

BookletChart™

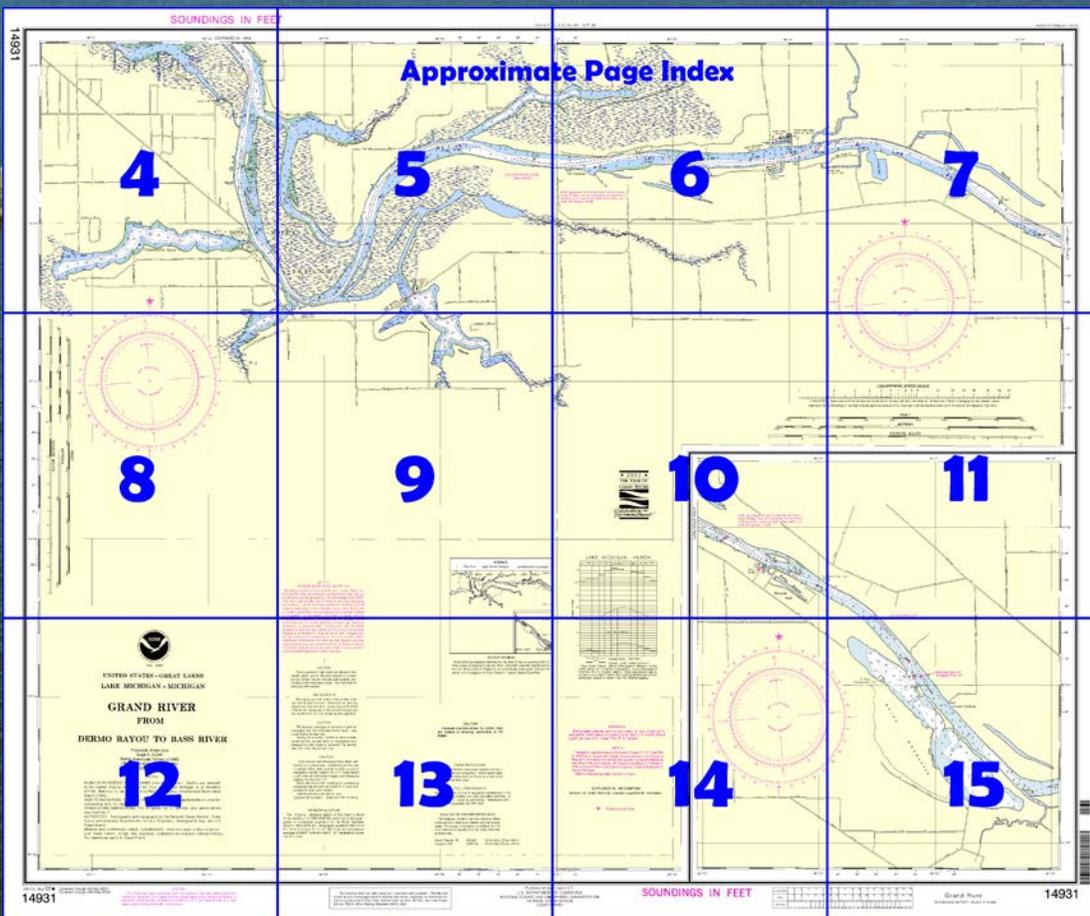
Grand River from Dermo Bayou to Bass River NOAA Chart 14931



*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.

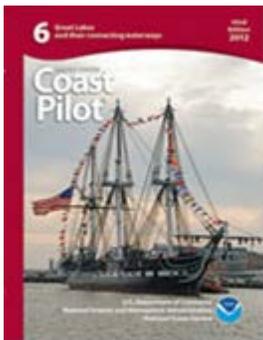
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

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)

Grand Haven, MI, is a city and harbor on the **Grand River**, 43 miles south of Little Sable Point. The towns of **Ferrysburg, MI**, and **Spring Lake, MI**, front the north side of the river. These communities are not visible from Lake Michigan because of sand dunes and hills immediately north and south of the harbor entrance. The principal commodities handled in the port are coal and sand.

Grand Haven South Pierhead Entrance

Light (43°03'25"N., 86°15'21"W.) 42 feet above the water, is shown from a red building on the outer end of the south pier. A sound signal, which operates by keying the microphone five times on VHF-FM channel 79, is at the light.

Channels.—The dredged entrance channel leads east from deep water in Lake Michigan between parallel piers at the mouth of Grand River and upstream for about 16 miles. The outer ends of the piers are marked by lights. South Pierhead Entrance Light and an inner light on the S pier form a range useful for approaching the harbor. There is a turning basin on the south side of the channel 2.3 miles above the mouth.

A Federal project provides for a depth of 23 feet in the entrance channel and between the piers to about 1,000 feet inside the pier ends, thence 21 feet in the river channel to the railroad bridge at Ferrysburg, thence 18 feet in the channel to Spring Lake and 8 feet in the river channel from the entrance of Spring Lake, 14½ miles upstream to the head of the project. The turning basin, 2.3 miles above the mouth, has a project depth of 18 feet. (See Notice to Mariners and latest edition of the chart for controlling depths.)

Large riprap stones have been placed along the lakesides and ends of the piers, and navigation should not be attempted close to these structures. Mooring to the piers or revetments is prohibited. The Grand River is not maintained above the junction with Bass River. Conditions are unknown, but depths probably do not exceed 2 to 3 feet at extreme low water for 23.5 miles upstream to Grand Rapids. Only small recreational craft navigate this section of the river.

The lower part of Grand River has connecting shallow side channels separated from the main river by low marshy islands. Several connected bayous, or bays, have very shallow entrances with deep water inside.

South Channel, the farthest downstream of the side channels, cuts across a bend in the river between points about 1.2 and 3.3 miles above the mouth and has a controlling depth of 3 feet.

Spring Lake, extending north and connected to the Grand River at Ferrysburg, has depths of 19 to 42 feet except for shoaler depths at its head.

Danger.—The J.B. Sims Power Plant is on Harbor Island. Intake pipes on the west side of the island in the intake mode pose no threat to watercraft. The intakes have a compressed air blowback system to clear the screens. This blowback is capable of capsizing a small recreational vessel. The area is surrounded by rope barriers and is marked by signs.

Currents.—High-water periods on the Grand River are usually for two months during the spring. During these periods, currents may reach 3 to 5 mph. Currents up to 5 mph should be expected after periods of heavy precipitation, regardless of season.

Quarantine, customs, immigration, and agricultural quarantine.—(See chapter 3, Vessel Arrival Inspections, and appendix for addresses.)

Quarantine is enforced in accordance with the regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.)

Grand Haven is a **customs station**.

Coast Guard.—**Grand Haven Coast Guard Station** and a **Sector Field Office** are on the south side of the harbor entrance. (See Appendix A for address of the Detachment.)

Harbor regulations.—Federal regulations specify a **speed limit** of 8 mph (7 knots) in Grand Haven harbor. (See **33 CFR 162.120**, chapter 2, for regulations.)

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

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

Table of Selected Chart Notes

Pump-out facilities

Aids upstream of the Grand Haven-Ferrysburg Bridge may be relocated as necessary without prior notice to mark deep water outside the project limits.

Aids upstream of the Grand Haven-Ferrysburg Bridge may be relocated as necessary without prior notice to mark deep water outside the project limits.

CAUTION

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

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.

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

Only marine radiobeacons have been calibrated for surface use. Limitations on the use of certain other radio signals as aids to marine navigation can be found in the U.S. Coast Guard Light Lists and National Imagery and Mapping Agency Publication 117.

Radio direct-on-finder bearings to commercial broadcasting stations are subject to error and should be used with caution.

Station positions are shown thus:
 (Accurate location)  (Approximate location)

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

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.

Average Levels (1992-2001)

Extreme Levels (period of record)

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.

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).

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 0.064" northward and 0.191" westward to agree with this chart.

NOAA VHF-FM WEATHER BROADCASTS

The National Weather Service stations listed below provide continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Grand Rapids, MI	KIG-63	162.55 MHz (Chan. WX-1)
Hesperia, MI	WWF-36	162.47 MHz (Chan. WX-3)

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). This chart falls entirely within the limits of 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) web site: http://www.epa.gov/owow/oceans/regulatory/vessel_sewage/.

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, Ohio, or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.
 Refer to charted regulation section numbers.

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 6 for details.

SOURCE DIAGRAM

Most of the hydrography identified by the letter "J" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

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

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

NOTES

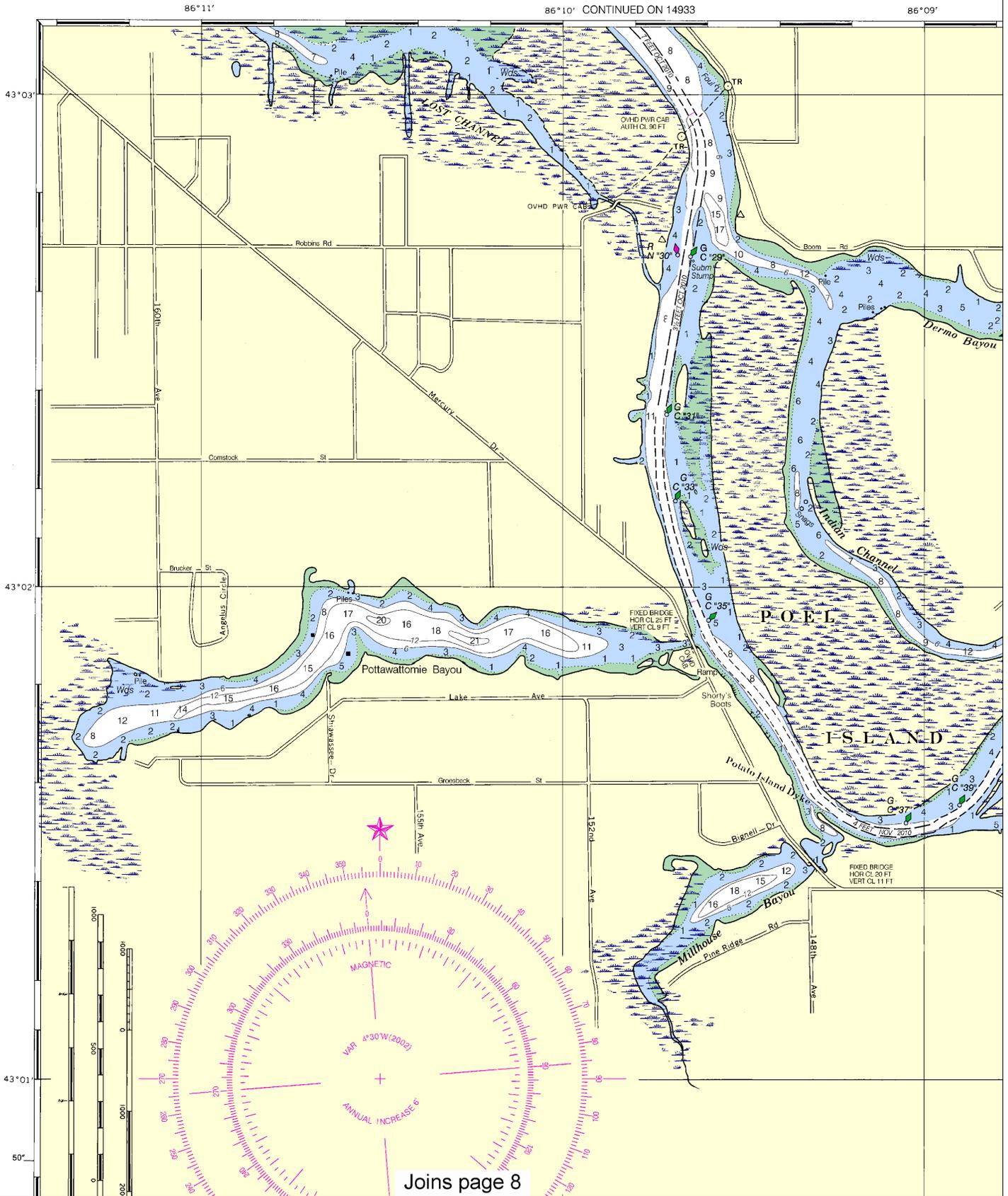
PLANE OF REFERENCE OF THIS CHART (Low Water Datum). Depths are referred to the normal sloping surface of the river when Lake Michigan is at elevation 577.5ft. Referred to mean water level Rimouski, Quebec, International Great Lakes Datum (1985).

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.

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.

SOUNDINGS IN FEET

14931



Joins page 8

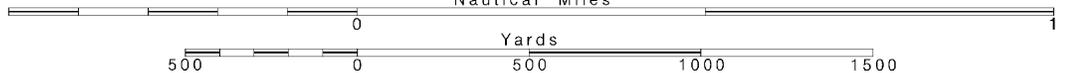
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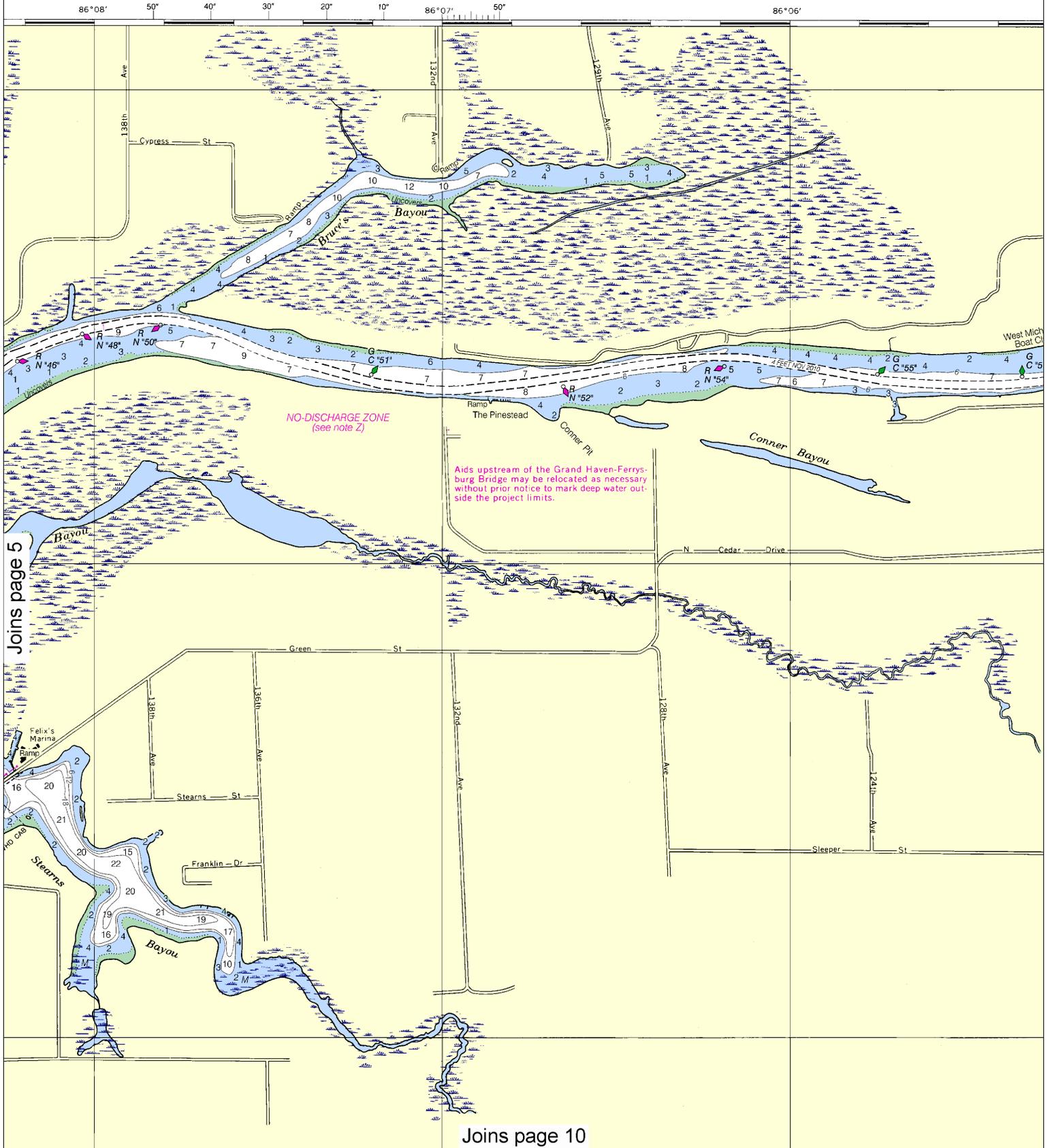
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Printed at reduced scale.

SCALE 1:15,000
Nautical Miles

See Note on page 5.





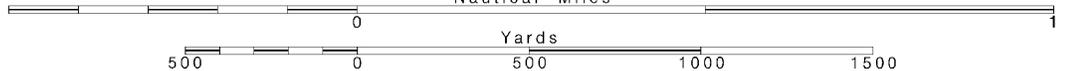
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Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:15,000
Nautical Miles

See Note on page 5.

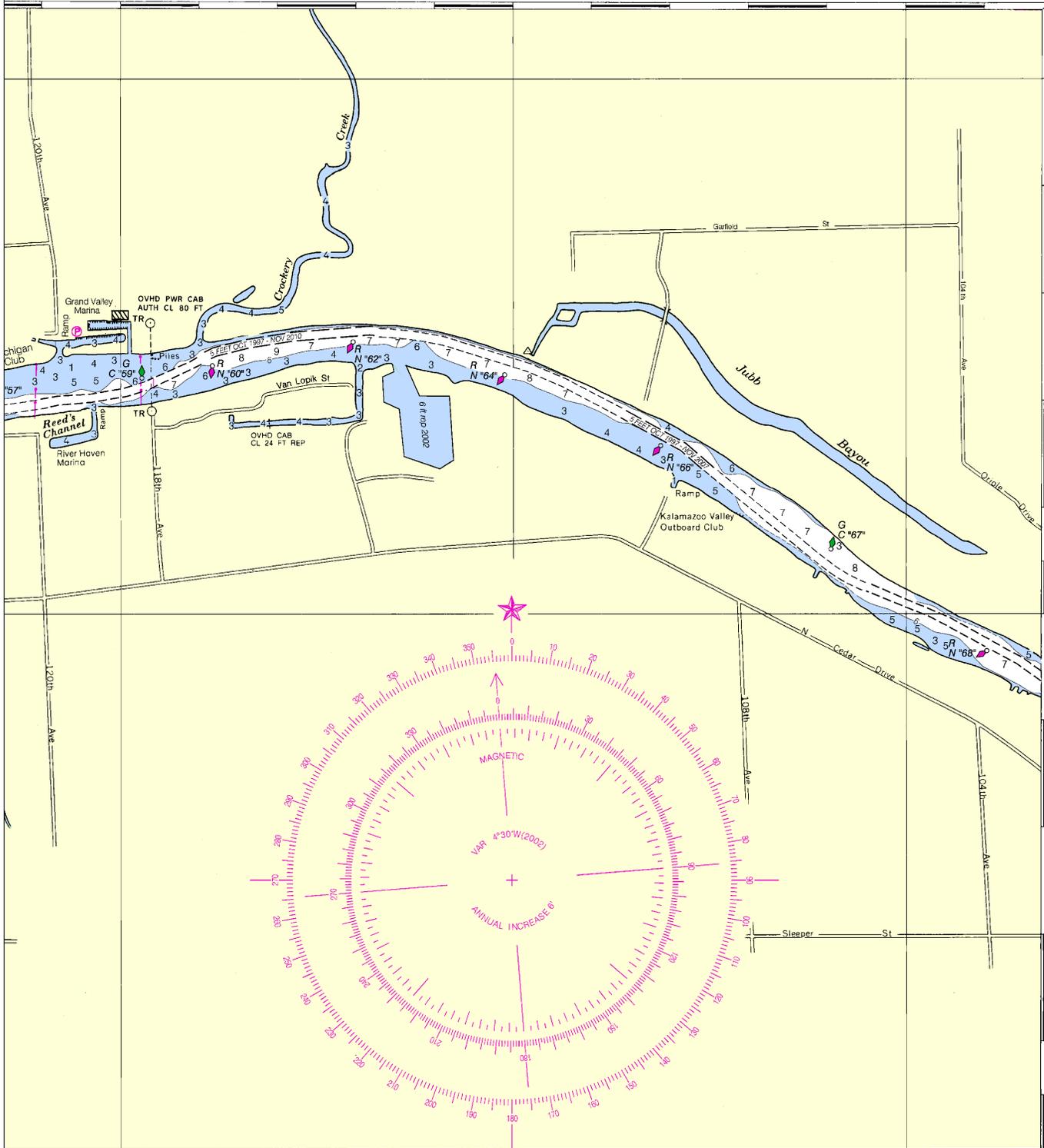


86°05'

86°04'

86°03'

43°03'



43°02'

43°01'

LOWER LEFT

JOINS

50°

40°

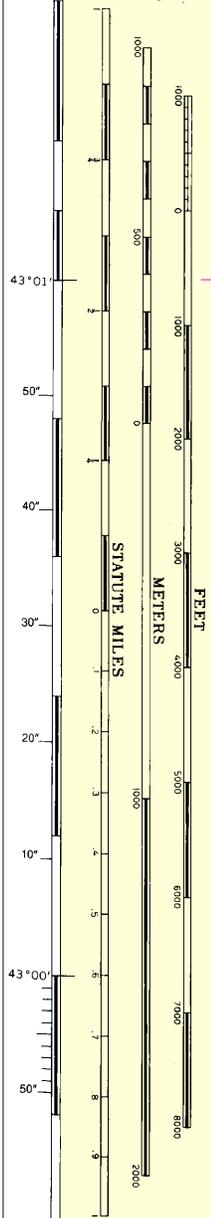
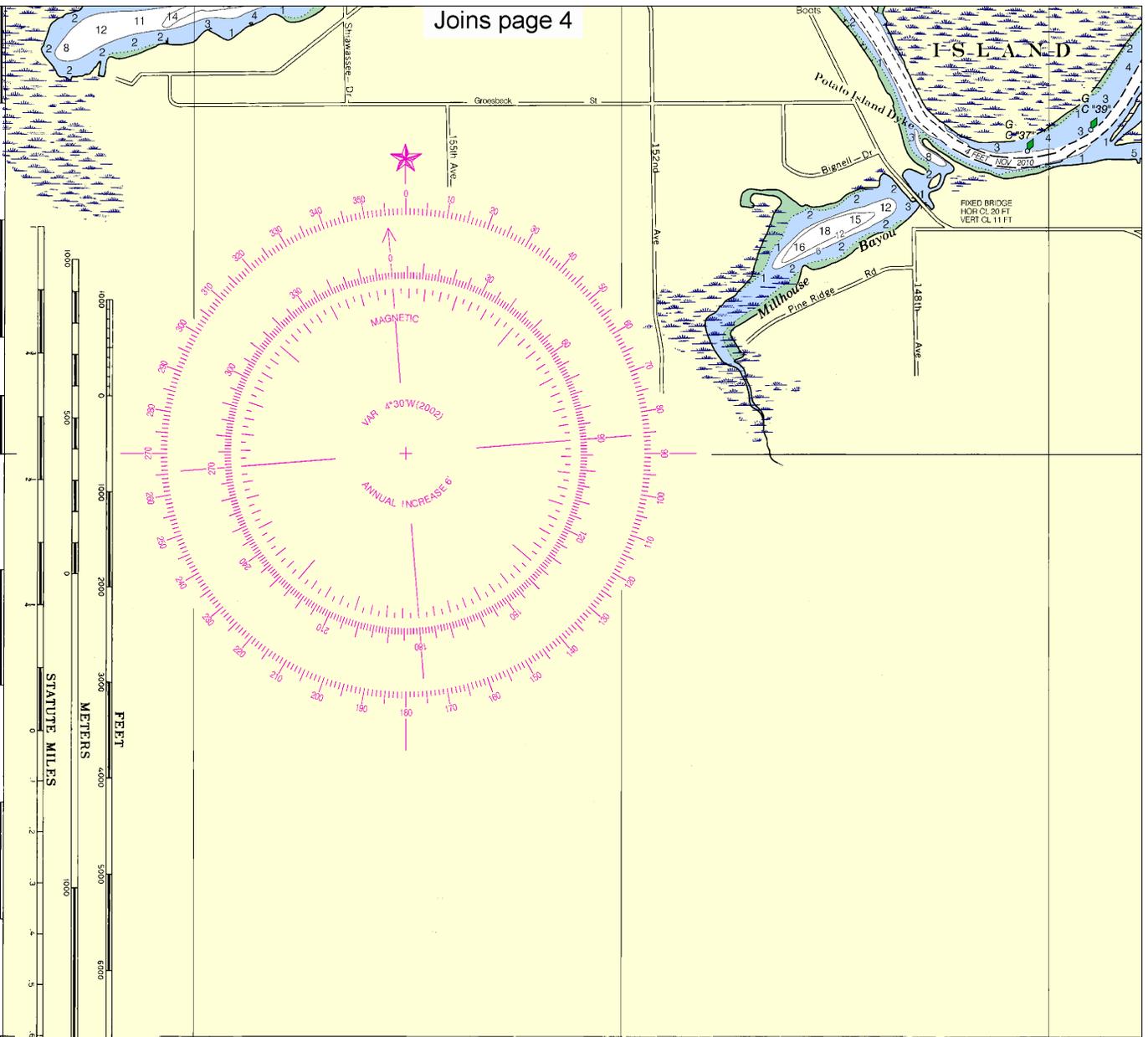
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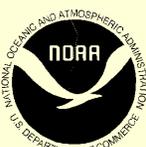
10°

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NOTE Z
NO-DISCHARGE ZONE, 40 CFR 140
 Michigan waters of Lakes Michigan, Huron, Erie and St. Clair, all waterways connected there inland lakes are designated as a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 309, vessels operating within a No-Discharge Zone are completely prohibited from discharging any sewage or untreated, into the waters. Commercial vessels shall include graywater. All vessels with an installed sanitation device (MSD) that are navigating, anchored, or docked within a NDZ must have disabled to prevent the overboard discharge of (treated or untreated) or install a holding tank. For the NDZ are contained in the U.S. Coast Guard's National Vessel Discharge System (NVDS). Additional information concerning the regulatory requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/oceans/regulatory/vessel_sewage/.



CAUTION

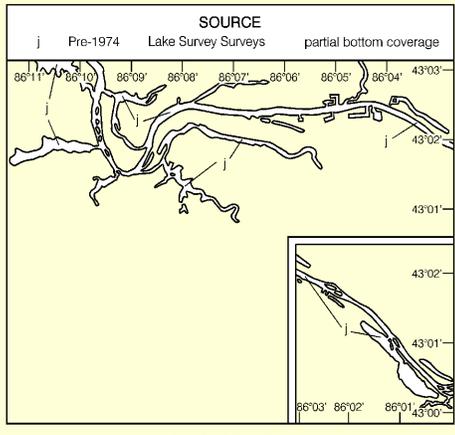
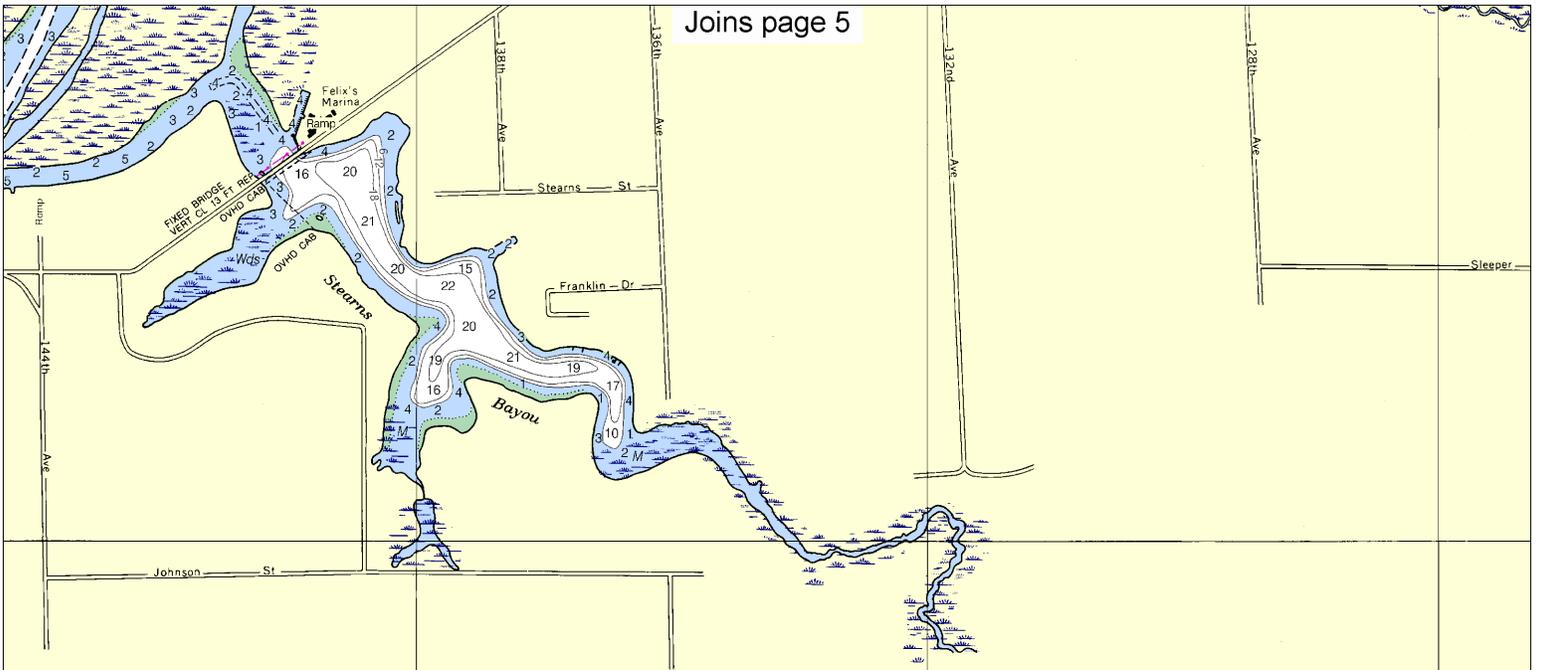


Note: Chart grid lines are aligned with true north.

Printed at reduced scale. SCALE 1:15,000 Nautical Miles

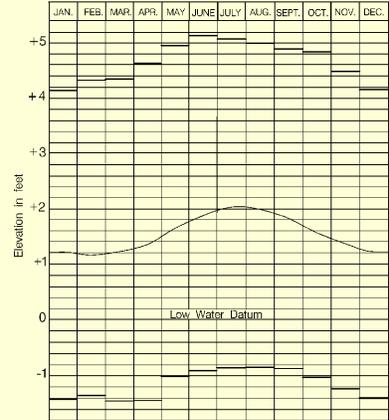
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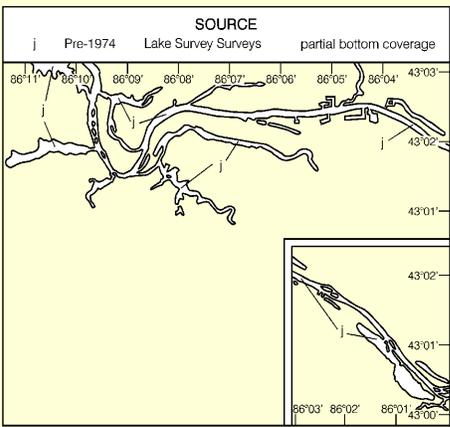
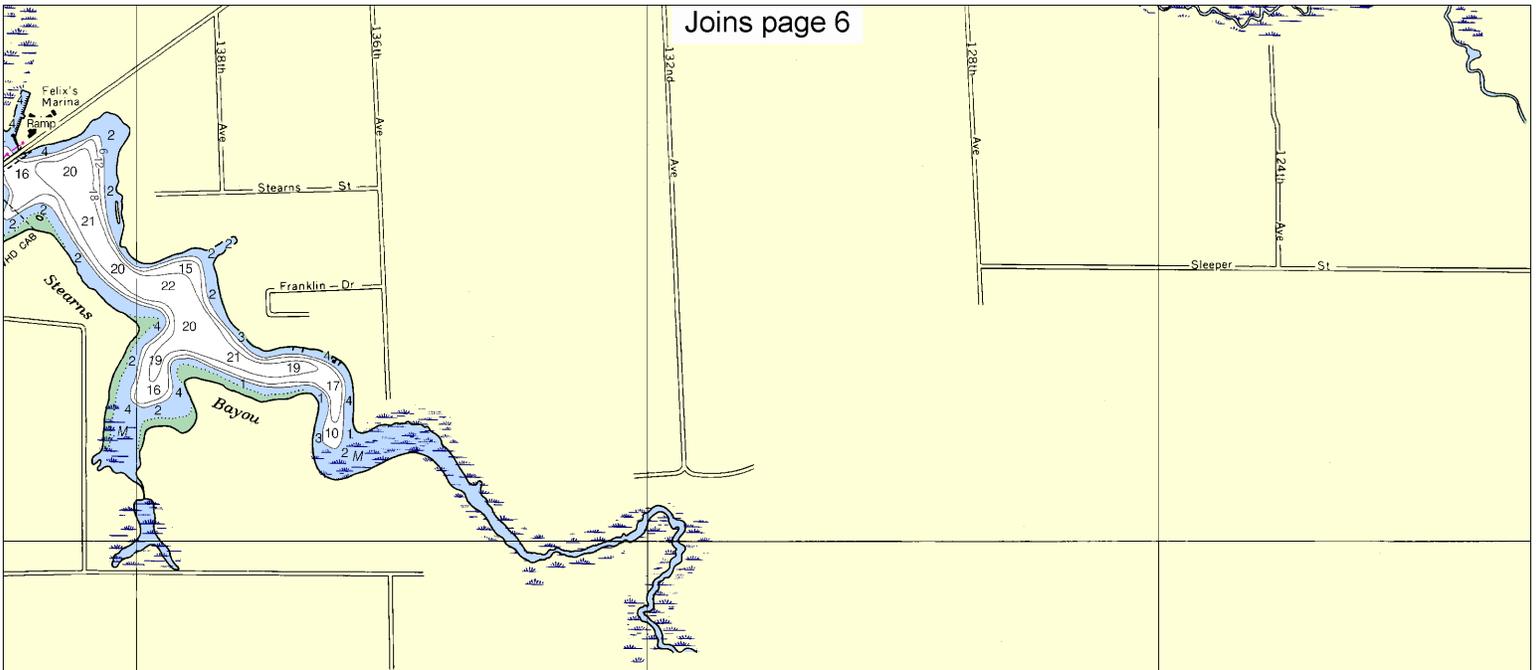
Most of the hydrography identified by the letter "j" was surveyed by the U.S. Army Corps of Engineers prior to 1974. The hydrography identified by the letter "a" was surveyed by the U.S. Army Corps of Engineers after 1974.

LAKE MICHIGAN - HURON

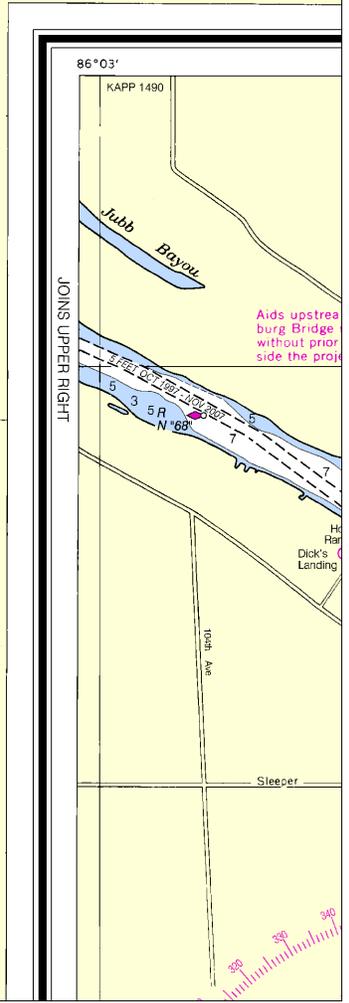
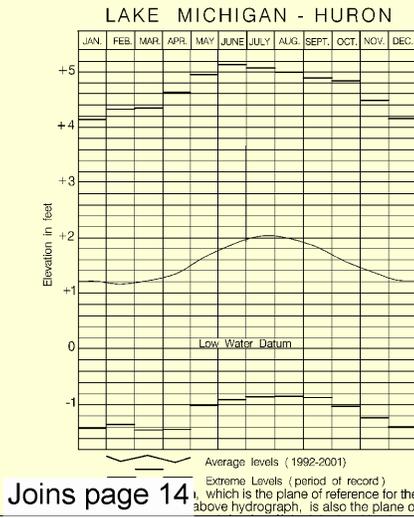


Average levels (1992-2001)
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 Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of

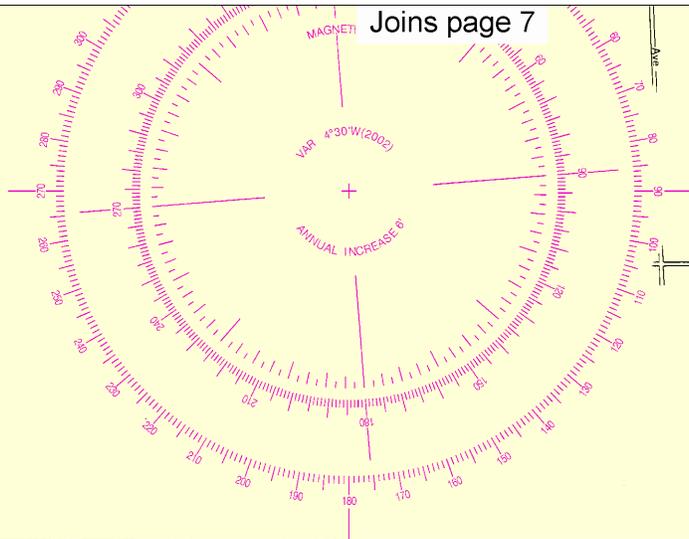
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Joins page 7

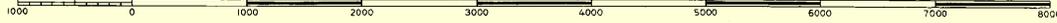


LOGARITHMIC SPEED SCALE

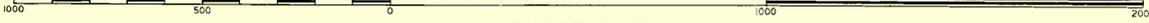


To find SPEED, place one point of dividers on distance run (in any unit) and the other on minutes run. Without changing divider spread, place right point on 60 and left point will then indicate speed in units per hour. Example: with 4.0 nautical miles run in 15 minutes, the speed is 16.0 knots.

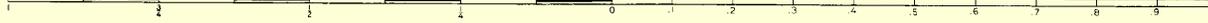
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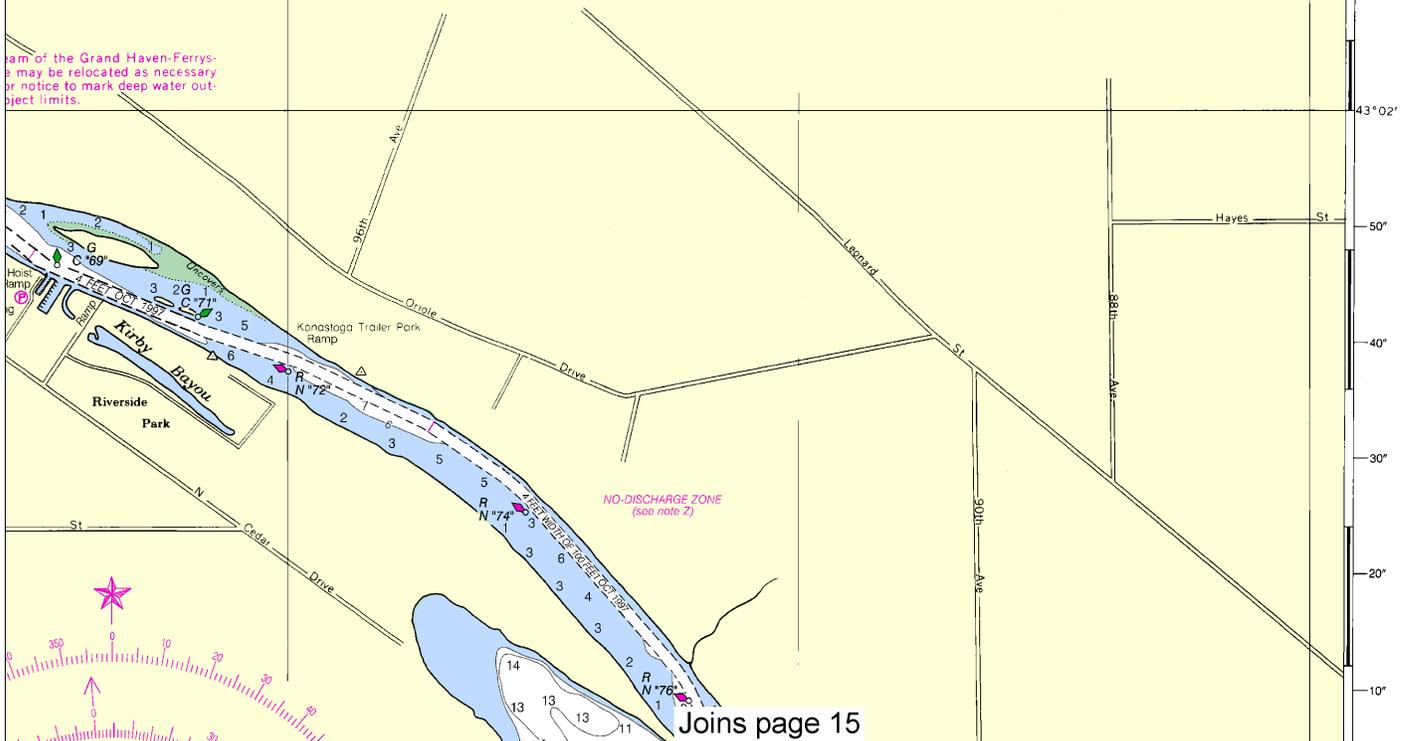


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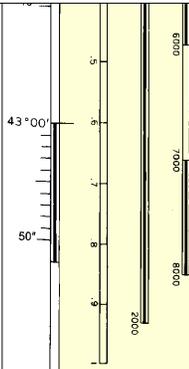
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86°00'

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Joins page 15



UNITED STATES - GREAT LAKES
LAKE MICHIGAN - MICHIGAN

GRAND RIVER
FROM
DERMO BAYOU TO BASS RIVER

Polyconic Projection
Scale 1:15,000
North American Datum of 1983
(World Geodetic System 1984)
SOUNDINGS IN FEET

NOTES

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AIDS TO NAVIGATION. Consult U.S. Coast Light List for supplemental information concerning aids to navigation.
SYMBOLS AND ABBREVIATIONS. For complete list of symbols and abbreviations see chart No. 1.
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.
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Station positions are shown thus:
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24th Ed., May/02 ■ Corrected through NM May 18/02
Corrected through LNM May 07/02

14931

CAUTION
This chart has been corrected from the Notice to Mariners (NM) published weekly by the National Imagery and Mapping 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.

This notice is for informational purposes only. The National Ocean Service, NOAA, is not responsible for any errors or omissions in this chart.

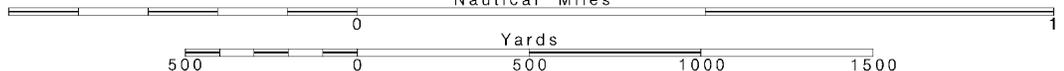
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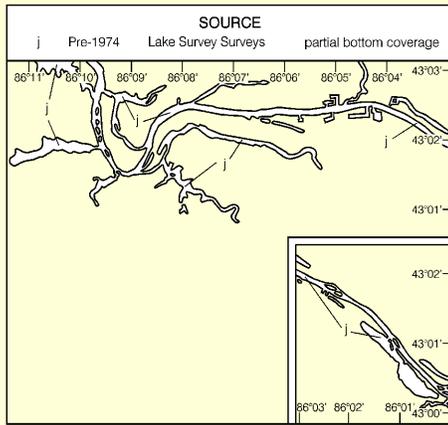
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SCALE 1:15,000
Nautical Miles

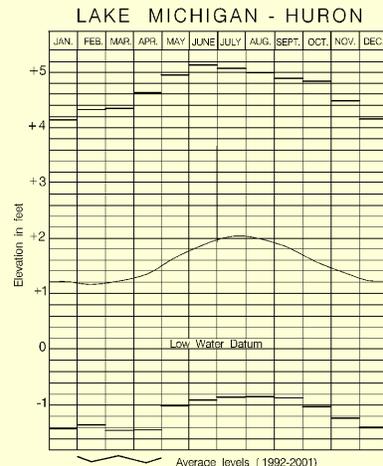
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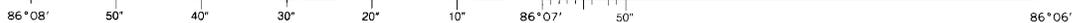
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Hesperia, MI WWF-36 162.47 MHz (Chan. WX-3)

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 6 for details.

NOTE A
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Refer to charted regulation section numbers.

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

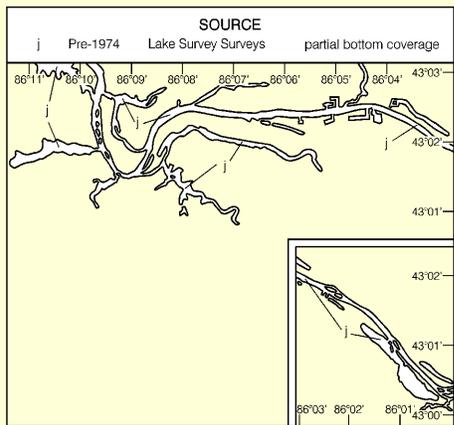
Ⓟ Pump-out facilities



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

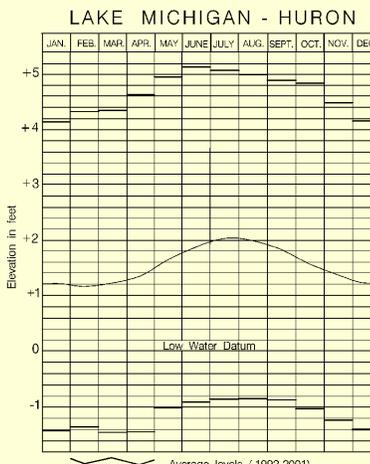
Published at Washington, D.C.
U.S. DEPARTMENT OF COMMERCE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
NATIONAL OCEAN SERVICE
COAST SURVEY

SOUNDING

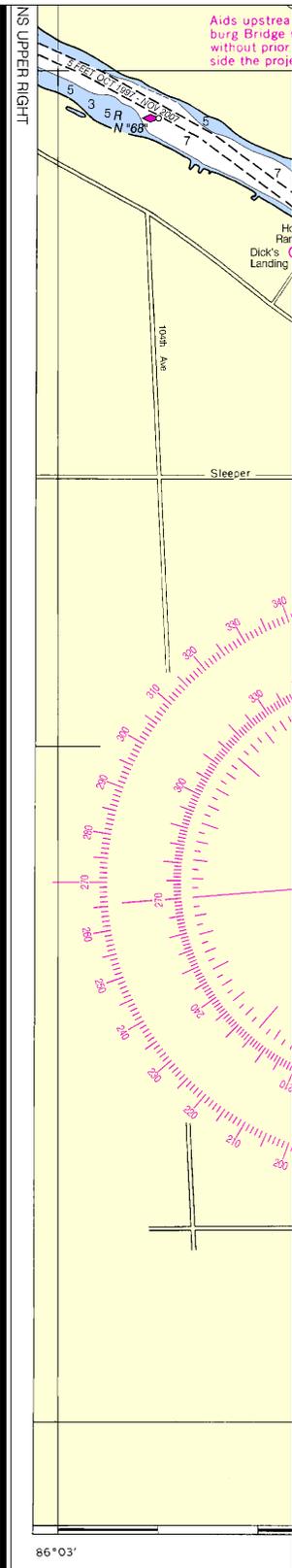


SOURCE DIAGRAM

Most of the hydrography identified by the letter "j" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are periodically resurveyed and are not shown on this diagram. Refer to Chapter 1, United States Coast Pilot.



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.



Joins page 13

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

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.

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).

NOAA VHF-FM WEATHER BROADCASTS
The National Weather Service stations listed below provide continuous marine weather broadcasts. The range of reception is variable, but for most stations is usually 20 to 40 miles from the antenna site.

Grand Rapids, MI KIG-63 162.55 MHz (Chan. WX-1)
Hesperia, MI WWF-36 162.47 MHz (Chan. WX-3)

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 6 for details.

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, Ohio, or at the Office of the District Engineer, Corps of Engineers in Detroit, Michigan.
Refer to charted regulation section numbers.

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

Ⓟ Pump-out facilities

for navigation. The National Ocean Service, or comments for (N/CS2), National Ocean

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

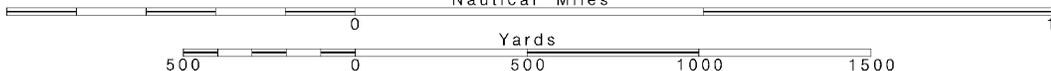
SOUNDINGS IN FEET

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:15,000
Nautical Miles

See Note on page 5.





43°02'

50'

40'

30'

20'

10'

43°01'

50'

43°00'

86°02' 50' 40' 30' 20' 10' 86°01' 50' 86°00'

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

Grand River
SOUNDINGS IN FEET - SCALE 1:15,000

14931

ED. NO. 24

NSN 76420 14627125

NIMA REFERENCE NO. 14XHA14931



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!



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

- Nautical chart related products and information — <http://www.nauticalcharts.noaa.gov>
- Online chart viewer — <http://www.nauticalcharts.noaa.gov/mcd/NOAChartViewer.html>
- Report a chart discrepancy — <http://ocsddata.ncd.noaa.gov/idrs/discrepancy.aspx>
- Chart and chart related inquiries and comments — <http://ocsddata.ncd.noaa.gov/idrs/inquiry.aspx?frompage=ContactUs>
- Chart updates (LNM and NM corrections) — http://www.nauticalcharts.noaa.gov/mcd/updates/LNM_NM.html
- Coast Pilot online — <http://www.nauticalcharts.noaa.gov/nsd/cpdownload.htm>
- Tides and Currents — <http://tidesandcurrents.noaa.gov>
- Marine Forecasts — <http://www.nws.noaa.gov/om/marine/home.htm>
- 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 Hurricane Center — <http://www.nhc.noaa.gov/>
- Pacific Tsunami Warning Center — <http://ptwc.weather.gov/>
- Contact Us — <http://www.nauticalcharts.noaa.gov/staff/contact.htm>



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This Booklet chart has been designed for duplex printing (printed on front and back of one sheet). If a duplex option is not available on your printer, you may print each sheet and arrange them back-to-back to allow for the proper layout when viewing.

