14500 (formerly LS 0) LORAN-C OVERPRINTED

NEW CHART NUMBERING SYSTEM

The National Ocean Survey, in cooperation with the Defense Mapping Agency Hydrographic Center, is in the process of adopting a new national chart numbering system. See Notice to Mariners No. 3 (June 28, 1975) published by the Ninth Coast Guard District, or NOAA Chart Catalog for cross references of old and new chart numbers.

SOUNDINGS IN FATHOMS

1st Ed., 1967

Nautical Chart Catalog No. 4

STATUTE MILES

LORAN LINEAR INTERPOLATOR

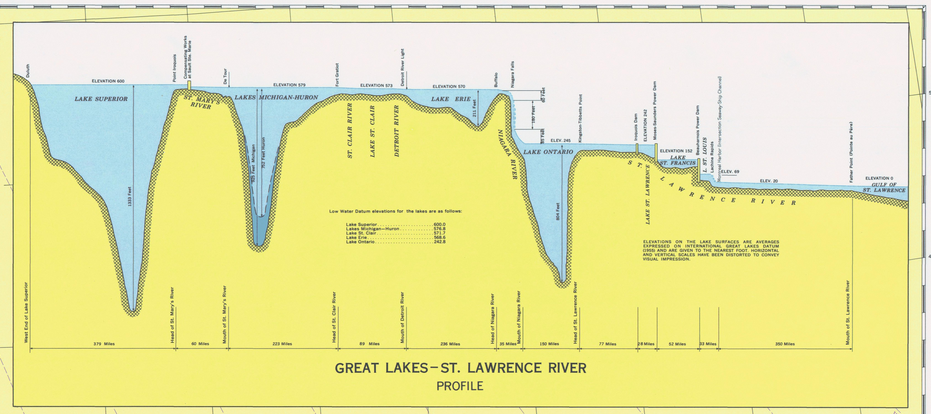
MICROSECONDS

LORAN-C
GENERAL EXPLANATION

LORAN-C FREQUENCY ..... 100kHz.
PULSE REPETITION INTERVAL
9930 ..... 99,300 Microseconds
STATION TYPE DESIGNATORS: (Not individual station letter designators)
M ..... Master
W ..... Secondary
V ..... Secondary
X ..... Secondary
Z ..... Secondary
EXAMPLE: 9930-X

RATES ON THIS CHART
* 9930-Y 9930-Z

This chart has been prepared for use with ground wave signals. Sky wave corrections are not provided. The Loran-C lines of position on this chart are compensated for propagation delay.
*Group repetition interval 9930 was formerly designated 5S7.



Low Water Datum elevations for the lakes are as follows:

Lake Superior	600.0
Lakes Michigan—Huron	576.8
Lake St. Clair	572.3
Lake Erie	568.6
Lake Ontario	242.8

ELEVATIONS ON THE LAKE SURFACES ARE AVERAGES FOR THE NAVIGATION SEASON. DISTANCES ACROSS LAKES (RED AND AMBER) TO THE NEAREST FOOT. HORIZONTAL AND VERTICAL SCALES HAVE BEEN DISTORTED TO CONVEY VISUAL IMPRESSION.

GREAT LAKES—ST. LAWRENCE RIVER
PROFILE

General Lake Dimensions	Lake Superior	Lake Michigan	Lake Huron	Lake St. Clair	Lake Erie	Lake Ontario
Length (right line in clear) in miles	350	307	206	26	241	193
Breadth (right line) in miles	160	118	183	24	57	53
Length of coastline (including islands) in miles	2,730	1,640	3,830	257	871	712
Areas in square miles*						
Water surface	31,700	22,300	23,000	430	9,910	7,340
Drainage basin land	49,300	45,600	50,700	4,800	22,700	23,400
Maximum depth in feet	1,333	923	750	21	210	802
Average depth in feet	489	279	195	10	62	283
Volume of water in cubic miles	2,935	1,180	849	1	116	393

*Not including the St. Marys, St. Clair, Detroit, Niagara and St. Lawrence Rivers

GREAT LAKES DRAINAGE BASIN LIMIT

UNITED STATES – GREAT LAKES

GREAT LAKES

LAKE CHAMPLAIN TO LAKE OF THE WOODS

Polyconic Projection
Scale 1:1,500,000
North American 1902 Datum

SOUNDINGS IN FATHOMS

NOTES

OMISSION OF DETAIL. Owing to the small scale, most aids to navigation and other detail have been omitted. Coast and harbor charts should be used where detail is required.

CANADIAN AREAS. For data concerning Canadian areas, Canadian authorities have been consulted.

AIDS TO NAVIGATION. Consult U.S. Coast Guard Light List for supplemental information concerning aids to navigation. See Canadian List of Lights, Buoys and Fog Signals for information not included in the U.S. Coast Guard Light List.

GREAT LAKES PILOT. For supplemental information as to depths in improved harbors consult latest edition of the Great Lakes Pilot, containing descriptions of coasts, harbors, channels, dry docks, canals, bridge clearances, rules and regulations, etc. Copies may be purchased from the Distribution Division, C44, National Ocean Survey, Riverdale, Maryland 20840.

INTERNATIONAL BOUNDARY. The International Boundary Line as shown hereon is in accordance with the location adopted August 15, 1913 by the International Waterways Commission under Article IV of the treaty between the United States of America and the United Kingdom of Great Britain and Ireland signed April 11, 1908.

HYDROGRAPHY. Contours are shown in fathoms. Depths to 10 fathoms are tinted blue

PLANES OF REFERENCE OF THIS CHART ..... (Low Water Datum)
Referred to mean water level at Father Point (Pointe au Pere), Quebec, International Great Lakes Datum (1955).

LAKE SUPERIOR
PLANE OF REFERENCE (Low Water Datum) ..... 600.0 ft.
LAKE MICHIGAN
PLANE OF REFERENCE (Low Water Datum) ..... 576.8 ft.
LAKE HURON
PLANE OF REFERENCE (Low Water Datum) ..... 576.8 ft.
LAKE ERIE
PLANE OF REFERENCE (Low Water Datum) ..... 568.6 ft.
LAKE ONTARIO
PLANE OF REFERENCE (Low Water Datum) ..... 242.8 ft.

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

MAGNETIC VARIATIONS. The isogonic lines in purple showing equal magnetic variation (magnetic declination) were reproduced from U.S. Coast and Geodetic Survey Chart I-911, Isogonic Chart of the United States, 1975.0. Places of large local disturbance are indicated in purple thus ⊙

REQUEST FOR INFORMATION

Mariners are urged to report promptly to The Director, National Ocean Survey, National Oceanic and Atmospheric Administration, Rockville, Maryland 20852, any conditions found to differ from or to be additional to those shown on this chart in order that they may be fully investigated and proper corrections made. In some instances, a section of the chart should be submitted to illustrate the reported conditions, in which event, a new chart will be issued to replace the used copy, providing the revised chart is the current edition and not an obsolete copy.

DISTANCES—STATUTE AND NAUTICAL MILES

	Quebec	Montreal	Thunder Bay	Toronto	Port Weller	Port Colborne	Buffalo	Cleveland	Toledo	Detroit	Port Huron	Bay City	Sta. Tour	Sault Ste. Marie	Thunder Bay	Duluth	Mackinac Bridge	Milwaukee	Chicago
Quebec		157	827	506	440	461	481	600	667	673	737	868	922	963	1199	1304	1052	1167	1224
Montreal	136		702	440	438	461	481	600	667	673	737	868	922	963	1199	1304	1052	1167	1224
Thunder Bay		185	689	457	385	344	464	531	535	745	745	805	1061	1164	806	1031	1187	1187	1187
Toronto		159	157	184	106	344	421	428	490	652	714	799	1022	1154	737	996	1067		
Port Weller		138	136	160	92	299	366	372	426	566	620	694	888	1002	640	865	927		
Port Colborne			24	48	67	187	264	280	314	494	508	547	785	887	566	763	820		
Buffalo			21	42	58	162	229	243	273	429	441	475	682	770	492	663	712		
Cleveland				22	100	237	344	306	468	530	576	648	870	933	612	827			
Toledo				19	99	206	299	265	407	463	500	564	757	843	532	719			
Detroit					176	254	351	322	484	547	592	664	885	949	628	856			
Port Huron					98	178	275	246	408	471	516	588	809	873	552	780			
Bay City					83	94	186	186	342	385	430	502	723	787	466	694			
Sta. Tour						47	143	145	295	339	375	447	679	743	422	650			
Sault Ste. Marie							63	374	386	351	604	726	909	968	688	933			
Thunder Bay							185	734	745	745	745	805	1061	1164	806	1031			
Duluth							141	185	234	470	527	715	440	496					
Mackinac Bridge								185	234	470	527	715	440	496					
Milwaukee									88	311	469	45	264	322					
Chicago									88	311	469	45	264	322					
										206	342	76	303	360					
										206	342	76	303	360					
												188	351	440					
													401	440					
													401	440					
														225					
														225					

NOTE

The above table gives the shortest navigable distances between principal points on the Great Lakes to the nearest even mile; fractions of 1/2 mile or more being taken as a full mile and those less than 1/2 mile omitted. Distances on the St. Lawrence River are measured from the entrance to the St. Lawrence Seaway located at Montreal Harbor. For complete mileage tables of the Great Lakes and their connecting waterways, see the Great Lakes Pilot.

RACING BUOYS

Racing buoys within the limits of this chart are not considered permanent aids to navigation and, therefore, the U.S. Coast Guard District Offices as racing and other privately maintained buoys are not all listed in the U.S. Coast Guard Light List.

CAUTION

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

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 Great Lakes Pilot for details.

21st Ed., Nov. 29/75
14500
(formerly LS 0)
LORAN-C OVERPRINTED

CAUTION
This chart has been corrected from the Notice to Mariners issued periodically by each U.S. Coast Guard district and by the Canadian Department of Transport to the print date shown in the lower left hand corner.

SOUNDINGS IN FATHOMS

FILE COPY

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

(Great Lakes)
SOUNDINGS IN FATHOMS - SCALE 1:1,500,000
14500
(formerly LS 0)
LORAN-C OVERPRINTED