BookletChart™

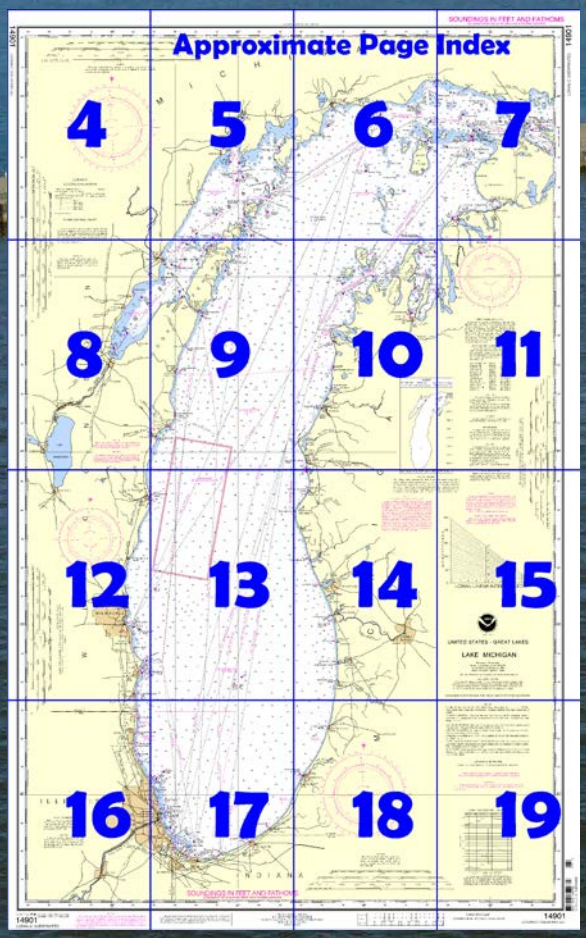
Lake Michigan

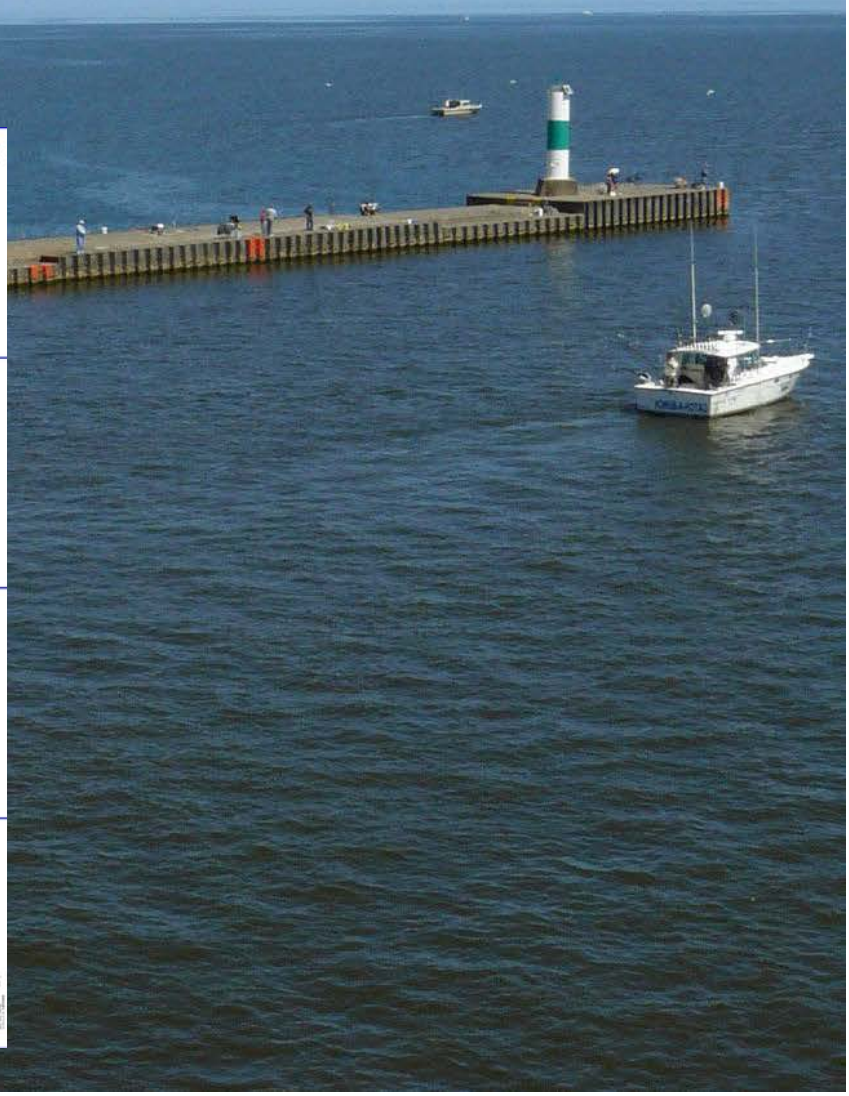
NOAA Chart 14901

A reduced-scale NOAA nautical chart for small boaters

When possible, use the full-size NOAA chart for navigation.

- *Complete, reduced-scale nautical chart*
- *Print at home for free*
- *Convenient size*
- *Up-to-date with Notices to Mariners*
- *Compiled by NOAA's Office of Coast Survey, the nation's chartmaker*





Published by the
National Oceanic and Atmospheric Administration
National Ocean Service
Office of Coast Survey
www.NauticalCharts.NOAA.gov
888-990-NOAA

What are Nautical Charts?

Nautical charts are a fundamental tool of marine navigation. They show water depths, obstructions, buoys, other aids to navigation, and much more. The information is shown in a way that promotes safe and efficient navigation. Chart carriage is mandatory on the commercial ships that carry America's commerce. They are also used on every Navy and Coast Guard ship, fishing and passenger vessels, and are widely carried by recreational boaters.

What is a BookletChart™?

This BookletChart is made to help recreational boaters locate themselves on the water. It has been reduced in scale for convenience, but otherwise contains all the information of the full-scale nautical chart. The bar scales have also been reduced, and are accurate when used to measure distances in this BookletChart. See the Note at the bottom of page 5 for the reduction in scale applied to this chart.

Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at http://www.NauticalCharts.NOAA.gov.

This BookletChart does NOT fulfill chart carriage requirements for regulated commercial vessels under Titles 33 and 44 of the Code of Federal Regulations.

Notice to Mariners Correction Status

This BookletChart has been updated for chart corrections published in the U.S. Coast Guard Local Notice to Mariners, the National Geospatial Intelligence Agency Weekly Notice to Mariners, and, where applicable, the Canadian Coast Guard Notice to Mariners. Additional chart corrections have been made by NOAA in advance of their publication in a Notice to Mariners. The last Notices to Mariners applied to this chart are listed in the Note at the bottom of page 7. Coast Pilot excerpts are not being corrected.

For latest Coast Pilot excerpt visit the Office of Coast Survey website at http://www.nauticalcharts.noaa.gov/nsd/coastpilot_w.php?book=6

(Selected Excerpts from Coast Pilot)
Lake Michigan is the third largest of the **Great Lakes** and is the only one entirely within the United States. The only natural outlet of the lake is at the north end through the **Straits of Mackinac**. At the south end of the lake, the **Illinois Waterway** provides a connection to the Mississippi River and the Gulf of Mexico. The north part of the lake has many islands and is indented by several bays; **Green Bay** and **Grand Traverse Bay** are the largest. The shores in the south part of the lake are regular, and it has been necessary to construct artificial harbors. The shores in the north part of the lake are sparsely populated, while those in the south part are near the heart of the urban industrial area of the U.S. Midwest.

Fluctuations of water level.–The normal elevation of the lake surface varies irregularly from year to year. During the course of each year, the surface is subject to a consistent seasonal rise and fall, the lowest stages prevailing during the winter and the highest during the summer.
Weather, Lake Michigan.–Gales are most likely from September through April, particularly in the fall. During this season gales blow 3 to 7 percent of the time; speeds of 28 knots or more occur from 12 to 20 percent of the time. Strong winds often blow out of the W and northwest, making east shore harbor entrances dangerous. The strongest measured over-the-lake wind was out of the west-southwest at 58 knots. Spring winds can blow strong, with winds of 28 knots or more about 4 to 8 percent of the time. They do slacken from their winter fierceness, with southerlies and southwesterlies becoming more frequent and northerlies less so as summer approaches. Strong winds are infrequent in summer and mostly associated with thunderstorms. S and southwest winds prevail particularly in the N; southeasterlies are also common in the S. Northerlies are a secondary wind.
Pilotage.–The waters of Lake Michigan are Great Lakes undesignated waters; registered vessels of the United States and foreign vessels are required to have in their service a United States or Canadian registered pilot or other officer qualified for Great Lakes undesignated waters. Registered pilots for Lake Michigan are supplied by Western Great Lakes Pilots Association (See Appendix A for addresses.) Pilot exchange points are off Port Huron at the head of St. Clair River in about 43°05'30"N., 82°24'42"W. and at De Tour, MI, at the entrance to St. Marys River. Three pilot boats are at Port Huron; HURON BELLE has an international orange hull with an aluminum cabin, and HURON MAID and HURON LADY each have an international orange hull with a white cabin. The pilot boat at De Tour, LINDA JEAN, has a green hull and a white cabin. (See Pilotage, chapter 3, and **46 CFR 401**, chapter 2.)
Principal ports.–Most of the harbors on the east side of Lake Michigan are within the mouths of small rivers or in small lakes connected to Lake Michigan by an entrance channel. Parallel piers have been constructed at the mouths of these harbors to aid in carrying the bar into deeper water and to lessen the need for dredging in the harbor entrance. In addition, several harbors along this shore have been provided with stilling basins formed by breakwaters that converge to an entrance opening in deep water beyond the parallel piers. These basins dissipate the force of storm generated waves to prevent them from being conducted through the confined channels between the piers and into the harbors.
The harbors on the west side of the lake are generally at the mouths of small rivers, the only large streams being the **Fox and Menominee Rivers** which empty into Green Bay. The entrances to the harbors are generally protected by parallel piers, and some have been provided with stilling basins. Some harbor entrances are protected by detached breakwaters. Outer harbors enclosed by breakwaters have been constructed at **Calumet Harbor** and **Milwaukee**. Entirely artificial harbors, with basins enclosed by piers and breakwaters, are at **Burns International Harbor, Gary, Buffington, Indiana Harbor, Great Lakes, Waukegan, Port Washington**, and **Port Inland**.
The most important harbors in Lake Michigan are **Muskegon, Calumet, Chicago, Milwaukee, Kenosha,** and **Green Bay**. Drydocking facilities for deep-draft vessels are at Sturgeon Bay.

U.S. Coast Guard Rescue Coordination Center
24 hour Regional Contact for Emergencies

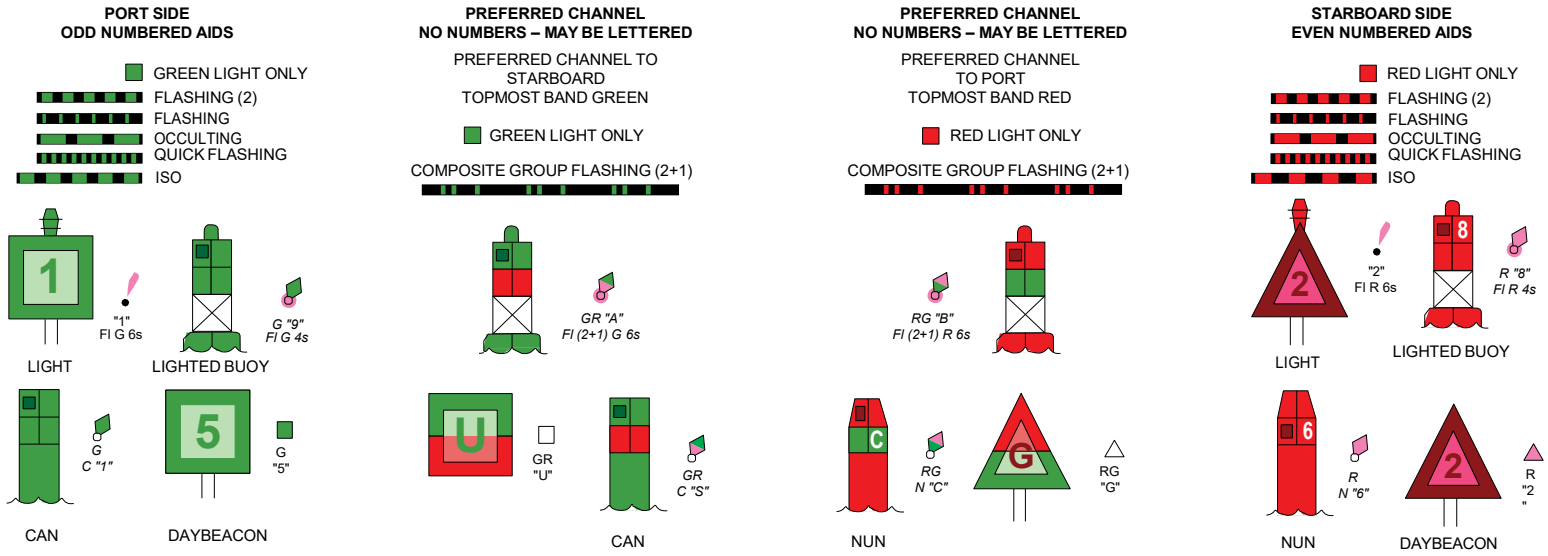
RCC Cleveland	Commander 9th CG District Cleveland, OH	(216) 902-6117

Navigation Manager Regions

To make suggestions, ask questions, or report a problem with a chart, go to https://www.nauticalcharts.noaa.gov/customer-service/assist/

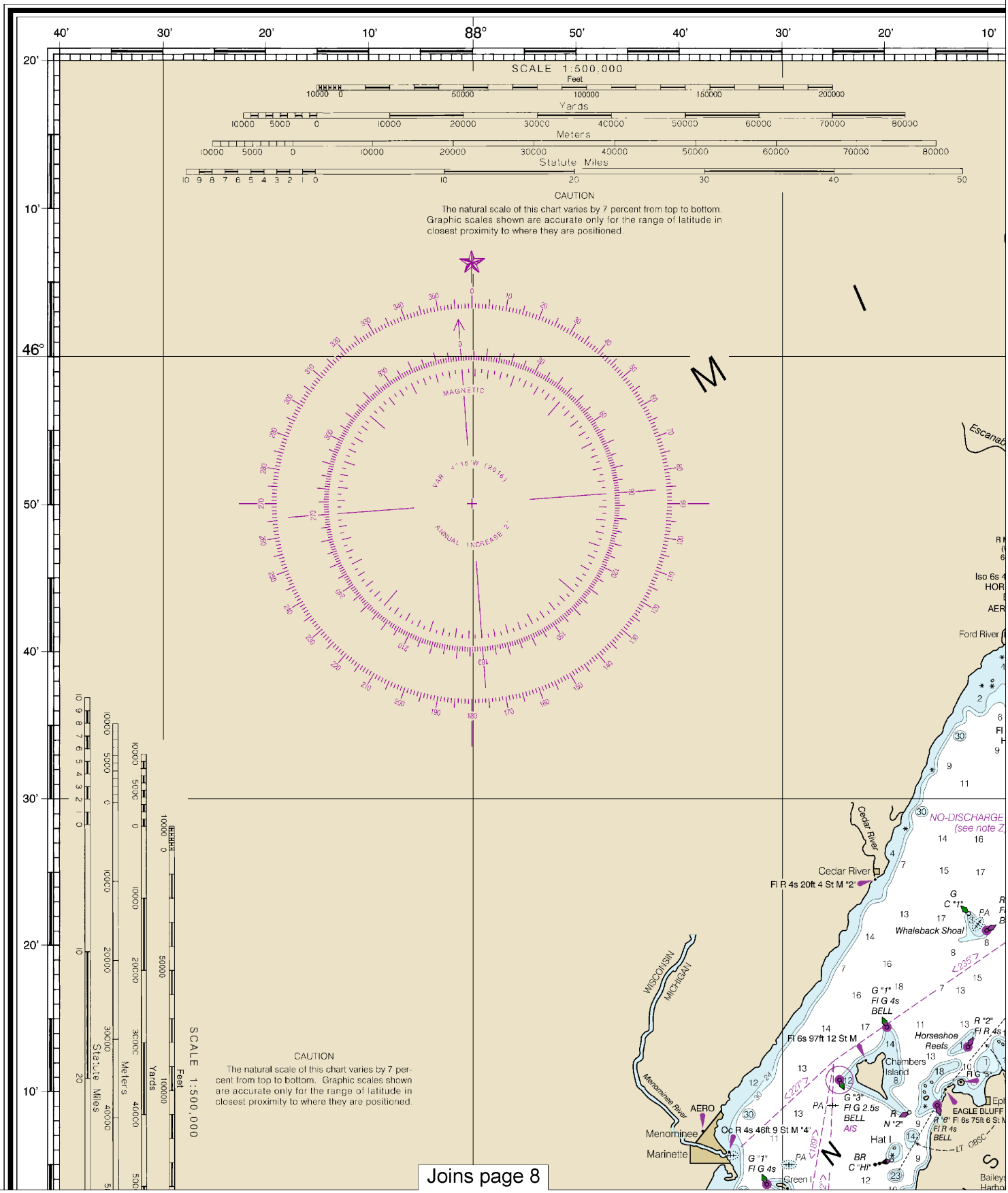
Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers



For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area.
These volumes are available online at *http://www.navcen.uscg.gov*

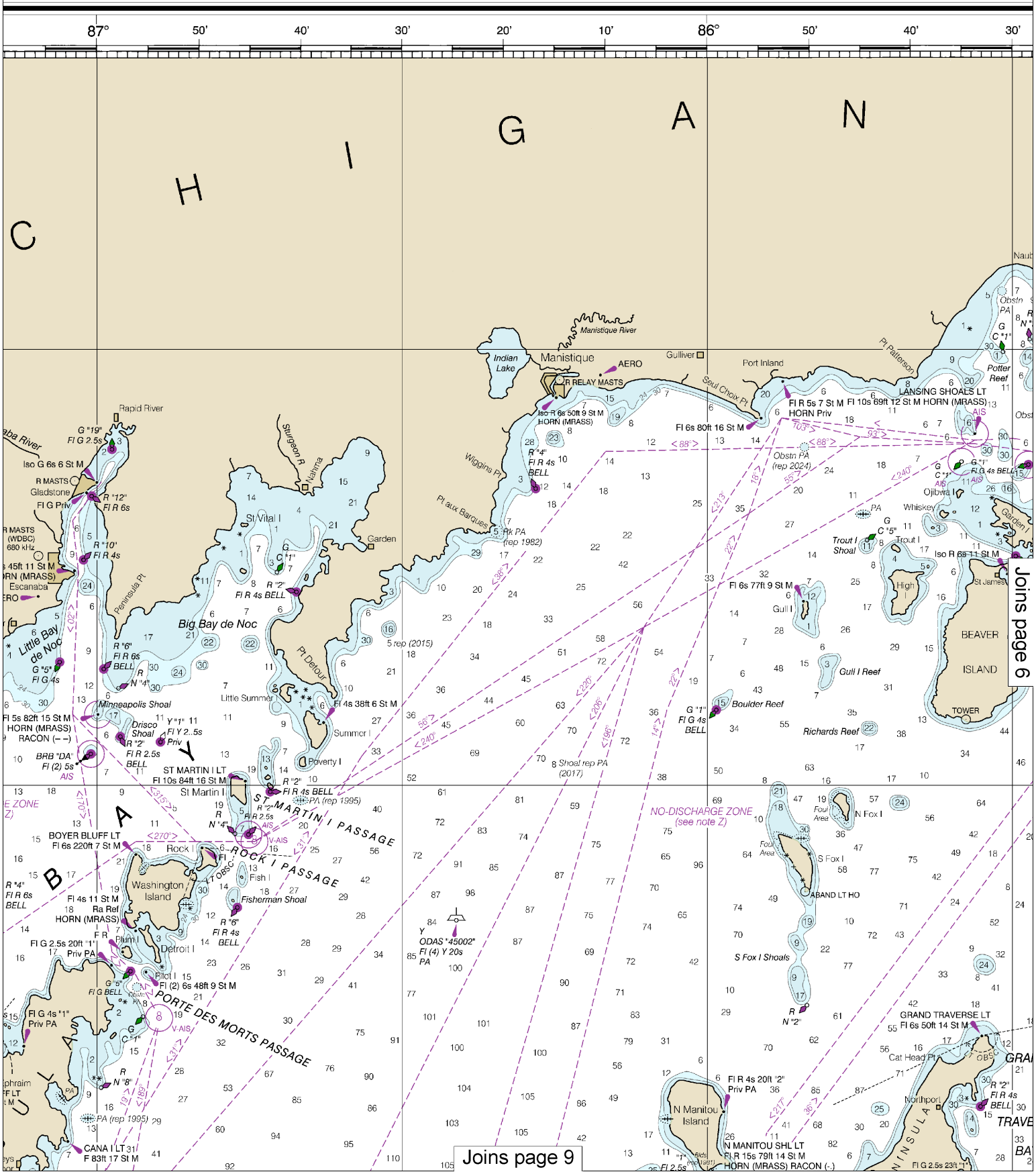
14901



4

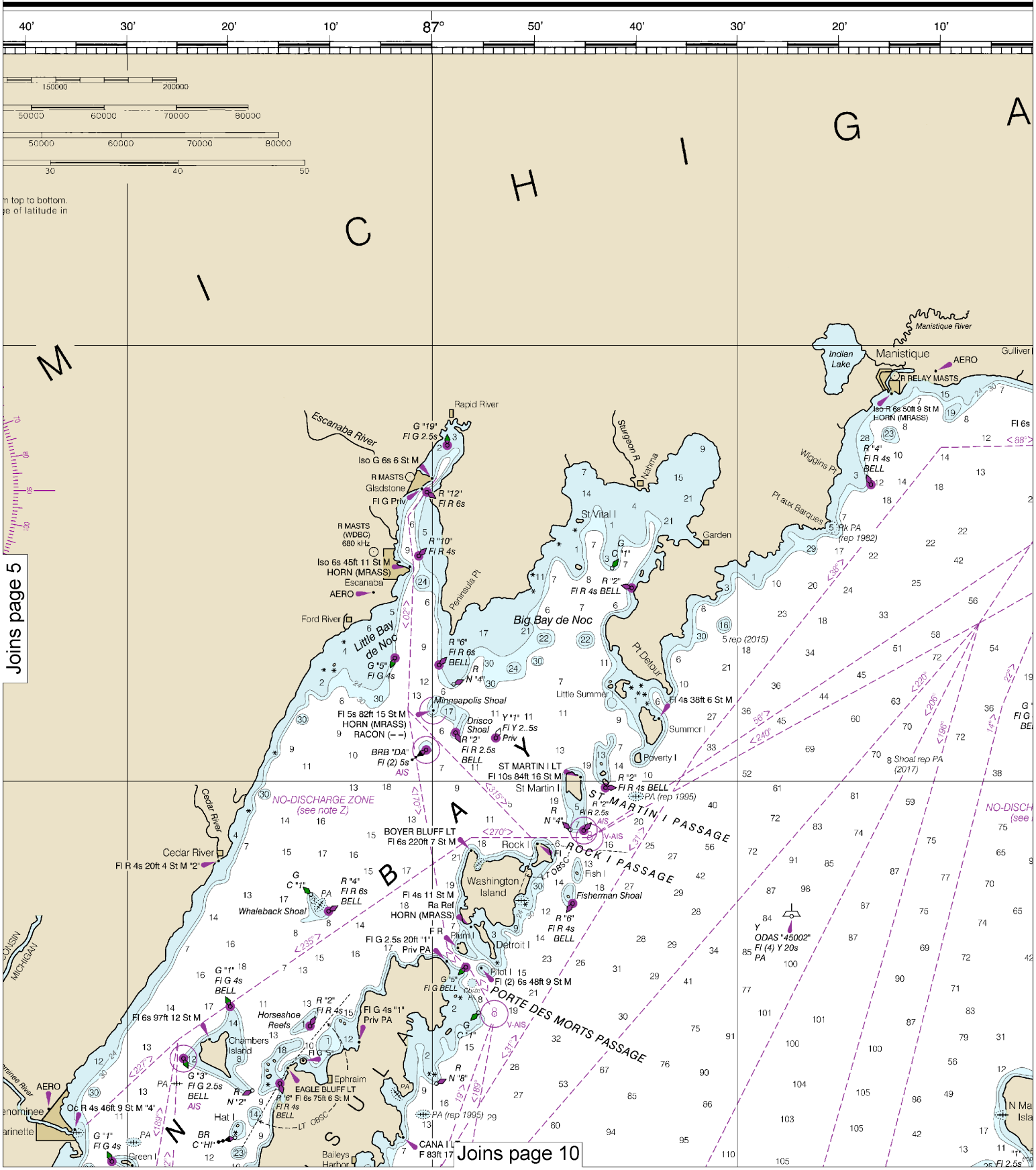
Note: Chart grid lines are aligned with true north.

Formerly LS 7M, 1st Ed., Nov. 1968 KAPP 1361



This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:666666. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.

Formerly LS 7M, 1st Ed., Nov. 1968 KAPP 1361



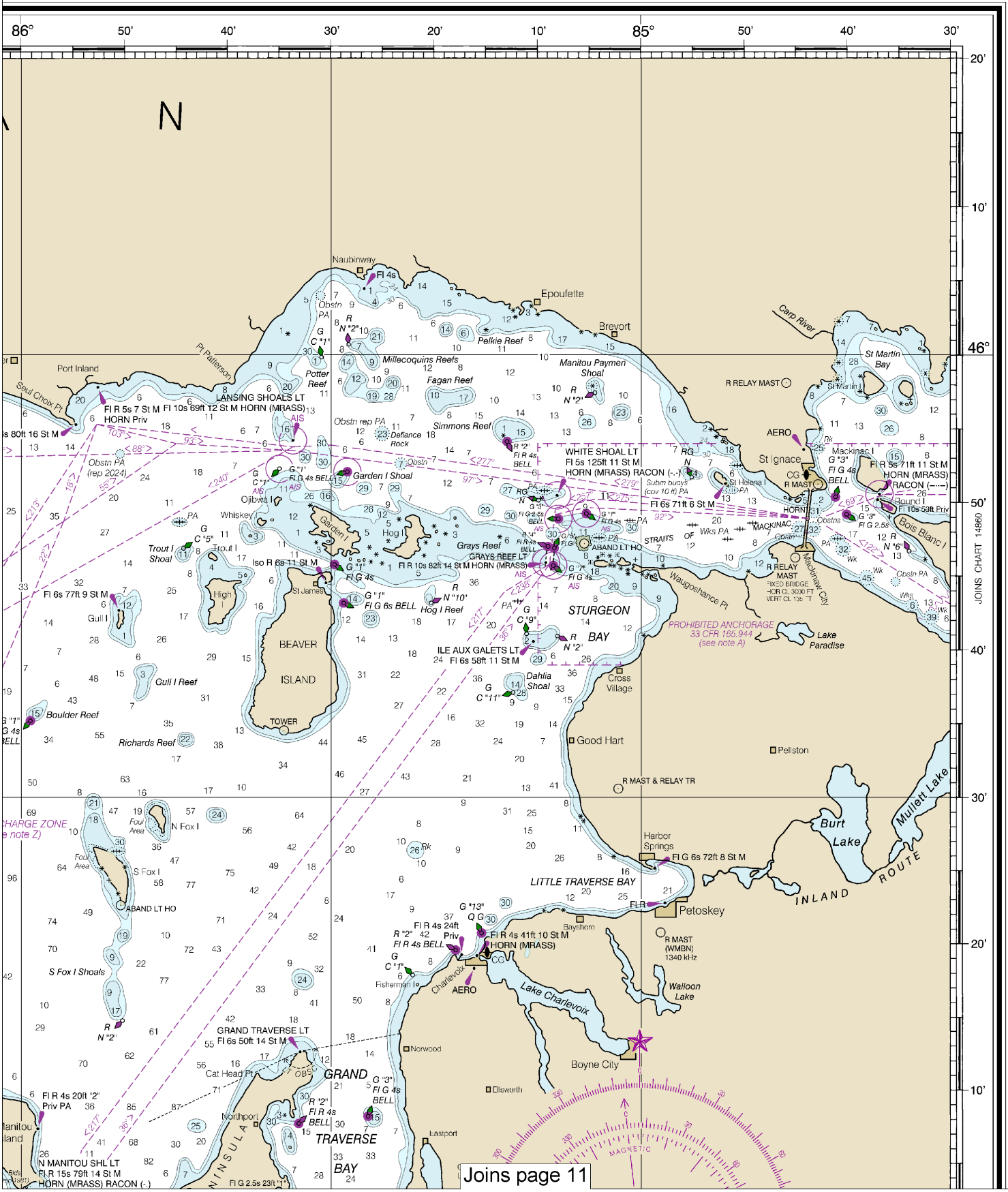
6

Note: Chart grid lines are aligned with true north.

SOUNDINGS IN FEET AND FATHOMS

SOUNDINGS IN FEET IN BLUE TINT AREAS IN FATHOMS ELSEWHERE

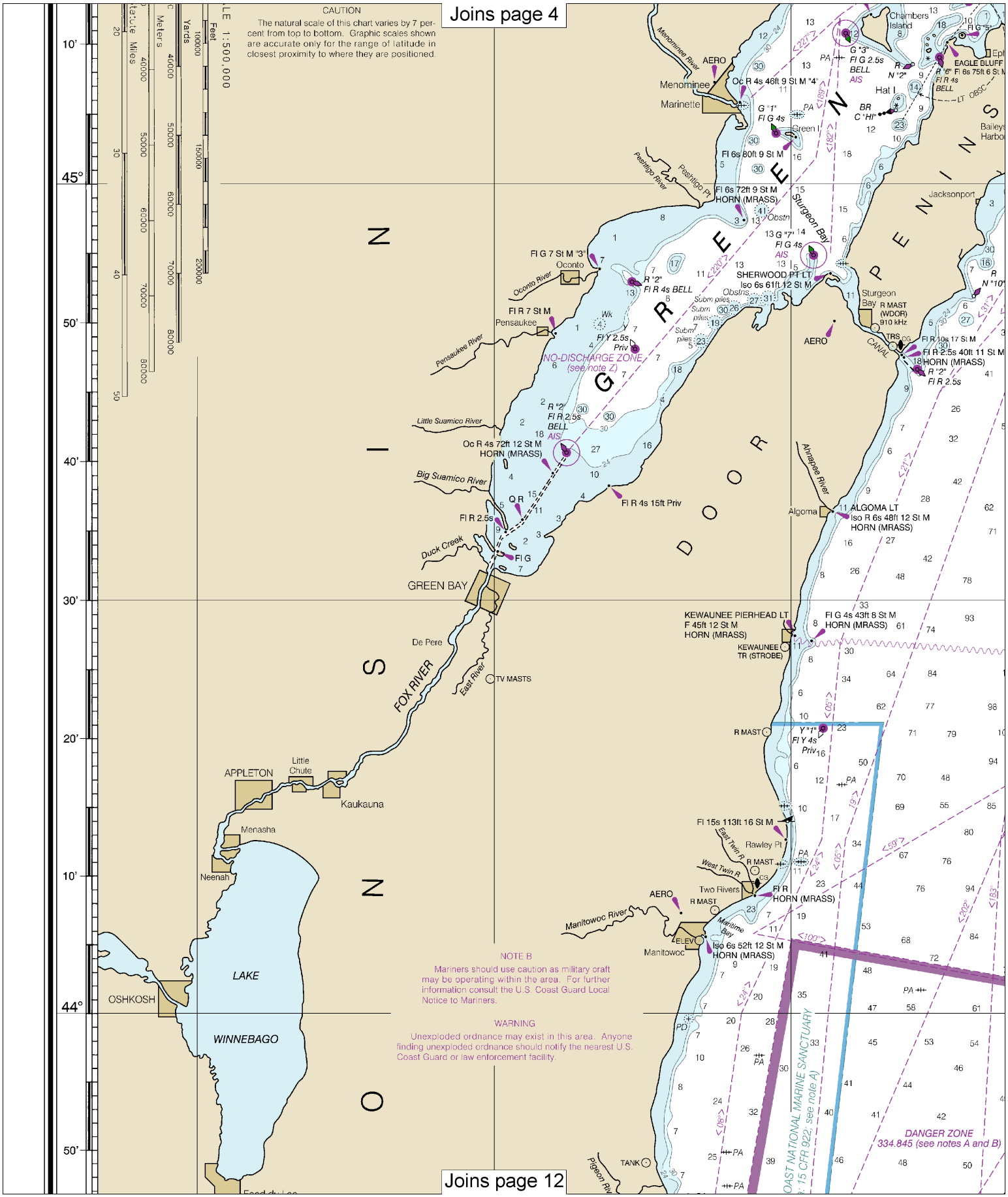
14901



Joins page 11

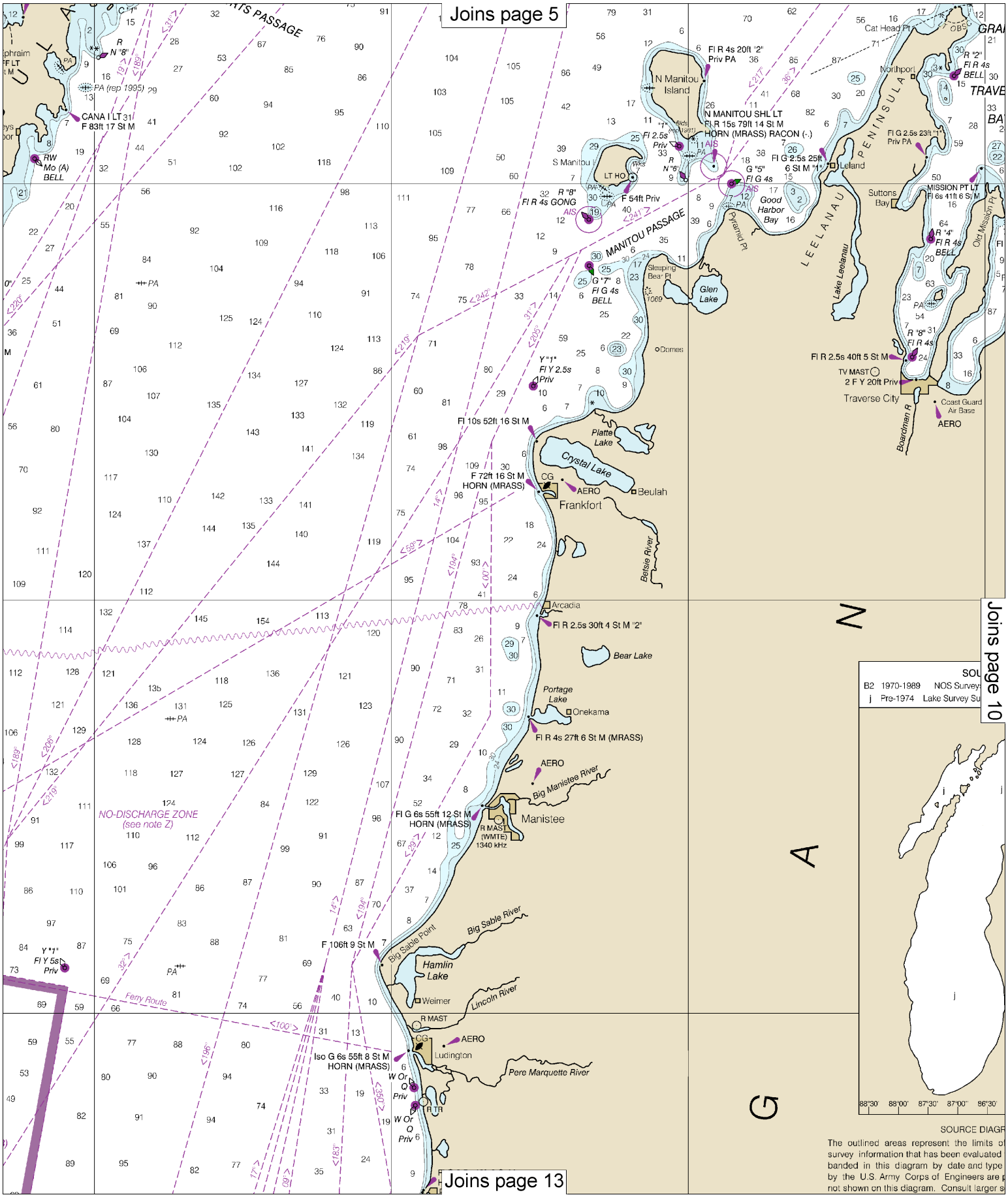
Use ENC charts for the most up to date information. References to other charts may no longer be applicable.

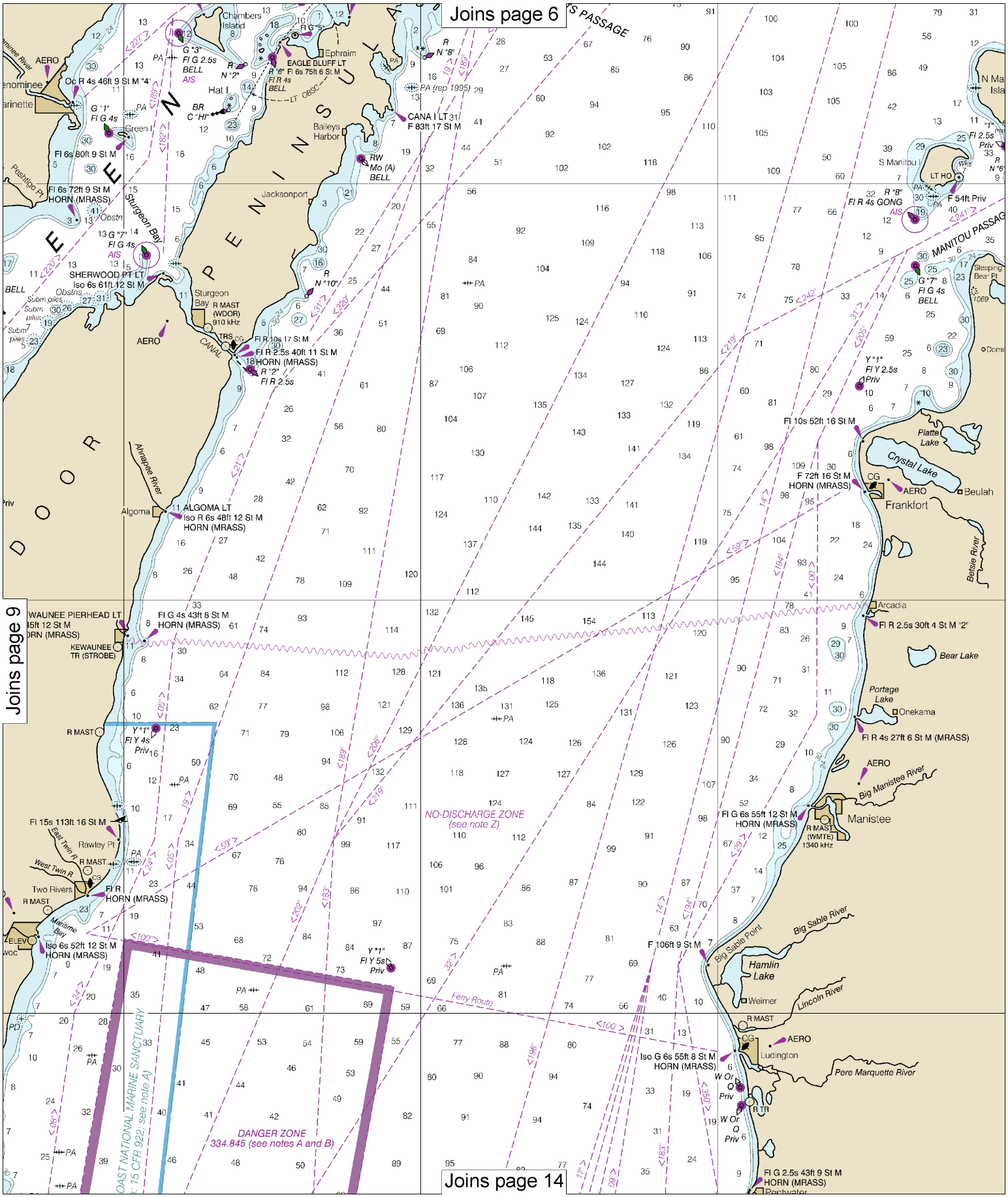
18th Ed., Aug. 2020. Last Correction: 4/10/2024. Cleared through:
LNM: 1524 (4/9/2024), NM: 1624 (4/20/2024), CHS: 0324 (3/29/2024)



8

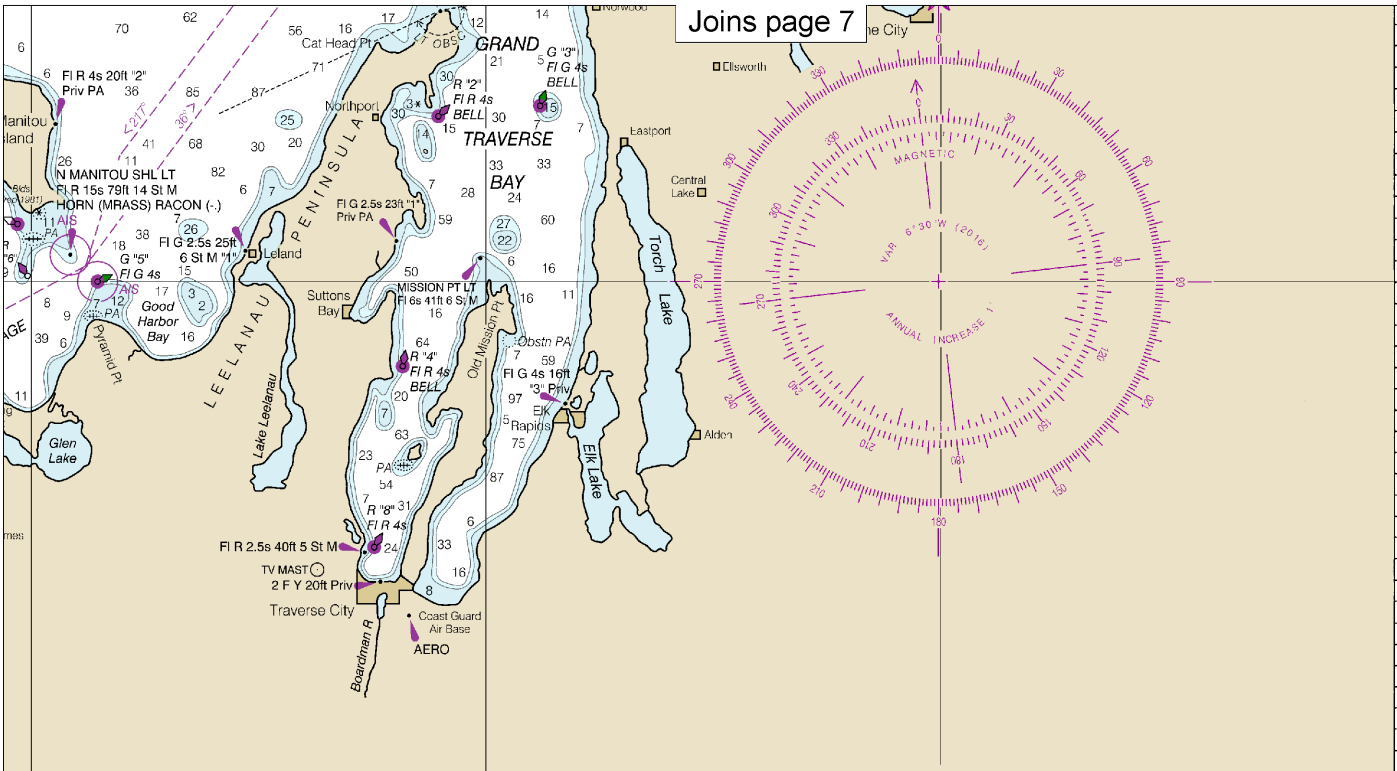
Note: Chart grid lines are aligned with true north.


Joins page 5
Joins page 10
Joins page 13
MANITOU PASSAGE
N Manitou Island
N MANITOU SHL LT
Fl R 15s 79ft 14 St M
HORN (MRASS) RACON (-.)
Fl R 4s 20ft "2"
Priv PA
Fl 2.5s
Priv
S Manitou I
LT HO
F 54ft Priv
R "8"
Fl R 4s GONG
Fl G 4s
Good Harbor Bay
Pyramid Pt
Leland
Fl G 2.5s 25ft
G "5"
6 St M "1"
Fl G 2.5s 23ft "1"
Priv PA
Cat Head Pt
Northport
R "2"
Fl R 4s
BELL
LEELANAU PENINSULA
Lake Leelanau
Glen Lake
Sleeping Bear Pt
G "7"
Fl G 4s
BELL
Domes
Suttons Bay
MISSION PT LT
Fl 6s 41ft 6 St M
R "4"
Fl R 4s
BELL
Old Mission Pt
R "8"
Fl R 4s
Fl R 2.5s 40ft 5 St M
TV MAST
2 F Y 20ft Priv
Traverse City
Coast Guard Air Base
AERO
Boardman R
Y "1"
Fl Y 2.5s
Priv
Fl 10s 52ft 16 St M
F 72ft 16 St M
HORN (MRASS)
CG
AERO
Frankfort
Beulah
Platte Lake
Crystal Lake
Betsie River
Arcadia
Fl R 2.5s 30ft 4 St M "2"
Bear Lake
Portage Lake
Onekama
Fl R 4s 27ft 6 St M (MRASS)
AERO
Big Manistee River
Manistee
R MAST
(WMTE)
1340 kHz
Fl G 6s 55ft 12 St M
HORN (MRASS)
NO-DISCHARGE ZONE
(see note Z)
Big Sable Point
Big Sable River
Hamlin Lake
Weimer
Lincoln River
F 106ft 9 St M
Y "1"
Fl Y 5s
Priv
Ferry Route
R MAST
CG
AERO
Ludington
Pere Marquette River
Iso G 6s 55ft 8 St M
HORN (MRASS)
W Or
Q
Priv
R TR
W Or
Q
Priv
CANA I LT 31
F 83ft 17 St M
RW
Mo (A)
BELL
PA (rep 1995)
SOURCE DIAGR
The outlined areas represent the limits of
survey information that has been evaluated
banded in this diagram by date and type
by the U.S. Army Corps of Engineers are p
not shown on this diagram. Consult larger s
B2 1970-1989 NOS Surveys
j Pre-1974 Lake Survey Su
88°30' 88°00' 87°30' 87°00' 86°30'



Note: Chart grid lines are aligned with true north.

Joins page 7



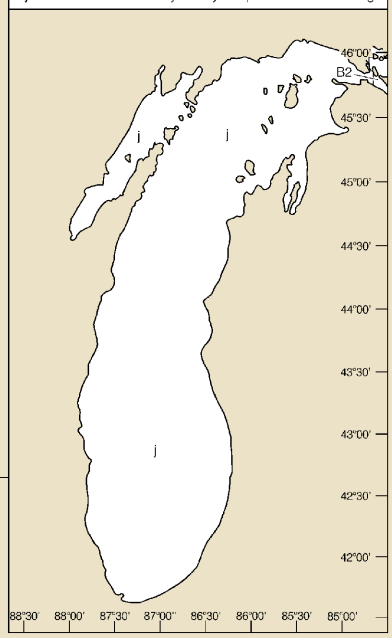
NOAA WEATHER RADIO BROADCASTS

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.

Sault Ste Marie, MI	KIG-74	162.550 MHz
Marquette, MI	KIG-66	162.550 MHz
Sister Bay, WI	WXN-69	162.425 MHz
Green Bay, WI	KIG-65	162.550 MHz
Sheboygan, WI	WWG-91	162.425 MHz
Milwaukee, WI	KEC-60	162.400 MHz
Chicago, IL	KWO-39	162.550 MHz
South Bend, IN	WXJ-57	162.400 MHz
Oshtemo, MI	WWF-34	162.475 MHz
Grand Rapids, MI	KIG-63	162.550 MHz
Hesperia, MI	WWF-36	162.475 MHz
Traverse City, MI	KIH-22	162.400 MHz
Gaylord, MI	WWF-70	162.500 MHz

SOURCE

B2	1970-1989	NOS Surveys	partial bottom coverage
j	Pre-1974	Lake Survey 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 ar not shown on this diagram. Consult larger scale charts for survey infor

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

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

RACING BUOYS

Racing buoys within the limits of this chart are not shown hereon. Information may be obtained from the U.S. Coast Guard District Offices as racing and other private buoys are not all listed in the U.S. Coast Guard Light List.

CAUTION

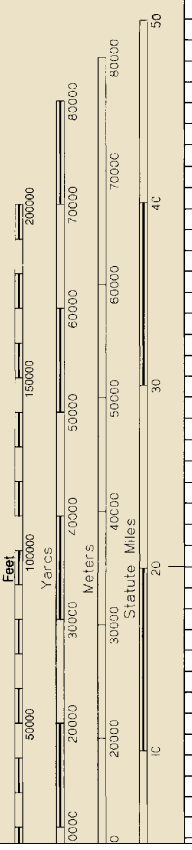
Limitations on the use of radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Geospatial-Intelligence Agency Publication 117.

Radio direction-finder bearings to commercial ng stations are subject to error and used with caution.

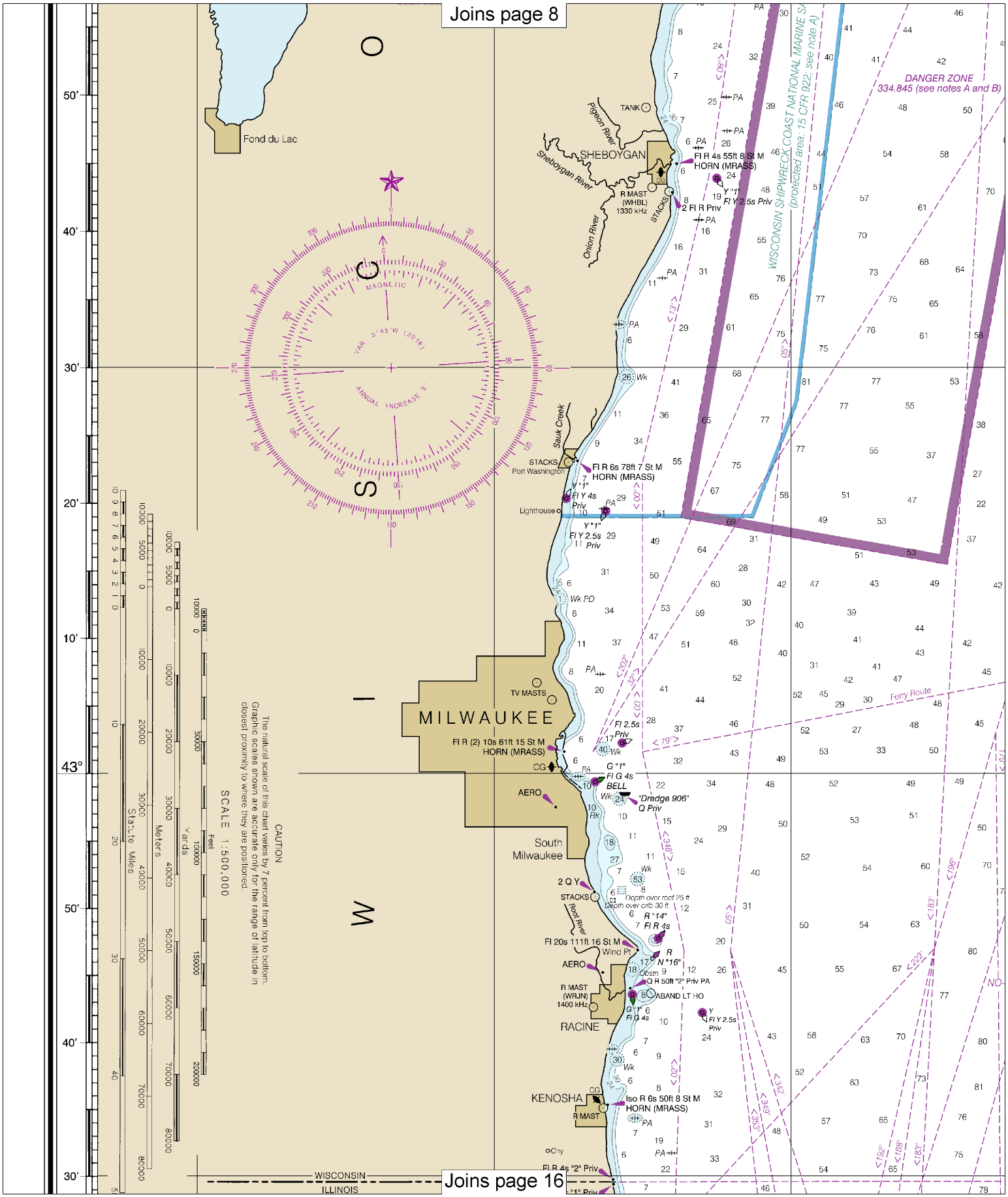
CAUTION

The natural scale of this chart varies by 7 percent from top to bottom. Graphic scales shown are accurate only for the range of latitude in closest proximity to where they are positioned.

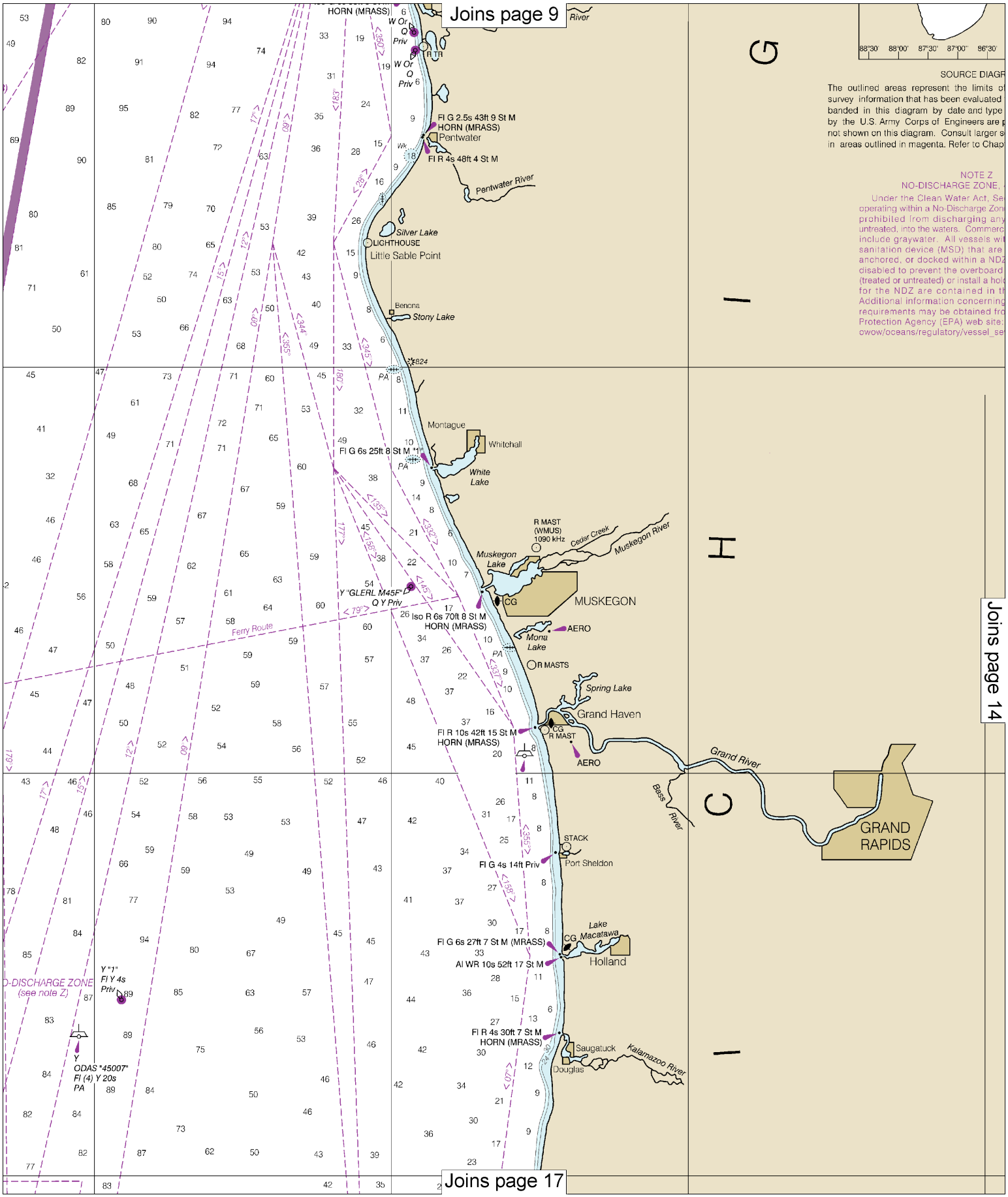
SCALE 1:500,000

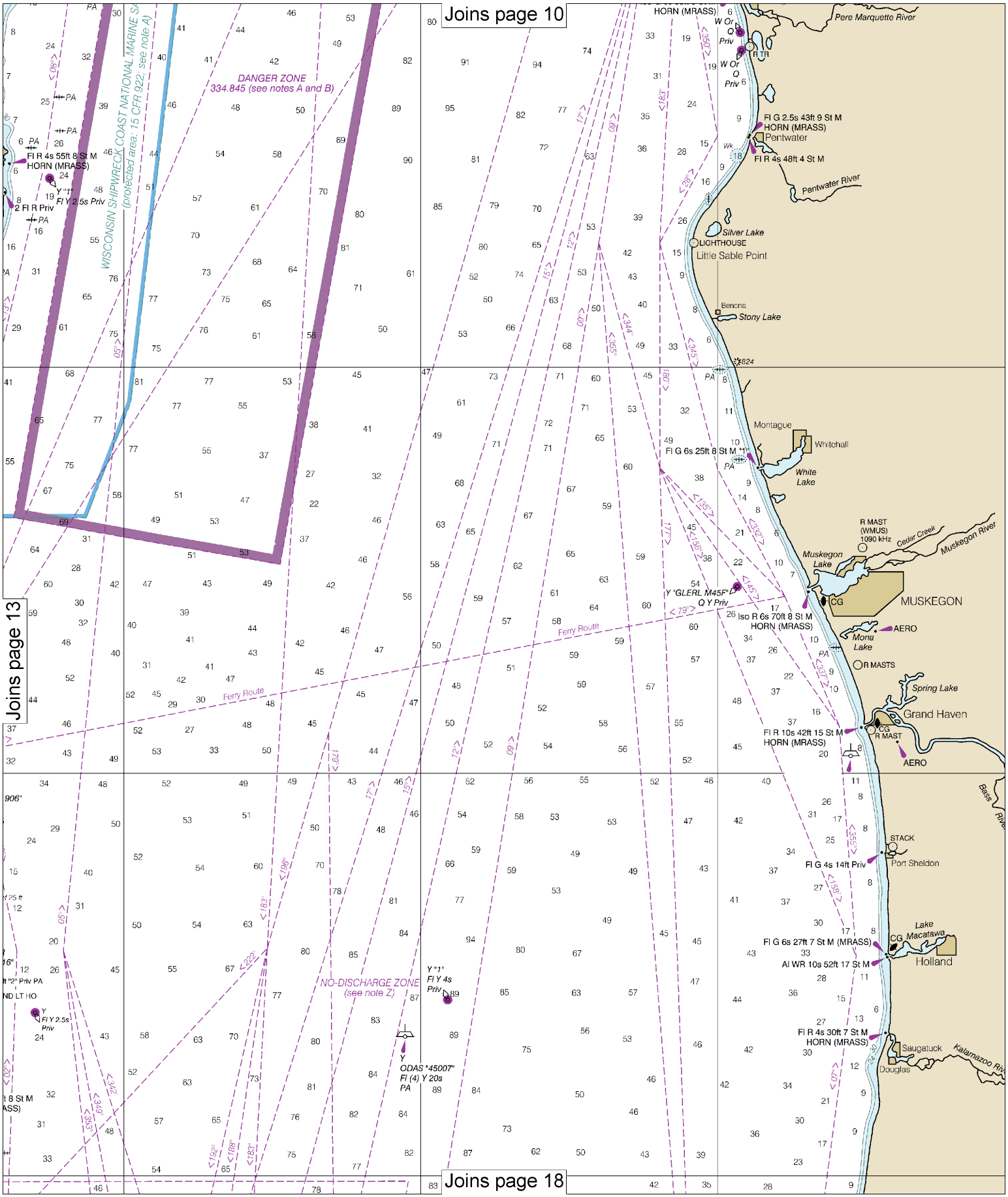


Joins page 15



Note: Chart grid lines are aligned with true north.

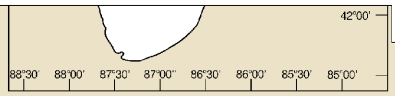

Joins page 9
Joins page 14
Joins page 17
HORN (MRASS)
W Or Q Priv
Fl G 2.5s 43ft 9 St M
HORN (MRASS)
Pentwater
Fl R 4s 48ft 4 St M
Pentwater River
Silver Lake
LIGHTHOUSE
Little Sable Point
Benona
Stony Lake
Montague
Whitehall
Fl G 6s 25ft 8 St M "1"
White Lake
R MAST
(WMUS)
1090 kHz
Cedar Creek
Muskegon River
Muskegon Lake
MUSKEGON
Y "GLERL M45F"
Q Y Priv
Iso R 6s 70ft 8 St M
HORN (MRASS)
Ferry Route
AERO
Mona Lake
R MASTS
Spring Lake
Grand Haven
Fl R 10s 42ft 15 St M
HORN (MRASS)
R MAST
AERO
Grand River
Bass River
GRAND RAPIDS
STACK
Port Sheldon
Fl G 4s 14ft Priv
Lake Macatawa
Fl G 6s 27ft 7 St M (MRASS)
Al WR 10s 52ft 17 St M
Holland
Y "1"
Fl Y 4s
Priv
Fl R 4s 30ft 7 St M
HORN (MRASS)
Saugatuck
Douglas
Kalamazoo River
ODAS "45007"
Fl (4) Y 20s
PA
SOURCE DIAGR
The outlined areas represent the limits of
survey information that has been evaluated
banded in this diagram by date and type
by the U.S. Army Corps of Engineers are p
not shown on this diagram. Consult larger s
in areas outlined in magenta. Refer to Chap
NOTE Z
NO-DISCHARGE ZONE,
Under the Clean Water Act, Se
operating within a No-Discharge Zon
prohibited from discharging any
untreated, into the waters. Commerc
include graywater. All vessels wi
sanitation device (MSD) that are
anchored, or docked within a NDZ
disabled to prevent the overboard
(treated or untreated) or install a hol
for the NDZ are contained in th
Additional information concerning
requirements may be obtained fro
Protection Agency (EPA) web site:
owow/oceans/regulatory/vessel_se



14

Note: Chart grid lines are aligned with true north.

Joins page 11



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. Consult larger scale charts for survey information in areas outlined in magenta. Refer to Chapter 1, United States Coast Pilot.

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) web site: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.

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)

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.

NOTE A

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

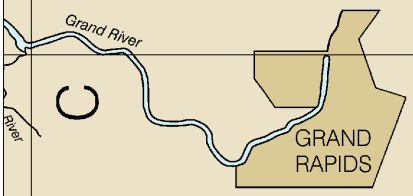
Refer to charted regulation section numbers.

CABLE AND PIPELINE AREAS

The cable and pipeline areas falling within the areas of the larger scale charts are shown thereon and are not repeated on this chart.

MARINER ACTIVATED SOUND SIGNALS

Sound signals labeled with (MRASS) require user activation. See USCG Light List.



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

UNITED STATES - GREAT LAKES

LAKE MICHIGAN

Mercator Projection
Scale 1:500,000 at Lat 44°00'N
North American Datum of 1983
(World Geodetic System 1984)

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

HORIZONTAL DATUM

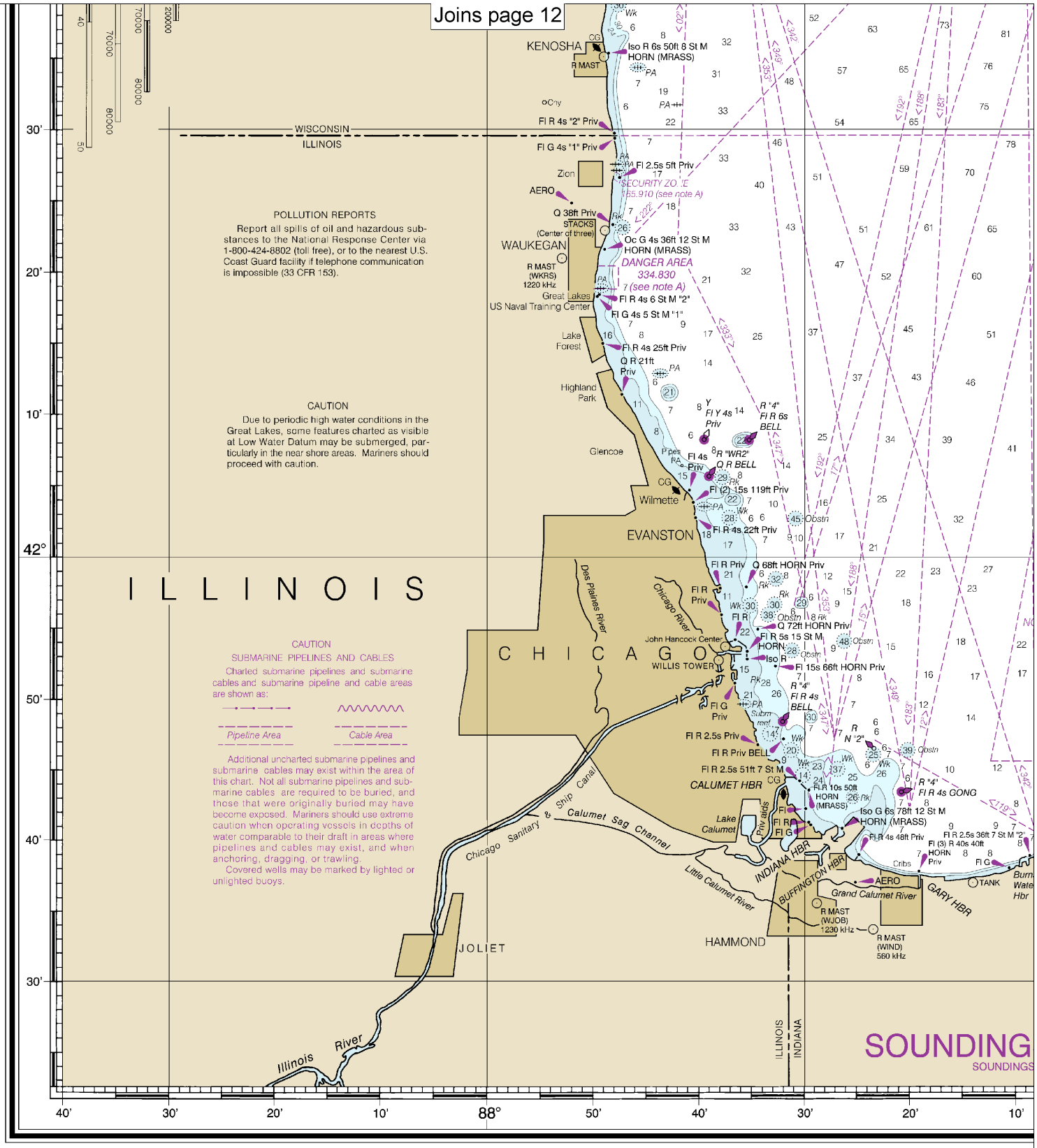
The horizontal reference datum of this chart is North American Datum of 1983 (NAD 83), which for charting purposes is considered equivalent to the World Geodetic System of 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

SOUNDINGS IN FEET IN BLUE TINT AREAS AND IN FATHOMS ELSEWHERE

NOTES

PLANE OF REFERENCE OF THIS CHART (Low Water Datum)..... 577.5 ft.
Ref houski, Quebec, International Great Lakes Datum (1985).
OM the small scale many aids to navigation, depths, contours

Joins page 19



14901

CAUTION

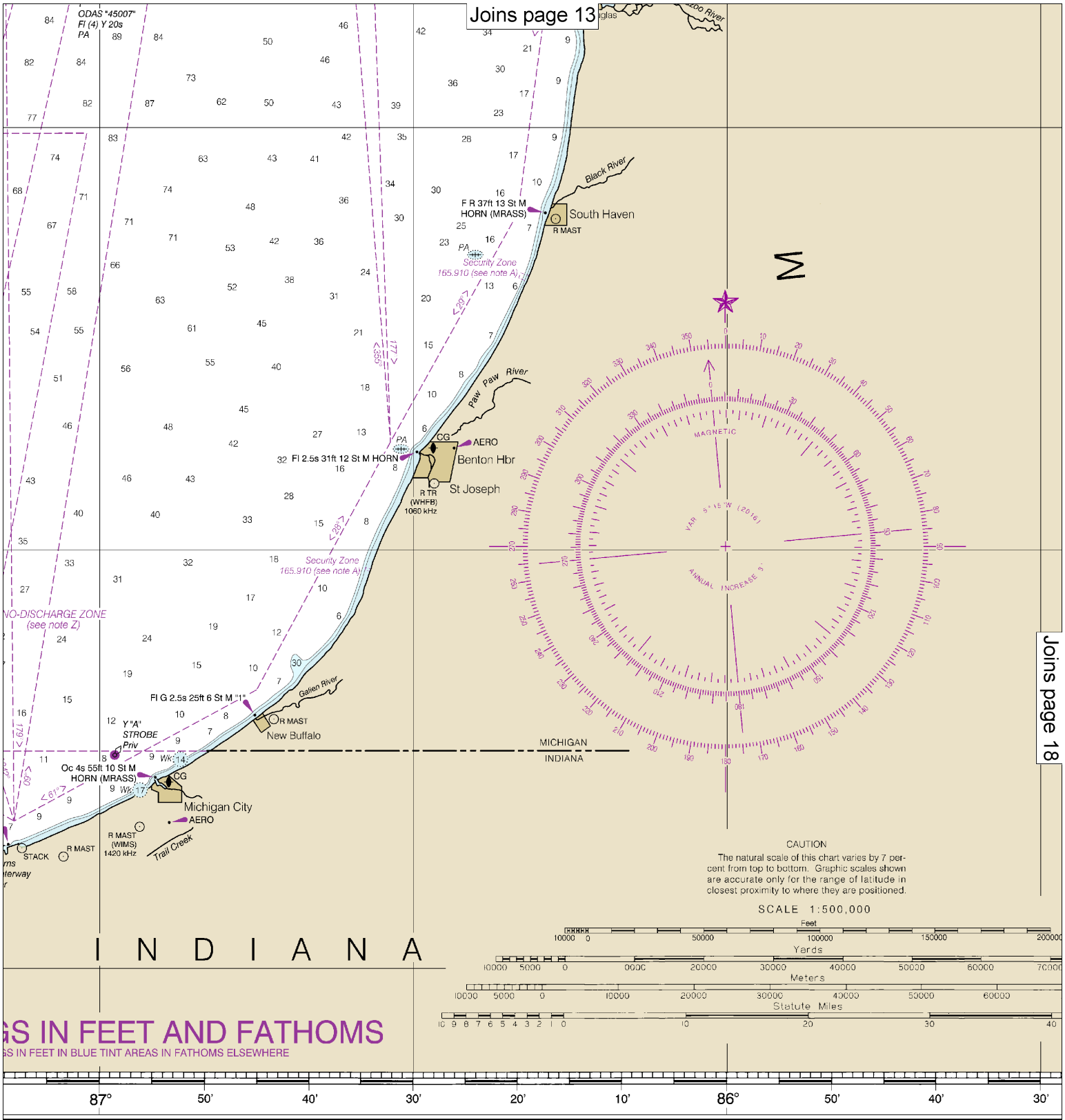
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Geospatial-Intelligence Agency and the Local Notice to Mariners (LNM) issued periodically by each U.S. Coast Guard district to the dates shown in the lower left hand corner. Chart updates corrected from Notice to Mariners published after the dates shown in the lower left hand corner are available at nauticalcharts.noaa.gov.

NOAA encourages users to submit inquiries, about this chart at http://www.nauticalcharts.noaa

Use ENC charts for the most up to date information. References to other charts may no longer be applicable.

18th Ed., Aug. 2020. Last Correction: 4/10/2024. Cleared through:
LNM: 1524 (4/9/2024), NM: 1624 (4/20/2024), CHS: 0324 (3/29/2024)

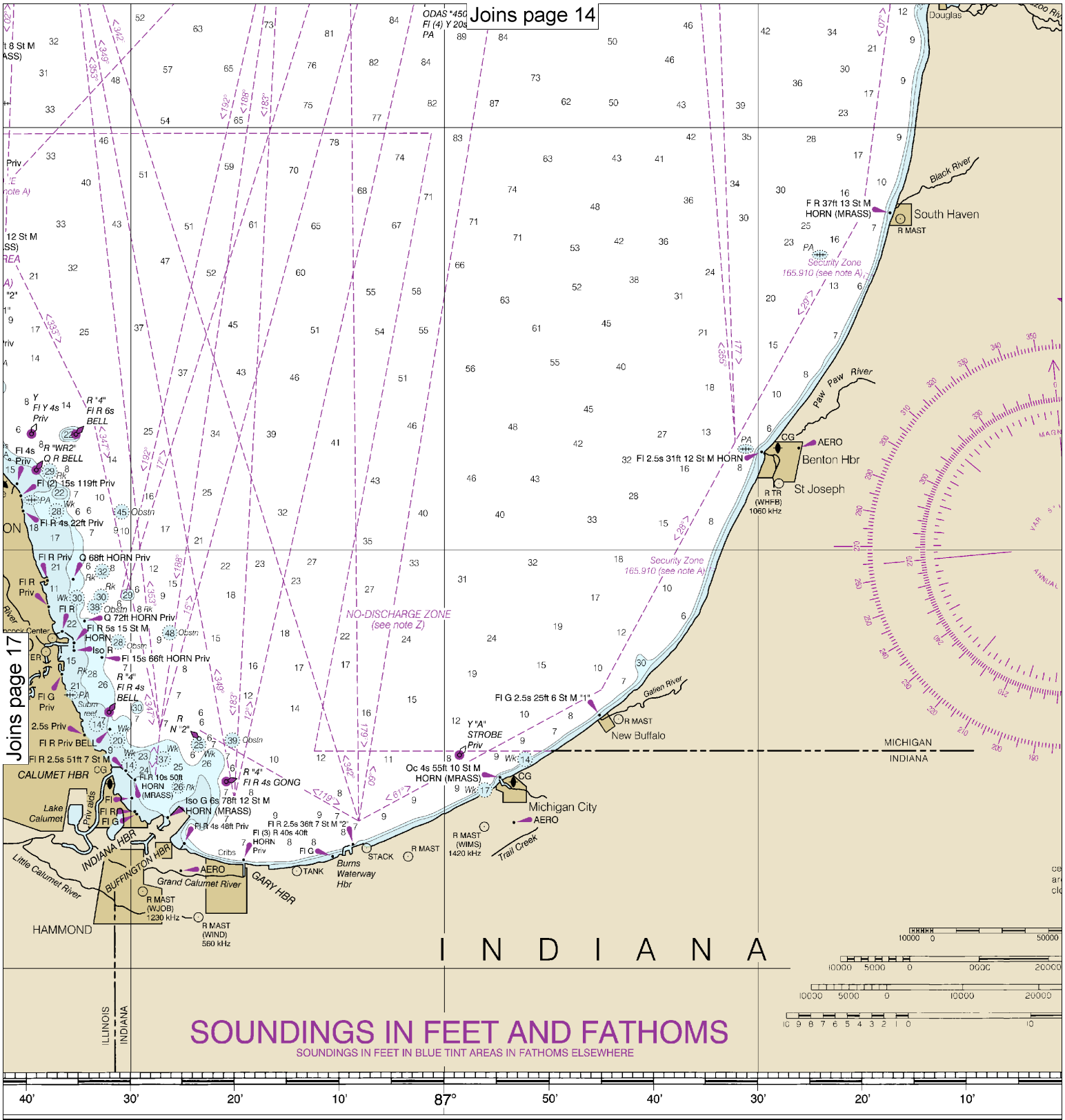
Note: Chart grid lines are aligned with true north.



s, discrepancies or comments
aa.gov/staff/contact.htm.

Published at Washington, D.C.
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
FEET	6	12	18	24	30	36	42	48	54	60	66	72	78	84
METERS	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 2													



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

Published at Washington, D.C.
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NATIONAL OCEAN SERVICE
COAST SURVEY

Note: Chart grid lines are aligned with true north.

Joins page 15

ndered equivalent to the World Geodetic WGS 84). Geographic positions referred erican Datum of 1927 do not require conversion to NAD 83 for plotting on this chart.

SOUNDINGS IN FEET IN BLUE TINT AREAS AND IN FATHOMS ELSEWHERE

NOTES

PLANE OF REFERENCE OF THIS CHART (Low Water Datum).....577.5 ft. Referred to mean water level at Rimouski, Quebec, International Great Lakes Datum (1985).

OMISSION OF DETAIL. Owing to the small scale many aids to navigation, depths, contours and topographic features have been omitted. For detail consult Coast and Harbor Charts.

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

SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see Chart No. 1

BRIDGE AND OVERHEAD CABLE CLEARANCES. When the water surface is above Low Water Datum, bridge and overhead clearances are reduced correspondingly. For clearances see U.S. Coast Pilot 6.

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.

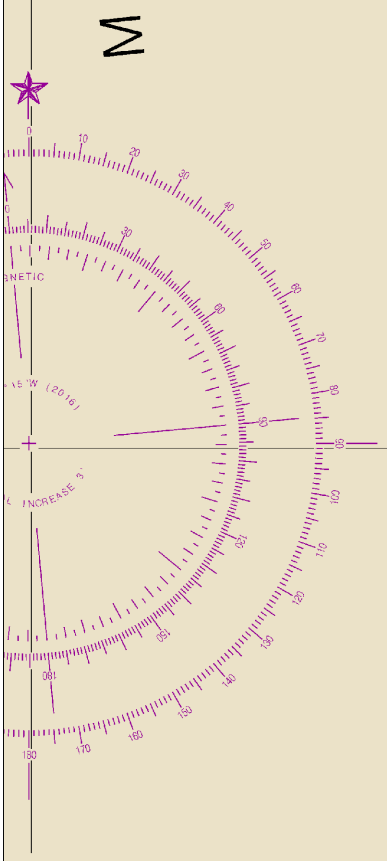
Sailing courses are recommended by the Lake Carriers Association and the Chamber of Marine Commerce as voluntary guidance for course to steer with navigation safety and Collision Regulations always taking priority.

SUPPLEMENTAL INFORMATION

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

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

The natural scale of this chart varies by 7 percent from top to bottom. Graphic scales shown are accurate only for the range of latitude in closest proximity to where they are positioned.

SCALE 1:500,000

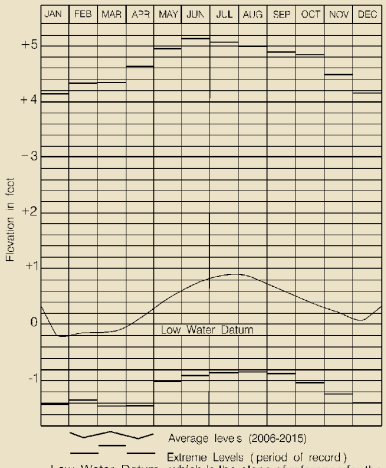
Feet: 100000, 150000, 200000

Yards: 30000, 40000, 50000, 60000, 70000, 80000

Meters: 30000, 40000, 50000, 60000, 70000, 80000

Statute Miles: 20, 30, 40, 50

LAKE MICHIGAN - HURON



Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are correspondingly greater or lesser than the charted depths.

86° 50' 40' 30' 20' 10' 85° 50' 40' 30'

1099.7 X 688.3 mm

HOMS	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
EET	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	
TERS	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

Lake Michigan

SOUNDINGS IN FEET & FATHOMS - SCALE 1:500,000

14901

EMERGENCY INFORMATION

VHF Marine Radio channels for use on the waterways:

Channel 6 – Inter-ship safety communications.
Channel 9 – Communications between boats and ship-to-coast.
Channel 13 – Navigation purposes at bridges, locks, and harbors.
Channel 16 – Emergency, distress and safety calls to Coast Guard and others, and to initiate calls to other vessels. Contact the other vessel, agree to another channel, and then switch.
Channel 22A – Calls between the Coast Guard and the public. Severe weather warnings, hazards to navigation and safety warnings are broadcast here.
Channels 68, 69, 71, 72 and 78A – Recreational boat channels.

Getting and Giving Help — Signal other boaters using visual distress signals (flares, orange flag, lights, arm signals); whistles; horns; and on your VHF radio. You are required by law to help boaters in trouble. Respond to distress signals, but do not endanger yourself.

Distress Call Procedures

- Make sure radio is on.
- Select Channel 16.
- Press/Hold the transmit button.
- Clearly say: "MAYDAY, MAYDAY, MAYDAY."
- Also give: Vessel Name and/or Description; Position and/or Location; Nature of Emergency; Number of People on Board.
- Release transmit button.
- Wait for 10 seconds — If no response Repeat MAYDAY call.

HAVE ALL PERSONS PUT ON LIFE JACKETS!

All Hazards NOAA Weather Radio NOAA's National Weather Service

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service office. NWR broadcasts official Weather Service warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week.
http://www.nws.noaa.gov/nwr/

Quick References

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National Data Buoy Center	—	**http://www.ndbc.noaa.gov/**
NowCoast web portal for coastal conditions	—	**http://www.nowcoast.noaa.gov/**
National Weather Service	—	**http://www.weather.gov/**
National Hurrican Center	—	**http://www.nhc.noaa.gov/**
Pacific Tsunami Warning Center	—	**http://ptwc.weather.gov/**
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