SOUNDINGS IN FEET

18521

Formerly C&GS 6151... 1st Ed., May 1914 C-13-03-87 KAPP 1737

JOINS CHART 18504

CONTINUED ON CHART 18521

CONTINUED ON CHARTS 18505 AND 18506

COLUMBIA RIVER

PACIFIC OCEAN TO HARRINGTON POINT

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - WEST COAST

OREGON - WASHINGTON

Mercator Projection
Scale 1:40,000 at Lat 46° 13'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS AND CLEARANCES OF BRIDGES AND OVERHEAD CABLES IN FEET
AT MEAN LOWER LOW WATER

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

SCALE 1:40,000
Nautical Miles 0 1 2 3
Statute Miles 0 1 2 3
Yards 0 1000 2000 3000 4000 5000

SOURCE

A	1990-2011	NOS Surveys	full bottom coverage
B1	1990-2008	NOS Surveys	partial bottom coverage
B3	1940-1969	NOS Surveys	partial bottom coverage
B4	1900-1939	NOS Surveys	partial bottom coverage
B5	Pre-1900	NOS Surveys	partial bottom coverage

SOURCE DIAGRAM

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.

BAKER BAY WEST CHANNEL

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO JUN 2015 AND REPORTS TO DEC 2015

CONTROLLING DEPTHS FROM SEAWARD IN FEET AT MEAN LOWER LOW WATER (MLLW)

NAME OF CHANNEL	LEFT OUTSIDE QUARTER	MIDDLE HALF OF CHANNEL	RIGHT OUTSIDE QUARTER	DATE OF SURVEY
ENTRANCE BUOY 3	12	15	9	12-15
ENTRANCE TO PORT CANDY 0.7 - 1.9	12	15	9	12-15
PT CANBY TO JUNGO 0.9 - 3.0	13	14	12	12-15
MOORING BASIN A, B	4	4	4	9-06

PROJECT DIMENSIONS

WIDTH (FEET)	DEPTH (MLLW, FEET)
200	0.7 16
150	1.3 16
100	1.3 16

A. SHOALING TO 2 FEET ON RIGHT HALF, BETWEEN THE BREAKWATERS.
B. SHOALING LOCALLY REMOVED.

NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGES SUBSEQUENT TO THE ABOVE 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 Radionavigation publications and in Chapter 2 of this Coast Pilot. Radio direction-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.
Station positions are shown thus:
(O)Accurate location) o(Approximate location)

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. Temporary rules concerning navigation regulations are published in the Local Notice to Mariners issued by the 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 B

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. Limits fixed by treaty or the U.S. Supreme Court, these maritime limits are subject to modification.

NOTE C

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 in areas of depths 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

Mileage distances along the Columbia River are in Statute Miles. Distances along the Columbia River are eastward from the mouth, and are indicated thus: ——
Tables for converting Statute Miles to International Nautical Miles are given in Coast Pilot 7.

STATUTE MILES
COLUMBIA RIVER

RADAR REFLECTORS

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

SKIPANON WATERWAY

The controlling depth was 6 feet for a mid-width of 100 feet to the turning basin, thence 3 feet in the turning basin, thence 7 feet for a width of 100 feet to the end of the project.
Mar - Sep 2015

NOAA WEATHER RADIO BROADCASTS

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

Astoria, OR	KEC-91	162.400 MHz
Nosehunker, OR	WWF-94	162.425 MHz
Tillamook, OR	WWF-95	162.475 MHz
Olympia/Capital Peak, WA	WWH-62	162.475 MHz

SUPPLEMENTAL INFORMATION

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

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.

CAUTION

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

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.

AIDS TO NAVIGATION

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

CAUTION

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

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).

HORIZONTAL DATUM

The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered to be identical to World Geodetic System of 1984 (WGS 84). Geographic features referred to the North American Datum of 1927 must be corrected an average of 0.63" southward and 4.53" westward to agree with this chart.

NOTE D

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 Pilot's appendix for addresses of EPA offices. Dumping subsequent to the survey dates may have reduced the depths shown.

ILWACO HARBOR
Scale 1:20,000
SOUNDINGS IN FEET
AT MEAN LOWER LOW WATER

KAPP 1736 (Nautical Miles)

SAND ISLAND
REGULATED NAVIGATION AREA 165.1325 (see note A)

FORT CANBY

BAKER BAY

SAND ISLAND RANGE (see tabulation)

LOWER DESDEMONA SHOAL (see tabulation)

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)
Columbia River Entrance	(46°16'N/124°04'W)	7.5	6.8	1.2
Ilwaco, Baker Bay	(46°18'N/124°02'W)	7.5	7.0	1.3
Harrington Point	(46°16'N/123°39'W)	7.7	7.0	0.9
Tongue Point	(46°12'N/123°45'W)	8.1	7.5	1.2
Astoria, Tongue Point	(46°12'N/123°46'W)	8.0	7.9	1.2
Chinook, Baker Bay	(46°16'N/123°57'W)	8.1	7.4	1.3

Datums (—) 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.
(See 3V(10))

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	No morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
Bl black	Iso isophase	OBSC obscured	s second
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
Bu blue	m meter	Or orange	UNL unlimited
Dph. diaphone	mi 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 gray	Oys oysters	so soft
Cbl cobble	G gravel	h hard	Pt rock	Sh shells
Cy clay	Grs grass	m mud	S sand	sy stony

Miscellaneous:

ALRM alm/aired	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

(2) tides, rock, obstruction, or shoal swept lower to the depth indicated
12) 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: — — —

CHANGEABLE AREAS

Areas outside of the Columbia River channel limits are subject to frequent changes.

NOTE B

Woody Island Channel is subject to continual change. Woody Island Channel Buoys 2, 4, & 5 are not charted because they are frequently shifted and are private.

COLUMBIA RIVER TABULATION DIAGRAM

A Left outside quarter controlling depth
B Left inside quarter controlling depth
C Right inside quarter controlling depth
D Right outside quarter controlling depth

Widener
Inbound

COLUMBIA RIVER TABULATION DIAGRAM

Columbia River main channel - Controlling depths for outside quarters include the adjacent widener/filler when applicable.

COLUMBIA RIVER CHANNEL DEPTHS
ENTRANCE TO MILLER SANDS RANGE

TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF Controlling Depths in Feet at MEAN LOWER LOW WATER - SEE FOOTNOTE

NAME OF CHANNEL	Left Outside Quarter	Left Inside Quarter	Right Inside Quarter	Right Outside Quarter	Date of Survey	Width (Feet)	Length STAT Miles	Depth (Feet)
Entrance Range **	58	60	58	47	22-Nov-15	600	3.3	55
Bard Island Range **	53	54	54	47	22-Nov-15	2000	2.2	55
	**	**	**	**	22-Nov-15	940	2.2	48
Lower Desdemona Sands	47	48	50	51	13-Jun-16	600	3.4	45
Upper Desdemona Sands	41	43	44	41	07-Feb-16	600	3.6	43
Toney Point Turn & Range	41	43	44	36	2-Feb-16	600	4.8	43
Astoria Range	41	43	44	39	31-Jan-16	600	2.7	43
Tongue Point Channel	41	44	44	44	3-Mar-16	600	2.2	43
Tongue Point Range	41	44	44	44	3-Mar-16	600	2.2	43
Miller Sands Range (LWR)	40	40	40	40	3-Mar-16	300	2.2	43

* Controlling Depths in Channels Entering from Seaward in Feet at Mean Lower Low Water from the Entrance to Harrington Point and Columbia River Datum (CRD) above that point.
For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx Channel status reports
** Channel width is 2640 feet with two controlling depths, northern width is 2000 feet and southern width is 640 feet.

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.

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

75th Ed., Nov. 2013

18521

Last Correction: 4/28/2016. Cleared through:
LNM: 1716 (4/26/2016), NM: 1916 (5/7/2016), CHS: 0416 (4/29/2016)

To ensure that this chart was printed at the proper scale, the line below should measure as inches (12) millimeters.
If the line does not measure as inches (12) millimeters, this copy is not certified safe for navigation.

This chart was distributed as a PDF (Portable Document Format). Printing PDFs may alter the chart scale, color, or legibility that may impact suitability for navigation. Printed charts provided by NOAA certified Print on Demand (POD) providers fulfill a vessel's requirement to carry a navigational chart "published by the National Ocean Service" in accordance with federal regulations, including but not limited to 33 C.F.R. 164.33(a), 33 C.F.R. 164.72(b), and 46 C.F.R. 28.225(a). POD charts meet stringent print standards and can be recognized by an official certification of authenticity printed on the chart. A list of POD providers can be found at: nauticalcharts.noaa.gov/pod

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

SOUNDINGS IN FEET

FATHOMS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60
FEET 0 6 12 18 24 30 36 42 48 54 60 66 72 78 84 90 96 102 108 114 120 126 132 138 144 150 156 162 168 174 180 186 192 198 204 210 216 222 228 234 240 246 252 258 264 270 276 282 288 294 300 306 312 318 324 330 336 342 348 354 360
METERS 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

Columbia R., Pacific Ocean to Harrington Pt.
SOUNDINGS IN FEET - SCALE 1:40,000

18521

Ex1017-000001-POR

COLUMBIA RIVER

HARRINGTON POINT TO CRIMS ISLAND

UNITED STATES - WEST COAST
OREGON - WASHINGTON

Mercator Projection
Scale 1:40,000 at Lat. 46°12'

North American Datum of 1983
(World Geodetic System of 1984)

SOUNDINGS AND CLEARANCES OF BRIDGES AND OVERHEAD CABLES IN FEET AT COLUMBIA RIVER DATUM
(MEAN LOWER LOW WATER DURING LOWEST RIVER STAGES)

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

SOURCE

A	1990-2010	NOS Surveys	full bottom coverage
B3	1940-1969	NOS Surveys	partial bottom coverage
B4	1900-1939	NOS Surveys	partial bottom coverage

SOURCE DIAGRAM
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.

NOTE B
SOUNDING DATUM
The sounding datum of this chart is Columbia River Datum except within the heavy dashed magenta outline, where the sounding datum outside of the dredged channel is Mean Lower Low Water.

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.

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

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

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.

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.

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	162.400 MHz
Neahkahnie, OR	WWF-94	162.425 MHz
Tillamook, OR	WWF-95	162.475 MHz
Olympia, WA	WXM-62	162.475 MHz
Portland, OR	KIG-98	162.550 MHz

LOCAL MAGNETIC DISTURBANCE
Differences of as much as 3° from the normal variation may be expected within the limits of this chart.

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 of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.603" southward and 4.463" westward to agree with this chart.

COLUMBIA RIVER CHANNEL DEPTHS
PILLAR ROCK LOWER RANGE TO GULL ISLAND TURN AND CHANNEL
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 25-Mar-16

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	Left Outside Quarter	Left Inside Quarter	Right Inside Quarter	Right Outside Quarter	Date of Survey	Width (Feet)	Length STAT (Miles)	Depth (Feet)
Miller Sands Range	40	45	44	36	2-Mar-16	600	2.2	43
Pillar Rock Lower Range	41	42	43	40	2-Mar-16	600	3	43
Pillar Rock Upper Range	42	46	43	43	12-Jan-16	600	1.9	43
Welch Island Reach	48	46	43	32	12-Jan-16	600	3.2	43
Skamokawa Channel	36	43	42	39	24-Mar-16	600	3.3	43
Steamboat Reach	44	46	45	44	24-Mar-16	600	1.4	43
Puget Island Range & Turn	43	43	42	39	23-Mar-16	600	3.5	43
Wauna Range	41	43	43	41	23-Mar-16	600	2	43
Driscoll Range	41	43	44	41	23-Mar-16	600	1.7	43
Westport Turn & Range	39	43	44	44	17-Mar-16	600	2	43
Westport Channel	41	44	43	40	17-Mar-16	600	2.4	43
Eureka Lower Channel	46	48	47	45	9-Mar-16	600	2.1	43
Eureka Upper Channel	43	44	43	41	9-Mar-16	600	0.8	43
Oak Point Channel	45	47	42	40	9-Mar-16	600	3	43
Gull Island Turn and Channel	42	44	42	40	9-Mar-16	600	2.2	43

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx
Channel status reports

TIDAL INFORMATION

PLACE		Height referred to datum of soundings (MLLW)		
NAME	(LAT/LONG)	Mean Higher High Water	Mean High Water	Mean Low Water
		feet	feet	feet
Harrington Point, WA	(46°16'N/123°39'W)	7.7	7.0	0.9
Cathlamet, WA	(46°12'N/123°23'W)	6.7	6.1	0.6
Settlers Point, OR	(46°10'N/123°41'W)	8.0	7.3	1.0
Wauna, OR	(46°10'N/123°24'W)	6.3	5.9	0.6
Skamokawa, WA	(46°16'N/123°27'W)	6.9	6.5	0.8

NOTE: The diurnal range of the tide during low river stages is 6.9 ft. at Three Tree Pt., 6.4 ft. at Cathlamet, and 5.5 ft. at Eagle Cliff. The range becomes progressively smaller with higher stages of the river.
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.
(Sep 2013)

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	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:

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	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

(21) 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.

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.

WOODY ISLAND CHANNEL
Woody Island Channel is subject to continual change. Woody Island Channel Buoys 2, 4, & 5 are not charted because they are frequently shifted and are privately maintained.

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).

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.

COLUMBIA RIVER
Mileage distances along the Columbia River are in Statute Miles eastward from the mouth and are indicated thus:
Tables for converting statute miles to International Nautical miles are given in Coast Pilot 7.

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.

COLUMBIA RIVER TAB DIAGRAM
A Left outside quarter controlling depth (including widener)
B Left inside quarter controlling depth
C Right inside quarter controlling depth
D Right outside quarter controlling depth

COLUMBIA RIVER TAB DIAGRAM
Columbia River main channel - Controlling depths for outside quarters include the adjacent widener/fillet when applicable.

BEAVER SLOUGH/CLATSKANIE RIVER
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - SURVEYS TO NOV 1998
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD)

NAME OF CHANNEL	DEPTH (FEET)	WIDTH (FEET)	DATE OF SURVEY
BEAVER SLOUGH/CLATSKANIE RIVER ENTRANCE TO THE MOUTH OF BEAVER DREDGE CUT	A1.0	-	11-98
THENCE TO HIGHWAY BRIDGE AT CLATSKANIE	A1.0	-	11-98

A. MARINERS SHOULD OBTAIN LOCAL KNOWLEDGE BEFORE NAVIGATING THESE WATERWAYS DUE TO THE EXISTENCE OF NUMEROUS SHOAL AREAS.
NOTE - CONSULT THE CORPS OF ENGINEERS FOR CHANGING CONDITIONS SUBSEQUENT TO THE ABOVE

SCALE 1:40,000
Nautical Miles — Statute Miles — Yards

602.1 X 1061.3 mm

58th Ed., Nov. 2013
18523

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.

Last Correction: 4/28/2016. Cleared through:
LNM: 1716 (4/26/2016), NM: 1916 (5/7/2016), CHS: 0416 (4/29/2016)

To ensure that this chart was printed at the proper scale, the line below should measure six inches (152 millimeters).
If the line does not measure six inches (152 millimeters), this copy is not certified safe for navigation.

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SOUNDINGS IN FEET

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

This chart was distributed as a PDF (Portable Document Format). Printing PDFs may alter the chart scale, color, or legibility that may impact suitability for navigation. Printed charts provided by NOAA certified Print on Demand (POD) providers fulfill a vessel's requirement to carry a navigational chart "published by the National Ocean Service" in accordance with federal regulations, including but not limited to 33 C.F.R. 164.33(a), 33 C.F.R. 164.72(b), and 46 C.F.R. 28.225(a). POD charts meet stringent print standards and can be recognized by an official certification of authenticity printed on the chart. A list of POD providers can be found at: nauticalcharts.noaa.gov/pod

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

Formerly C&GS 6153, 1st Ed., May 1952

SOUNDINGS IN FEET

KAPP 1740

JOINS CHART 18523

JOINS SECTION BELOW

KAPP 1741

JOINS CHART 18525

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

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

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

Bottom characteristics:

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

Miscellaneous:

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

Wreck, rock, obstruction, or shoal swept clear to the depth indicated.

Rocks that cover and uncover, with heights in feet above datum of soundings.

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.

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

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

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.

SUPPLEMENTAL INFORMATION

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

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES — WEST COAST

OREGON — WASHINGTON

COLUMBIA RIVER

CRIMS ISLAND TO SAINT HELENS

Mercator Projection
Scale 1:40,000 at Lat. 46°02'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS AND CLEARANCES OF BRIDGES AND OVERHEAD CABLES IN FEET AT COLUMBIA RIVER DATUM

(MEAN LOWER LOW WATER DURING LOWEST RIVER STAGES)

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

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	162.400 MHz
Portland, OR	KIG-98	162.550 MHz
Olympia, WA	WXM-62	162.475 MHz

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.

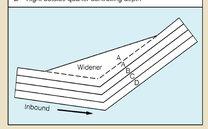
TIDES

The diurnal range of the tide during low river stages is 4.9 feet at Stella (46°11'N/123°07'W), 4.0 feet at Longview (46°06'N/122°57'W), and 2.5 feet at Saint Helens (45°52'N/ 122°48'W). The range becomes progressively smaller with higher stages of the river.

Dec 2006

COLUMBIA RIVER TAB DIAGRAM

A Left outside quarter controlling depth (including widener)
B Left inside quarter controlling depth
C Right inside quarter controlling depth
D Right outside quarter controlling depth



COLUMBIA RIVER TAB DIAGRAM

Columbia River main channel - Controlling depths for outside quarters include the adjacent widener/fillet when applicable.

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, Geological Survey and U.S. Coast Guard.

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 0.578" southward and 4.360" westward to agree with this chart.

NOTE B

Rainier Channel has a controlling depth of 26 feet for a width of 200 feet MAR 2015

COLUMBIA RIVER CHANNEL DEPTHS
GULL ISLAND TURN AND CHANNEL TO ST HELENS TURN
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 25-Mar-16

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE

NAME OF CHANNEL	Left Outside Quarter	Left Inside Quarter	Right Inside Quarter	Right Outside Quarter	Date of Survey	PROJECT DIMENSIONS Width (Feet)	Length (Miles)	Depth (Feet)
Gull Island Turn and Channel	42	44	42	40	9-Mar-16	600	2.2	43
Stella Range	40	43	42	40	7-Mar-16	600	3.0	43
Fisher Island Channel	40	45	44	41	15-Mar-16	600	0.8	43
Walker Island Channel	41	43	42	40	15-Mar-16	600	1.4	43
Below Pt Channel	47	48	46	42	15-Mar-16	600	1.6	43
Slaughters Channel	42	43	44	41	16-Mar-16	600	2.2	43
Slaughters Turn and Channel	42	44	41	41	16-Mar-16	600	1.7	43
Cottonwood Island Lower Rge	38	41	40	39	21-Mar-16	600	1.7	43
Cottonwood Island Turn	45	46	42	40	21-Mar-16	600	2.7	43
Cottonwood Island Upper Rge	42	42	42	40	10-Mar-16	600	1.6	43
Kalama Lower Range	43	43	45	36	8-Mar-16	600	1.8	43
Kalama Upper Range	40	43	43	41	8-Mar-16	600	2.2	43
Bybee Ledge Channel	43	44	44	42	8-Mar-16	600	2.1	43
Martin Island Channel	45	44	42	41	8-Mar-16	600	.2	43
Martin Island Range	41	45	43	43	8-Mar-16	600	1.4	43
Columbia City Channel	40	43	44	42	8-Mar-16	600	1.2	43
St. Helens Range	41	45	46	46	10-Mar-16	600	2.0	43
St. Helens Turn	44	45	46	44	22-Mar-16	600	1.7	43

*For Controlling Depth information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx
Channel status reports

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.

PLANE COORDINATE GRID

(based on NAD 1927)
Oregon State Grid, north zone, is indicated by dotted ticks at 10,000 foot intervals.

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 8° from the normal variation have been observed along this section of the Columbia River.

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 CRF 153).

STATUTE MILES
COLUMBIA RIVER

Mileage distances along the Columbia River are in Statute Miles. Distances along the Columbia River are eastward from the mouth, and are indicated thus: →

Tables for converting Statute Miles to International Nautical Miles are given in Coast Pilot 7.

LOCAL MAGNETIC DISTURBANCE (see note)

LOG STORAGE AREAS-CAUTION

The limits of log storage areas are variable and only known areas are shown on this chart. Mariners should exercise caution in these areas.

AIDS TO NAVIGATION

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

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.

SOURCE

A 1990-2009	NOS Surveys	Full Bottom Coverage
B3 1940-1969	NOS Surveys	partial bottom coverage
B4 1900-1939	NOS Surveys	partial bottom coverage
B5 Pre-1900	NOS Surveys	partial bottom coverage

SOURCE DIAGRAM

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.

37th Ed., Jun. 2011
18524

Last Correction: 4/28/2016. Cleared through:
LNM: 1716 (4/26/2016), NM: 1916 (5/7/2016), CHS: 0416 (4/29/2016)

To ensure that this chart was printed at the proper scale, the line below should measure six inches (152 millimeters).
If the line does not measure six inches (152 millimeters), this copy is not certified safe for navigation.

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.

SOUNDINGS IN FEET

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

This chart was distributed as a PDF (Portable Document Format). Printing PDFs may alter the chart scale, color, or legibility that may impact suitability for navigation. Printed charts produced by NOAA certified Print on Demand (POD) providers fulfill a vessel's requirement to carry a navigational chart "published by the National Ocean Service" in accordance with federal regulations, including but not limited to 33 C.F.R. 164.33(a), 33 C.F.R. 164.72(b), and 46 C.F.R. 28.225(a). POD charts meet stringent print standards and can be recognized by an official certification of authenticity printed on the chart. A list of POD providers can be found at: nauticalcharts.noaa.gov/pod

FATHOMS	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
FEET	0	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
METERS	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34	36	38	40

Columbia River, Crims Island to Saint Helens
SOUNDINGS IN FEET - SCALE 1:40,000

18524

Ex1017-000003-POR

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

Formerly C&GS 6154, 1st Ed., May 1952 KAPP 1742

JOINS CHART 18524

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.

SCALE 1:40,000

Nautical Miles 1 ½ 0 1 2 3

Statute Miles 1 ½ 0 1 2 3

Yards 1000 0 1000 2000 3000 4000 5000

Meters 1000 0 1000 2000 3000 4000 5000

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES — WEST COAST

OREGON — WASHINGTON

COLUMBIA RIVER

SAINT HELENS TO VANCOUVER

Mercator Projection
Scale 1:40,000

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS AND CLEARANCES OF BRIDGES AND OVERHEAD CABLES IN FEET
AT COLUMBIA RIVER DATUM
(MEAN LOWER LOW WATER DURING LOWEST RIVER STAGES)

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

TIDES

The diurnal range of the tide at Vancouver (45°37'N/ 122°40'W) during low river stages is 1.8 feet. The range becomes progressively smaller with higher stages of the river.

May 2012

For Symbols and Abbreviations see Chart No. 1

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, Geological Survey and U.S. Coast Guard.

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)

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 0.578" southward and 4.360" westward to agree with this chart.

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 8° from the normal variation have been observed along this section of the Columbia River.

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.

STATUTE MILES
COLUMBIA AND WILLAMETTE RIVERS

Mileage distances along the Columbia and Willamette Rivers are in Statute Miles. Distances along the Columbia River are eastward from the mouth, and along the Willamette River are southward from the junction of the Columbia River and are indicated thus: ——•——

Tables for converting Statute Miles to International Nautical Miles are given in Coast Pilot 7.

CAUTION
SUBMARINE PIPELINES AND CABLES

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

Pipeline Area — Cable Area

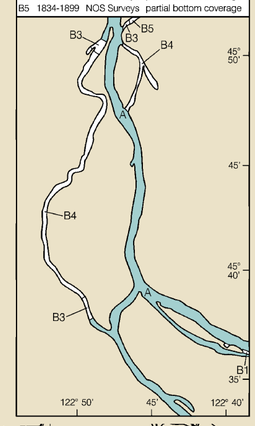
Additional uncharted submarine pipelines and submarine cables may exist within the area of this chart. Not all submarine pipelines and submarine cables are required to be buried, and those that were originally buried may have become exposed. Mariners should use extreme caution when operating vessels 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.

SOURCE DIAGRAM

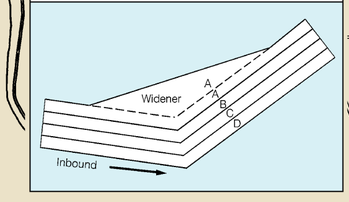
The outlined areas represent the limits of the most recent hydrographic survey information that has been evaluated for charting. Surveys have been banded in this diagram by date and type of survey. Channels maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on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

SOURCE		
A	1990-2009	NOS Surveys full bottom coverage
B1	1990-2004	NOS Surveys partial bottom coverage
B3	1940-1969	NOS Surveys partial bottom coverage
B4	1900-1939	NOS Surveys partial bottom coverage
B5	1834-1899	NOS Surveys partial bottom coverage



COLUMBIA RIVER TAB DIAGRAM

A Left outside quarter controlling depth (including widener)
B Left inside quarter controlling depth
C Right inside quarter controlling depth
D Right outside quarter controlling depth



COLUMBIA RIVER TAB DIAGRAM

Columbia River main channel - Controlling depths for outside quarters include the adjacent widener/fillet when applicable.

CAUTION

Numerous obstructions found in 2009, consisting mainly of submerged snags and ruined piles, are not charted in the Willamette and Columbia Rivers and Multnomah Channel south of the Sauvie Island Fixed Bridge. These obstructions do not present a hazard to surface navigation, but should be taken into consideration for ground fishing.

COLUMBIA RIVER CHANNEL DEPTHS
SAINT HELENS TURN TO TOMAHAWK BAR
TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 25-Mar-16

CONTROLLING DEPTHS IN FEET AT COLUMBIA RIVER DATUM (CRD) * SEE FOOTNOTE						PROJECT DIMENSIONS		
NAME OF CHANNEL	Left Outside Quarter	Left Inside Quarter	Right Inside Quarter	Right Outside Quarter	Date of Survey	Width (Feet)	Length STAT (Miles)	Depth (Feet)
St. Helens Turn	44	45	46	44	22-Mar-16	600	1.7	43
Warrior Rock Range	42	44	42	42	22-Mar-16	600	1.3	43
Duck Club Turn	40	43	46	44	22-Mar-16	600	1.4	43
Henrici Range	40	42	41	39	22-Feb-16	600	2.6	43
Fales Channel	45	44	45	41	22-Feb-16	600	1.1	43
Knapp Point Channel	43	44	44	42	24-Feb-16	600	1.8	43
Willow Lower Range	42	43	42	41	24-Feb-16	600	2.1	43
Willow Upper Range	42	43	45	44	27-Jan-16	600	1.1	43
Morgan Bar	43	45	48	49	27-Jan-16	600	1.0	43
Morgan Channel	44	45	47	41	27-Jan-16	600	1.5	43
Vancouver Lower Channel	47	47	47	45	2-Mar-16	500	1.0	43
Vancouver Range	43	44	43	42	2-Mar-16	500	1.3	43
Vancouver Upper Channel	45	44	44	42	2-Mar-16	500	0.9	43
Vancouver Lower Turning Basin	34	38	33	43	27-Jan-16	800	1.0	43
Vancouver Upper Turning Basin	36	30	26	22	27-Jan-16	800	0.9	35
	L Outside	Mid Channel	R Outside					
Tomahawk Bar	16	17	17	10-Sep-15		300	3.7	27

* For Controlling Depth Information, consult the Local Notice to Mariners and/or the following Portland District US Army Corps of Engineers website: http://www.nwp.usace.army.mil/Missions/Navigation.aspx
Channel status reports

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.

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 CRF 153).

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

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

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

Bottom characteristics:

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

Miscellaneous:

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

(21) 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.

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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.

AIDS TO NAVIGATION

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Portland, OR	KIG-98	162.550 MHz
Woodland, WA	WNG-604	162.525 MHz

SCALE 1:40,000

Nautical Miles 1 ½ 0 1 2 3

Statute Miles 1 ½ 0 1 2 3

Yards 1000 0 1000 2000 3000 4000 5000

Meters 1000 0 1000 2000 3000 4000 5000

CONTINUED ON CHART 18526

37th Ed., Jun. 2012

18525

Last Correction: 4/28/2016. Cleared through:
LNM: 1716 (4/26/2016), NM: 1916 (5/7/2016), CHS: 0416 (4/29/2016)

CAUTION

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

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Ex1017-000004-POR

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JOINS CHART 18531

FATHOMS / FEET / METERS