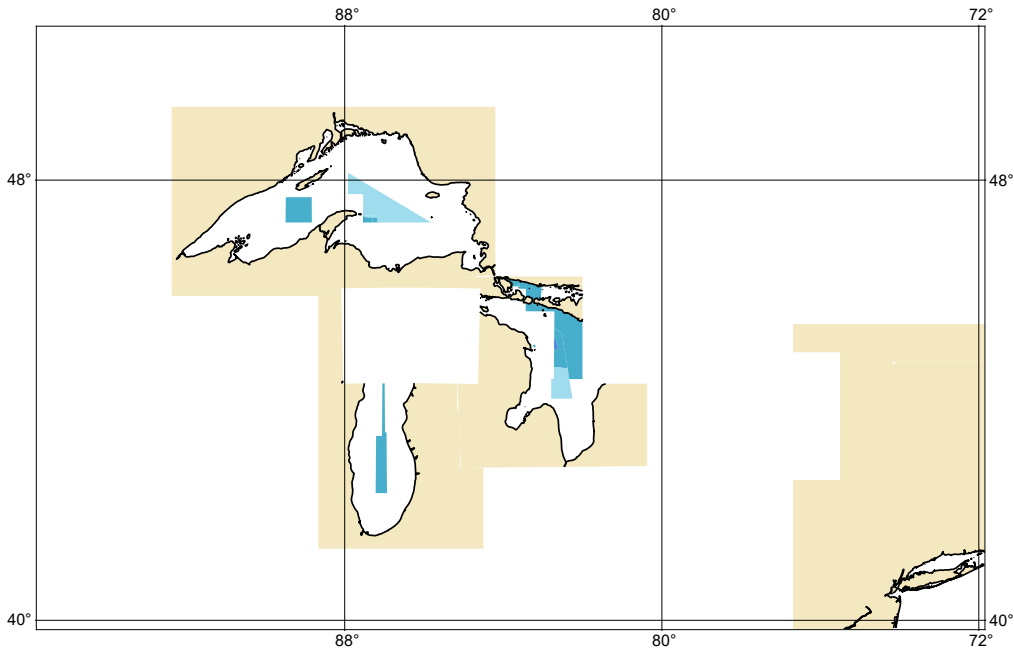


Zone of Confidence (ZOC) Diagram



ZOC CATEGORIES

ZOC	COLOR	POSITION ACCURACY	DEPTH ACCURACY	SEAFLOOR COVERAGE
A1		$\pm 5\text{ m} + 5\% \text{ depth}$ $\pm 16.4\text{ ft} + 5\% \text{ depth}$	$= 0.50\text{ m} + 1\% \text{ d}$ $= 1.6\text{ ft} + 1\% \text{ d}$ $= 0.3\text{ fm} + 1\% \text{ d}$	All significant seafloor features detected.
A2		$\pm 20\text{ m}$ $\pm 65.6\text{ ft}$	$= 1.00\text{ m} + 2\% \text{ d}$ $= 3.3\text{ ft} + 2\% \text{ d}$ $= 0.6\text{ fm} + 2\% \text{ d}$	All significant seafloor features detected.
B		$\pm 50\text{ m}$ $\pm 164.0\text{ ft}$	$= 1.00\text{ m} + 2\% \text{ d}$ $= 3.3\text{ ft} + 2\% \text{ d}$ $= 0.6\text{ fm} + 2\% \text{ d}$	Uncharted features hazardous to surface navigation are not expected but may exist.
C		$\pm 500\text{ m}$ $\pm 1640.4\text{ ft}$	$= 2.00\text{ m} + 2\% \text{ d}$ $= 6.6\text{ ft} + 2\% \text{ d}$ $= 1.1\text{ fm} + 2\% \text{ d}$	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.		

145000G

NOAA CUSTOM CHART
NOTES GEOSPATIAL DATABASE
VERSION 2.0A - 1 MAY 2023

CAUTION
AUTOMATED CHART GENERATION

The records of the NOAA Custom Chart Notes Geospatial Database are current as of May 1st, 2023. 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This NOAA Custom Chart contains up-to-date information only as of the time of creation, and will become outdated.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/weekly_updates/ to check for weekly updates, and to render a new NOAA Custom Chart when information 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/>.

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.

145000G

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 1 for important supplemental information.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

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

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

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 2 for important supplemental information.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 for important supplemental information.

Refer to charted regulation section numbers.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6, NGA Publication 145, and Canadian Sailing Directions, St Lawrence River, Montreal to Kingston for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa. For the St. Lawrence Seaway Regulations and Circulars, special equipment, radio frequencies used in Traffic Control and related information, refer to THE SEAWAY HANDBOOK.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 and Canadian Sailing Directions, Detroit River, Lake St Clair, St Clair River for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

SOUNDING DATUM

Soundings referred to Mean Lower Low Water (MLLW).

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 and Canadian Sailing Directions, Lake Ontario for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 and Canadian Sailing Directions, Welland Canal and Lake Erie for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 6 and Canadian Sailing Directions, Lake Huron, St Marys River, Lake Superior for important supplemental information.

Information concerning Canadian Nautical Charts, Sailing Directions, Tide Tables, and other Government publications of interest to mariners may be obtained on request to the Dominion Hydrographer, Canadian Hydrographic Service, Department of Fisheries and Oceans, Ottawa.

145000G

SOUNDING DATUM

Soundings in Lake Superior are referred to Low Water Datum, which is 601.1 feet / 183.2 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in the St Marys River above the the locks are referred to the sloping surface of the river when Lake Superior is at elevation 601.1 feet / 183.2 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point and the gage above the locks reads 600.6 feet / 183.1 meters.

SOUNDING DATUM

Soundings in Lake Michigan are referred to Low Water Datum, which is 577.5 feet / 176.0 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in Lake St Clair are referred to Low Water Datum, which is 572.3 feet / 174.3 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in Lake Erie are referred to Low Water Datum, which is 569.2 feet / 173.5 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in the St Marys River below the the locks are referred to the sloping surface of the river when Lake Huron is at elevation 577.5 feet / 176.0 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point and the gage below the locks reads 578.4 feet / 176.3 meters.

SOUNDING DATUM

Soundings in Lake Huron are referred to Low Water Datum, which is 577.5 feet / 176.0 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in the St Clair River are referred to the sloping surface of the river when Lake Huron is at elevation 577.5 feet / 176.0 meters and Lake St Clair is at elevation 572.3 feet / 174.3 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in the Detroit River are referred to the sloping surface of the river when Lake St Clair is at elevation 572.3 feet / 174.3 meters and Lake Erie is at an elevation 569.2 feet / 173.5 above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in the Niagara River above the falls are referred to the sloping surface of the river when Lake Erie is at elevation 569.2 feet / 173.5 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

SOUNDING DATUM

Soundings in Lake Ontario are referred to Low Water Datum, which is 243.3 feet / 74.2 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 1. 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, 1st Coast Guard District in Boston, MA or at the Office of the District Engineer, Corps of Engineers in Concord, MA.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 2. 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, 1st Coast Guard District in Boston, MA or at the Office of the District Engineer, Corps of Engineers in Concord, MA.

Refer to charted regulation section numbers.

SOUNDING DATUM

Soundings in the Niagara River below the falls are referred to the sloping surface of the river when Lake Ontario is at elevation 243.3 feet / 74.2 meters above Mean Water Level at Rimouski, Quebec, the International Great Lakes Datum 1985 (IGLD 1985) reference point.

VERTICAL DATUM

Overhead clearances are referred to Mean High Water (MHW).

VERTICAL DATUM

Overhead clearances in the Great Lakes are reduced correspondingly when water surface is above Low Water Datum. See U.S. Coast Pilot 6 for clearances.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 2. 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, 1st Coast Guard District in Boston, MA or at the Office of the District Engineer, Corps of Engineers in New York, NY.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3. 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, 5th Coast Guard District in Portsmouth, VA or at the Office of the District Engineer, Corps of Engineers in Baltimore, MD.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 3. 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, 5th Coast Guard District in Portsmouth, VA or at the Office of the District Engineer, Corps of Engineers in Philadelphia, PA.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. 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, 1st Coast Guard District in Boston, MA or at the Office of the District Engineer, Corps of Engineers in New York, NY.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. 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, 9th Coast Guard District in Cleveland, OH or at the Office of the District Engineer, Corps of Engineers in Chicago, IL.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. 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, 9th Coast Guard District in Cleveland, OH or at the Office of the District Engineer, Corps of Engineers in New York, NY.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. 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, 9th Coast Guard District in Cleveland, OH or at the Office of the District Engineer, Corps of Engineers in Detroit, MI.

Refer to charted regulation section numbers.

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 6. 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, 9th Coast Guard District in Cleveland, OH or at the Office of the District Engineer, Corps of Engineers in Buffalo, NY.

Refer to charted regulation section numbers.

PRECAUTIONARY AREA

Traffic within the Precautionary Area may consist of vessels making the transition between operating in Ambrose or Sandy Hook Channels and one of the traffic lanes. Mariners are advised to exercise extreme care in navigating within this area.

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.

CAUTION

Improved channels are subject to shoaling, particularly at the edges.

CAUTION
FISH TRAP AREAS

Uncharted stakes, piles and, fishing structures, some submerged, may exist within this area.

CANADIAN
AIDS TO NAVIGATION

See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

COPYRIGHT

No copyright is claimed by the United States Government under Title 17 U.S.C. However, other nations may claim intellectual property rights on the compilation of data depicting the foreign waters shown on this chart.

CAUTION

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

During some winter months or when endangered by ice, certain aids to navigation are replaced by other types or removed. For details, see U.S. Coast Guard Light List.

CAUTION
BASCULE BRIDGES

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.

CAUTION
FERRY ROUTES

Mariners are cautioned that ferries may deviate from their published standard routes due to inclement weather, traffic conditions, navigational hazards, or other emergency situations.

145000G

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.

CAUTION

Due to periodic high water conditions, in the Great Lakes, some features charted as visible at Low Water Datum may be submerged, particularly in the near shore areas. Mariners should proceed with caution.

~~RESTRICTED AREA~~
RIGHT WHALE SEASONAL
MANAGEMENT AREA
(50 CFR 224.105)

All vessels greater than or equal to 65 feet / 19.8 meters in length must slow to speeds of 10 knots or less in seasonal management areas.

CAUTION LOBSTER POT AREA

There is a lobster pot area west of Block Channel.

CAUTION POTABLE WATER INTAKE

Vessels operating in fresh water lakes or rivers shall not discharge sewage, or ballast, or bilge water within such areas adjacent to domestic water intakes as are designated by the Commissioner of Food and Drugs (21 CFR 1250.93). Consult U.S. Coast Pilot 6 for important supplemental information

AREA TO BE AVOIDED

To avoid the risk of pollution and damage to the environment, this area has been designated an Area to be Avoided. All vessels carrying petroleum, dangerous or toxic cargoes, or any other vessel exceeding 1,000 gross tons should avoid this area.

NOTE Z

NO-DISCHARGE ZONE, 40 CFR 140

Michigan waters of Lakes Michigan, Huron, Superior, Erie and St. Clair, all waterways connected thereto, and all inland lakes are designated as a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. Commercial vessel sewage shall include graywater. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) website: <https://www.epa.gov/vessels-marinas-and-ports>.

THUNDER BAY

NATIONAL MARINE SANCTUARY

(PROTECTED AREA: 15 CFR 922; SEE NOTE A)

APOSTLE ISLANDS

NATIONAL LAKESHORE

The Apostle Islands National Lakeshore boundary extends from the shoreline to 0.21 nautical miles/0.25 miles offshore (36 CFR 7.82).

LOCAL MAGNETIC DISTURBANCE

Differences of as much as 17° from the normal variation have been observed near Escanaba in the vicinity of 45°44'N, 87°04'W.

NOTE Z

NO-DISCHARGE ZONE, 40 CFR 140

Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) website: <https://www.epa.gov/vessels-marinas-and-ports>.

NOTE Z

NO-DISCHARGE ZONE, 40 CFR 140

Under the Clean Water Act, Section 312, all vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, treated or untreated, into the waters. Commercial vessel sewage shall include graywater. All vessels with an installed marine sanitation device (MSD) that are navigating, moored, anchored, or docked within a NDZ must have the MSD disabled to prevent the overboard discharge of sewage (treated or untreated) or install a holding tank. Regulations for the NDZ are contained in the U.S. Coast Pilot. Additional information concerning the regulations and requirements may be obtained from the Environmental Protection Agency (EPA) website: <https://www.epa.gov/vessels-marinas-and-ports>.