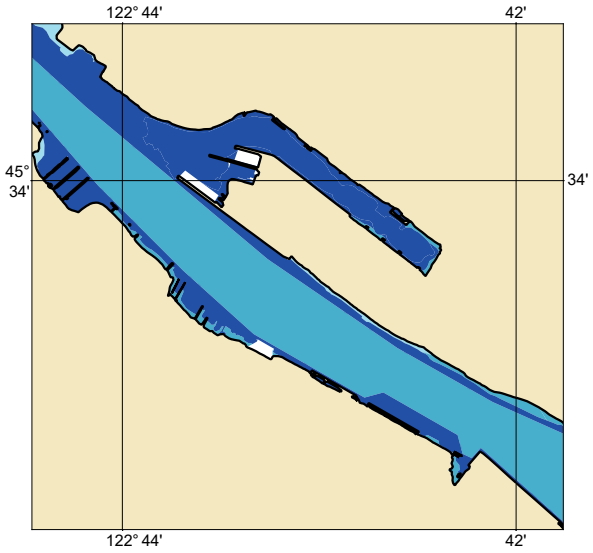
18527OG

Zone of Confidence (ZOC) Diagram



ZOC CATEGORIES

ZOC	COLOR	POSITION ACCURACY	DEPTH ACCURACY	SEAFLOOR COVERAGE
A1		± 5 m + 5% depth ± 16.4 ft + 5% depth	= 0.50 m +1% d = 1.6 ft +1% d = 0.3 fm +1% d	All significant seafloor features detected.
A2		± 20 m ± 65.6 ft	= 1.00 m +2% d = 3.3 ft +2% d = 0.6 fm +2% d	All significant seafloor features detected.
B		± 50 m ± 164.0 ft	= 1.00 m +2% d = 3.3 ft +2% d = 0.6 fm +2% d	Uncharted features hazardous to surface navigation are not expected but may exist.
C		± 500 m ± 1640.4 ft	= 2.00 m +2% d = 6.6 ft +2% d = 1.1 fm +2% d	Depth anomalies may be expected.
D		Worse than ZOC C	Worse than ZOC C	Large depth anomalies may be expected.
U		Unassessed - The quality of the bathymetric data has yet to be assessed.		

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NOAA CUSTOM CHART
NOTES GEOSPATIAL DATABASE
VERSION 3.0C - 17 MARCH 2026

The records of the NOAA Custom Chart Notes Geospatial Database are current as of March 17, 2026. Subsequent additions and refinements are to be expected. Please refer to all available navigational publications for complete information about the charted area.

CAUTION
CHART UPDATES

This NOAA Custom Chart contains up-to-date information only as of the time of creation, and will become outdated. Mariners are advised to visit https://distribution.charts.noaa.gov/navigation-updates/ to check for critical and routine updates, and to render a new NOAA Custom Chart when the ENC data used to make the chart is updated. Notices to Mariners are not issued for corrections to this NOAA Custom Chart.

AUTHORITIES

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

COMMENTS REQUESTED

NOAA encourages users to submit inquiries, discrepancies, or comments about this chart via NOAA's ASSIST tool at https://nauticalcharts.noaa.gov/customer-service/assist/ .

CAUTION
AUTOMATED CHART GENERATION

This NOAA Custom Chart has been automatically rendered from NOAA Electronic Navigational Chart (NOAA ENC®) data. Mariners using this NOAA Custom Chart are advised that this is a static reproduction of the NOAA ENC®. This NOAA Custom Chart has not been individually quality checked or adjusted for optimal use for navigation. The portrayal may be at a different scale from that of the original NOAA ENC®. Mariners are advised to use caution when using this NOAA Custom Chart for navigation and are encouraged to use the latest NOAA ENC® to access the most up-to-date information. Mariners must also comply with all applicable regulatory requirements.

HEIGHTS

Heights of fixed aids to navigation and vertical clearances of overhead obstructions will be shown in feet if the units are set to feet or fathoms. If units are set to meters, heights will be shown in meters. Land elevation values are shown in meters only.

WATER LEVELS, CURRENTS, AND TIDES

Real-time water levels, tide predictions, and tidal current predictions are available on the internet from NOAA’s Center for Operational Oceanographic Products and Services (CO-OPS) at https://tidesandcurrents.noaa.gov/water_level_info.html and https://tidesandcurrents.noaa.gov/currents_info.html .

ABBREVIATIONS

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

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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.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 10 for important supplemental information.

VERTICAL DATUM

Overhead clearances in the Columbia and Willamette Rivers at Portland are referred to Columbia River Datum.

CAUTION

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

CAUTION
LIMITATIONS ON THE USE OF RADIO SIGNALS

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.

AIDS TO NAVIGATION

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

RADAR REFLECTORS

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

ADDITIONAL INFORMATION

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

SOUNDING DATUM

Soundings in the Columbia and Willamette Rivers at Portland are referred to Columbia River Datum, or Mean Lower Low Water (MLLW) during lowest river stages.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 10. Additions or revisions to Chapter 2 are published in the Notices to Mariners. Information concerning the regulations may be obtained at the Office of the Commander, 13th Coast Guard District in Seattle, WA or at the Office of the District Engineer, Corps of Engineers in Portland, OR.

Refer to charted regulation section numbers.

CAUTION
SUBMERGED CABLES AND PIPELINES

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.

STATUTE MILES
COLUMBIA RIVER

Mileage distances along the Columbia River are in Statute Miles eastward from the mouth. Tables for converting Statute Miles to International Nautical Miles are given in Coast Pilot 10.

CAUTION
FRESHETS

Freshets occur annually during the months of May, June, and July which may cause some shoaling; however, channels are restored to project depths as soon thereafter as possible.

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.
Davis Peak, WA WNG-604 162.525 MHz

CAUTION

USACE conducts hydrographic surveys to monitor navigation conditions. These surveys are not intended to detect underwater features. Uncharted features hazardous to surface navigation are not expected but may exist in federal channels. For more information visit https://navigation.usace.army.mil/Survey/Hydro.

STATUTE MILES
WILLAMETTE RIVER

Mileage distances along the Willamette River are in Statute Miles southward from the junction with the Columbia River. Tables for converting Statute Miles to International Nautical Miles are given in Coast Pilot 10.

CAUTION
NUMEROUS OBSTRUCTIONS

Numerous obstructions found in 2009, consisting mainly of submerged snags and ruined piles, are not charted in the Willamette River and Swan Island Basin. These obstructions do not present a hazard to surface navigation, but should be taken into consideration for ground fishing and anchoring.

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