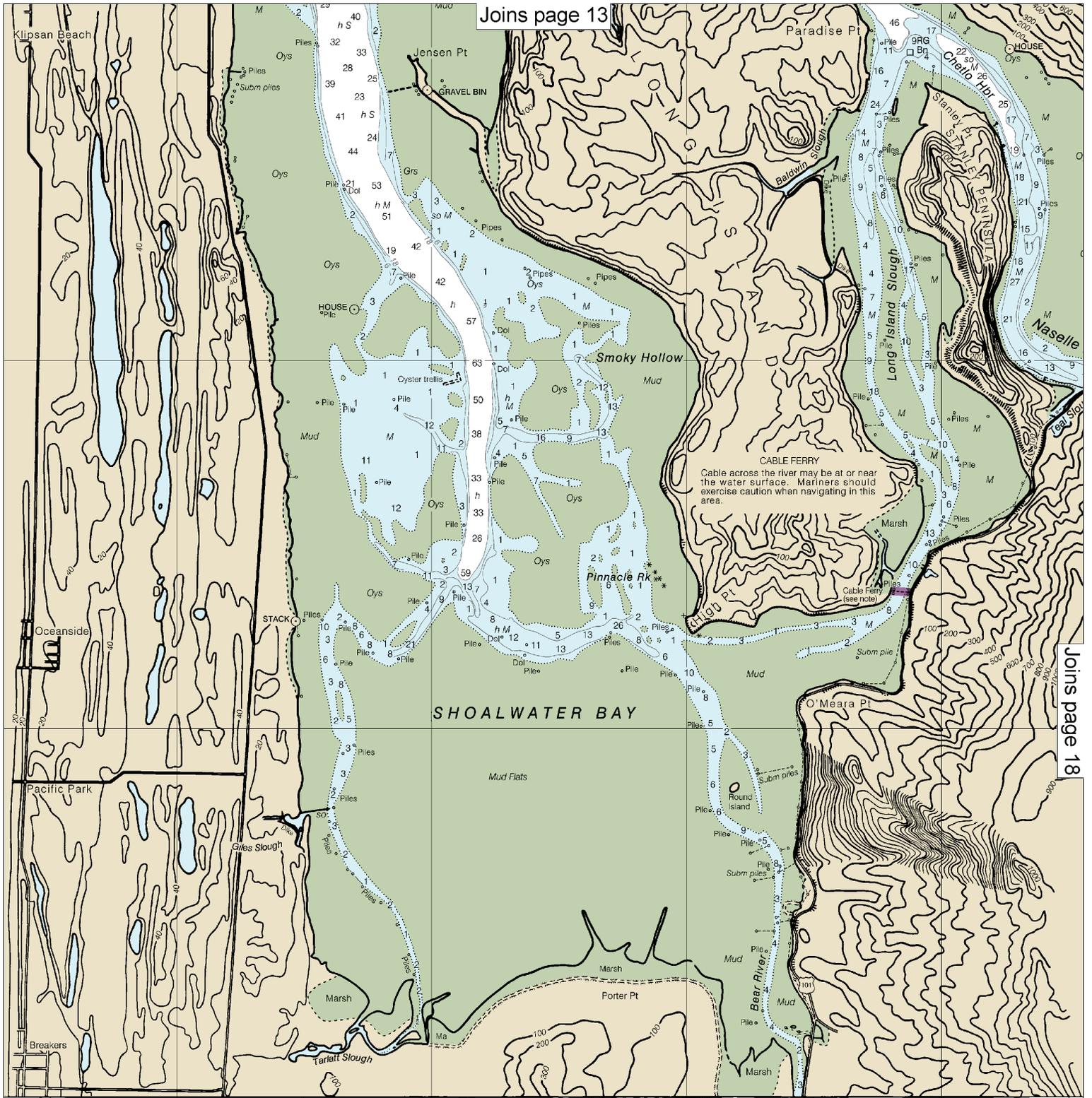
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
 Nautical Miles

See Note on page 5.

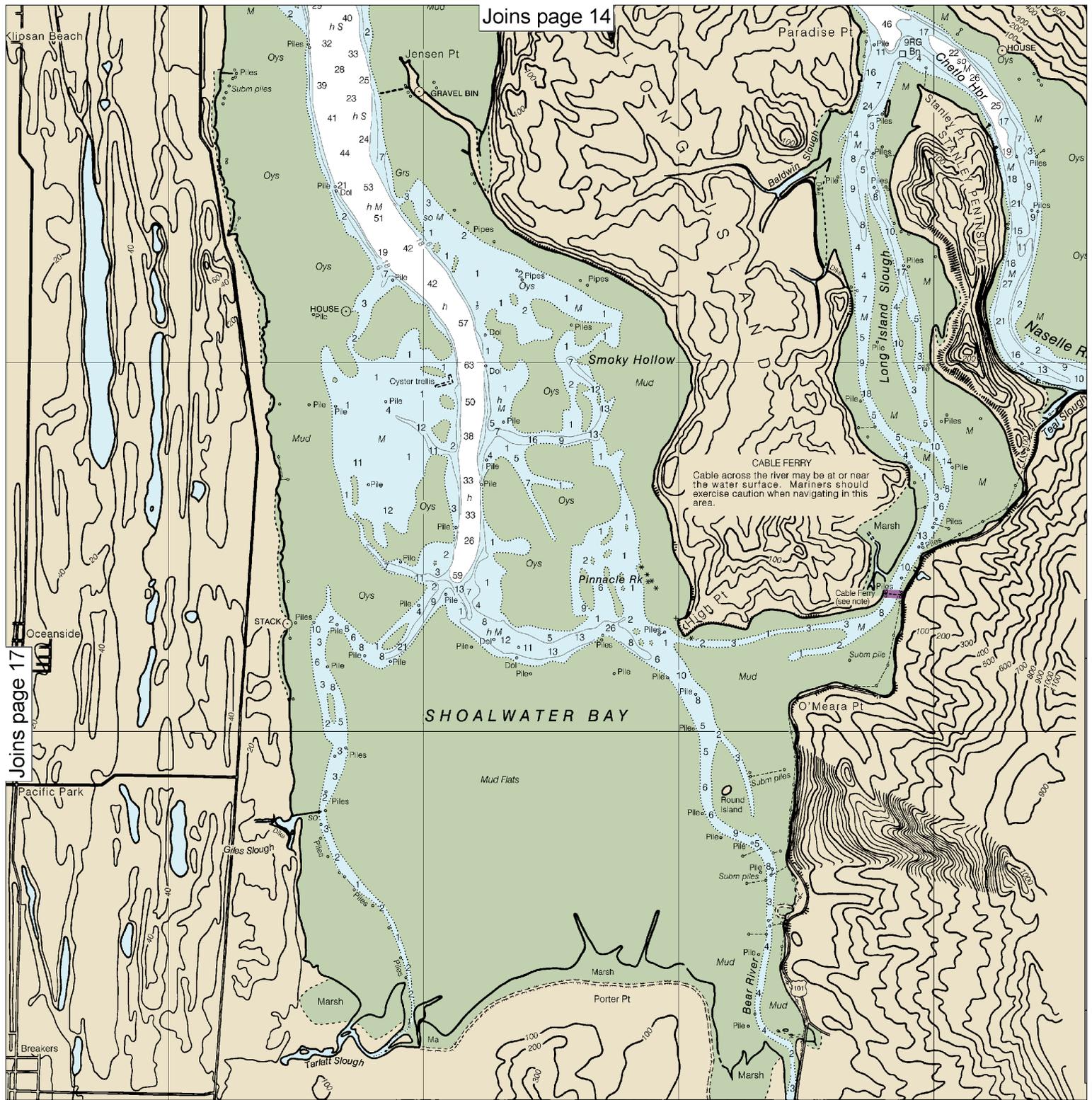




SOUNDINGS IN FEET

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

FAT
F
ME



Joins page 14

Joins page 17

SOUNDINGS IN FEET

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

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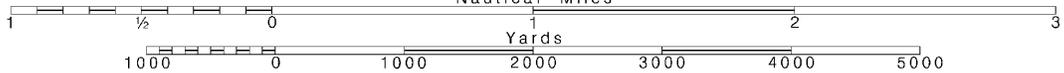
18

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:40,000
 Nautical Miles

See Note on page 5.



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

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

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.

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).

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

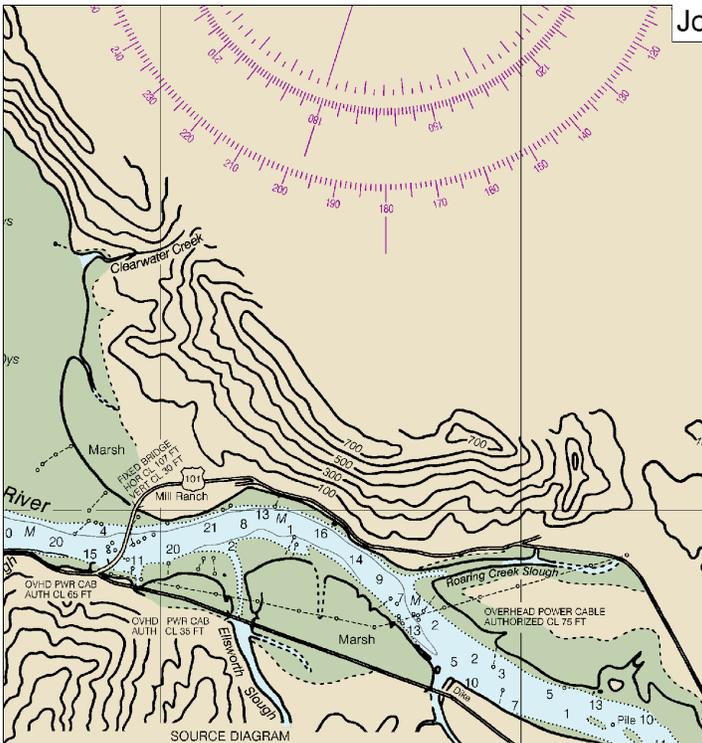
CAUTION
Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.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

CAUTION
SUBMARINE PIPELINES AND CABLES
Charted submarine pipelines and submarine cables and submarine pipeline and cable areas are shown as:
— Pipeline Area — Cable Area
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.

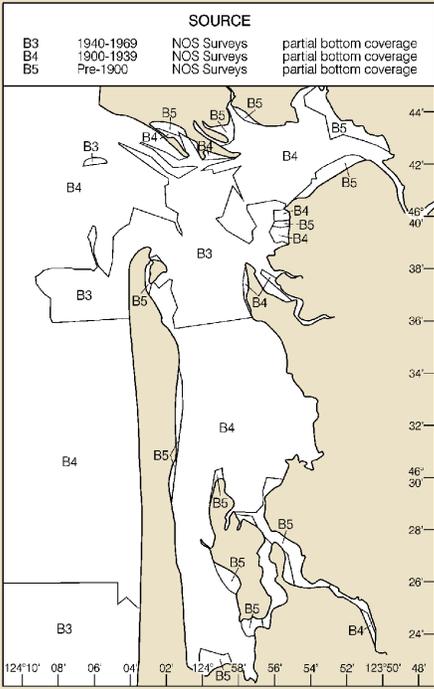
NOAA WEATHER RADIO BROADCASTS
The NOAA Weather Radio stations listed below provide continuous weather broadcasts. The reception range is typically 20 to 40 nautical miles from the antenna site, but can be as much as 100 nautical miles for stations at high elevations.

Astoria, OR	KEC-91	162.40 MHz
Astoria, OR	WWF-94	162.425 MHz
Olympia, WA	WXM-62	162.475 MHz

NOTE S
Regulations for Ocean Dumping Sites are contained in 40 CFR, Parts 220-229. Additional information concerning the regulations and requirements for use of the sites may be obtained from the Environmental Protection Agency (EPA). See U.S. Coast Pilots appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.



The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.



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

Willapa Bay
SOUNDINGS IN FEET - SCALE 1:40,000

18504



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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