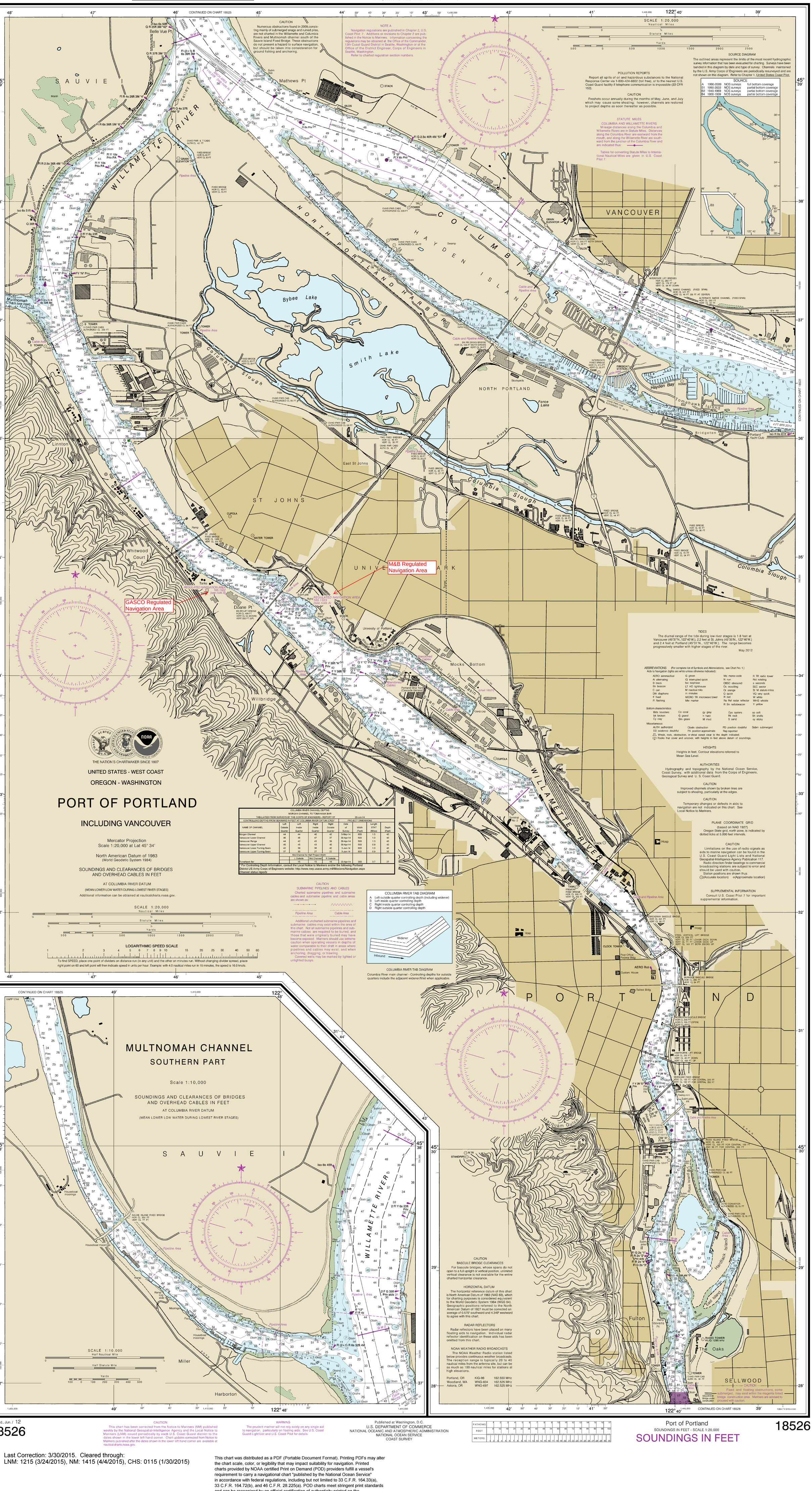
This nautical chart has been designed to promote safe navigation. The National Ocean Service encourages users to submit corrections, additions, or comments for improving this chart to the Chief, Marine Chart Division (N/CS2), National Ocean Service, NOAA, Silver Spring, Maryland 20910-3282.

Formerly C&GS 6155, 1st Ed., Feb 1925 G-1951-776 KAPP 1743



THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - WEST COAST

OREGON - WASHINGTON

PORT OF PORTLAND

INCLUDING VANCOUVER

Mercator Projection
Scale 1:20,000 at Lat 45° 34'

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.

SCALE 1:20,000

Nautical Miles

Statute Miles

Yards

LOGARITHMIC SPEED SCALE

To find SPEED, place one point of dividers on distance run (in any unit) and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in units per hour. Example: with 4.0 nautical miles run in 15 minutes, the speed is 16.0 knots.

COLUMBIA RIVER CHANNEL DEPTHS MORGAN CHANNEL TO TOMAHAWK BAR TABULATED FROM SURVEYS BY THE CORPS OF ENGINEERS - REPORT OF 20-Jun-14								
CONTROLLING DEPTHS FROM SEAWARD IN FEET AT COLUMBIA RIVER DATUM (CRD)*					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)
Morgan Channel	44	44	46	43	5-May-14	600	1.5	43
Vancouver Lower Channel	46	48	47	37	30-Apr-14	500	1.0	43
Vancouver Range	44	42	43	39	30-Apr-14	500	1.3	43
Vancouver Upper Channel	45	45	43	40	30-Apr-14	500	0.9	43
Vancouver Lower Turning Basin	42	39	36	42	3-Jun-14	800	1.0	43
Vancouver Upper Turning Basin	37	30	27	22	3-Jun-14	800	0.9	35
	Mid Channel for Half Project Width							
		L Outside	Mid Channel	R Outside				
Tomahawk Bar:		15	15	18	22-Apr-14	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

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.

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
Widener
Inbound

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

TIDES
The diurnal range of the tide during low river stages is 1.8 feet at Vancouver (45°37'N., 122°40'W.), 2.2 feet at St. Johns (45°35'N., 122°46'W.) and 2.4 feet at Portland (45°31'N., 122°40'W.). The range becomes progressively smaller with higher stages of the river.
May 2012

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
(2) 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. Contour elevations referred to Mean Sea Level.

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
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.

PLANE COORDINATE GRID
(based on NAD 1927)
Oregon State grid, north zone, is indicated by dotted ticks at 5,000 feet intervals.

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) o(Approximate location)

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

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 0.575" southward and 4.349" westward to agree with this chart.

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.

NOAA WEATHER RADIO BROADCASTS
The NOAA Weather Radio station listed below provides 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.

Portland, OR	KIG-98	162.550 MHz
Woodland, WA	WNG-604	162.525 MHz
Astoria, OR	WNG-697	162.525 MHz

CONTINUED ON CHART 18528

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.

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

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

Port of Portland
SOUNDINGS IN FEET - SCALE 1:20,000
SOUNDINGS IN FEET

18526

Last Correction: 3/30/2015. Cleared through:
LNM: 1215 (3/24/2015), NM: 1415 (4/4/2015), CHS: 0115 (1/30/2015)

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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.