

BookletChart™

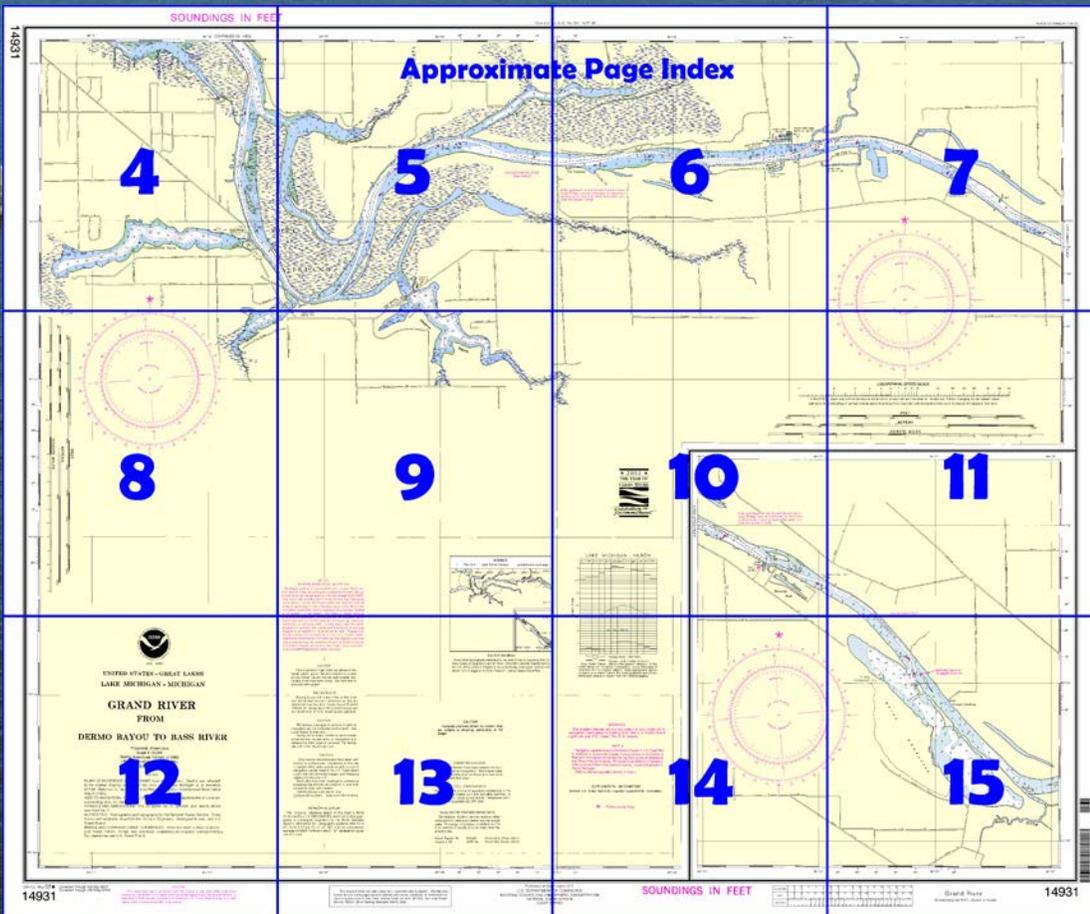
Grand River from Dermo Bayou to Bass River NOAA Chart 14931



*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.

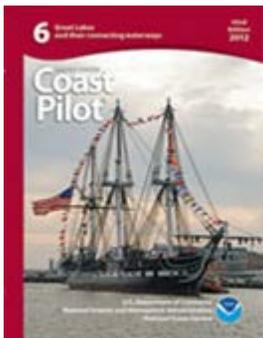
Whenever possible, use the official, full scale NOAA nautical chart for navigation. Nautical chart sales agents are listed on the Internet at <http://www.NauticalCharts.NOAA.gov>.

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

Navigation Managers Area of Responsibility



NOAA's navigation managers serve as ambassadors to the maritime community. They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit nauticalcharts.noaa.gov/service/navmanagers

To make suggestions or ask questions online, go to nauticalcharts.noaa.gov/inquiry.
To report a chart discrepancy, please use ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx.

Lateral System As Seen Entering From Seaward

on navigable waters except Western Rivers

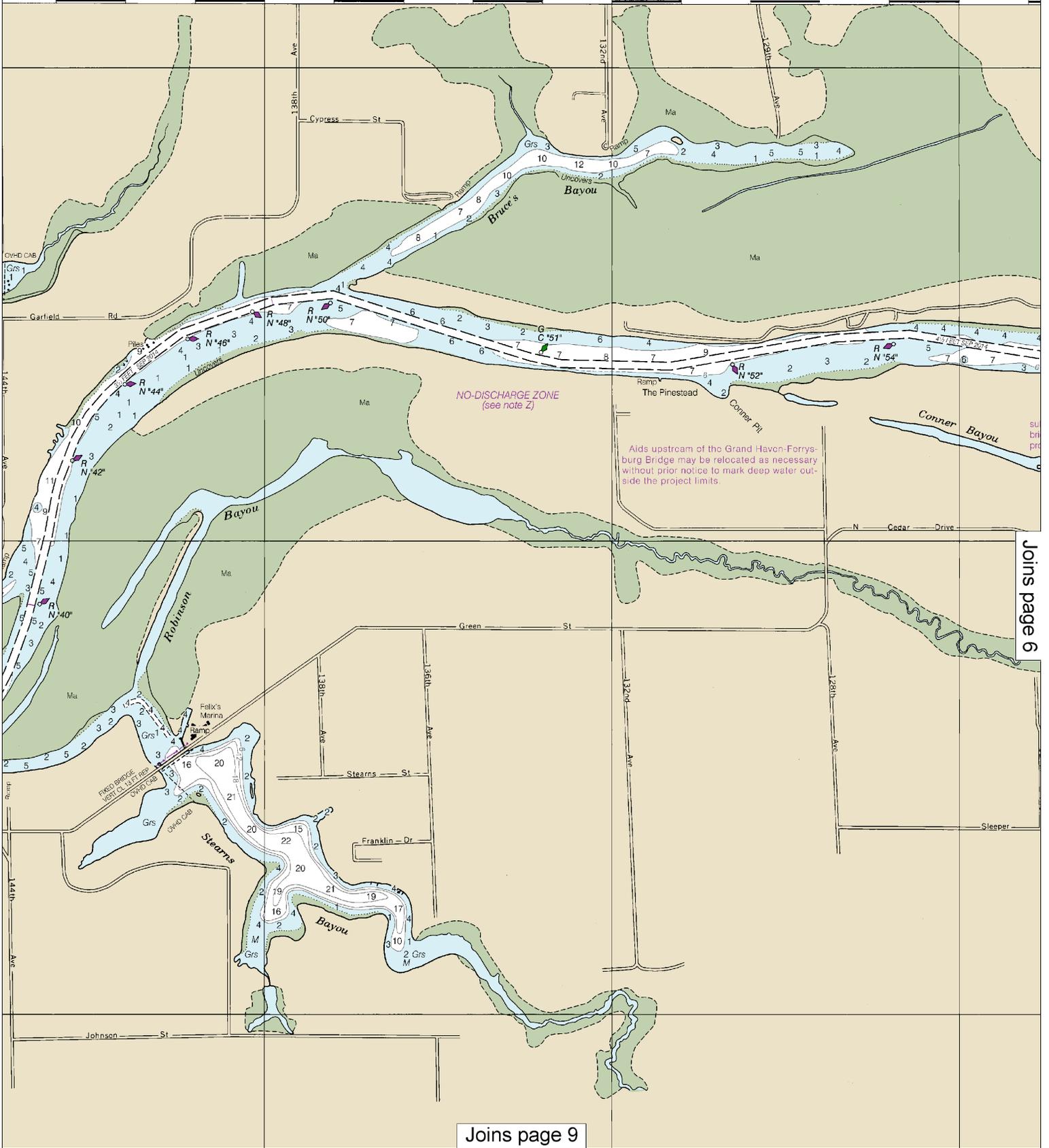


For more information on aids to navigation, including those on Western Rivers, please consult the latest USCG Light List for your area. These volumes are available online at <http://www.navcen.uscg.gov>

86°08'

86°07'

86°06'

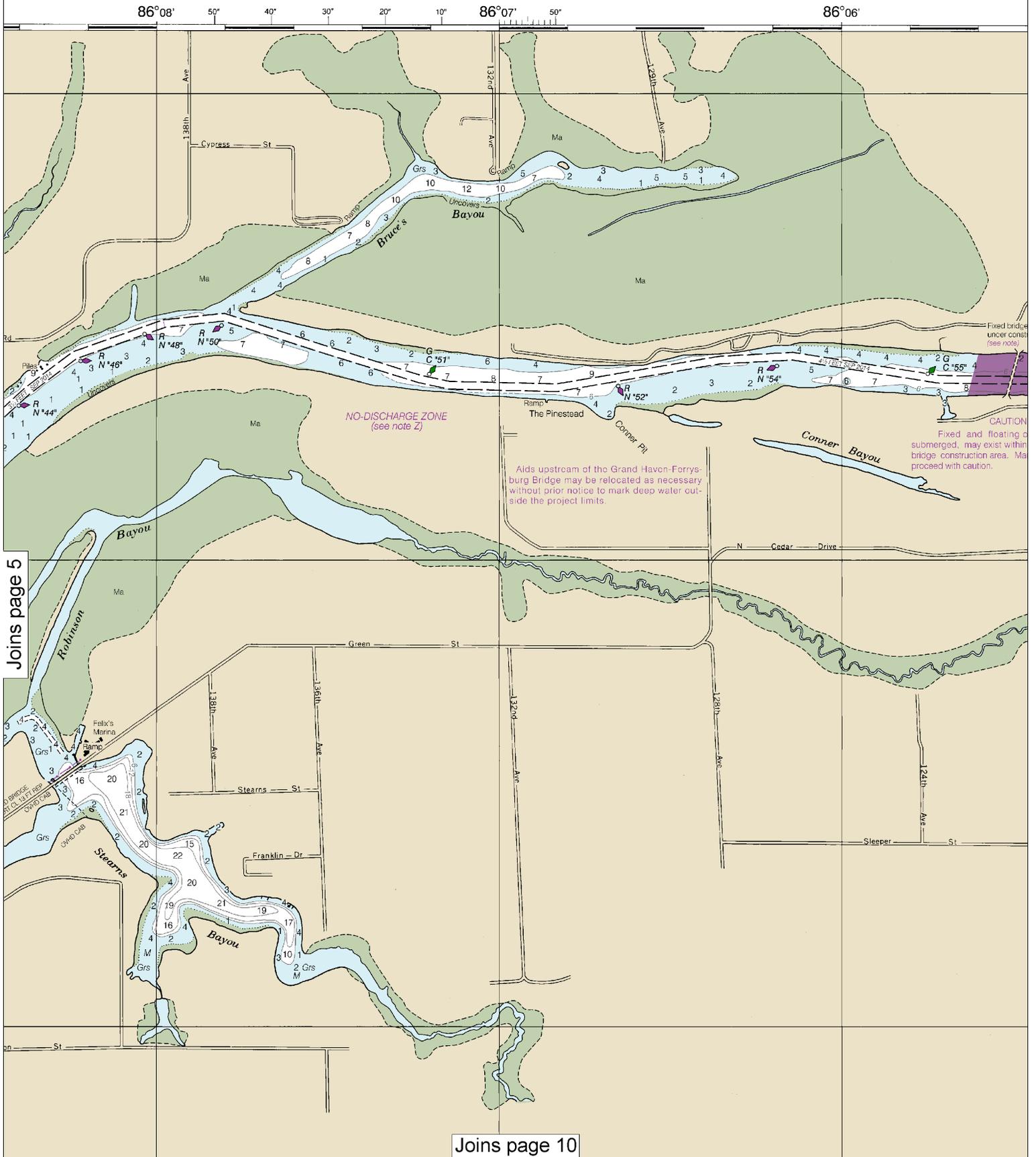


Joins page 9

Joins page 6

This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:20000. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.





Joins page 5

Joins page 10

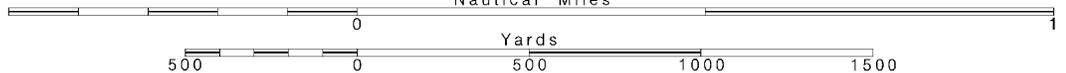


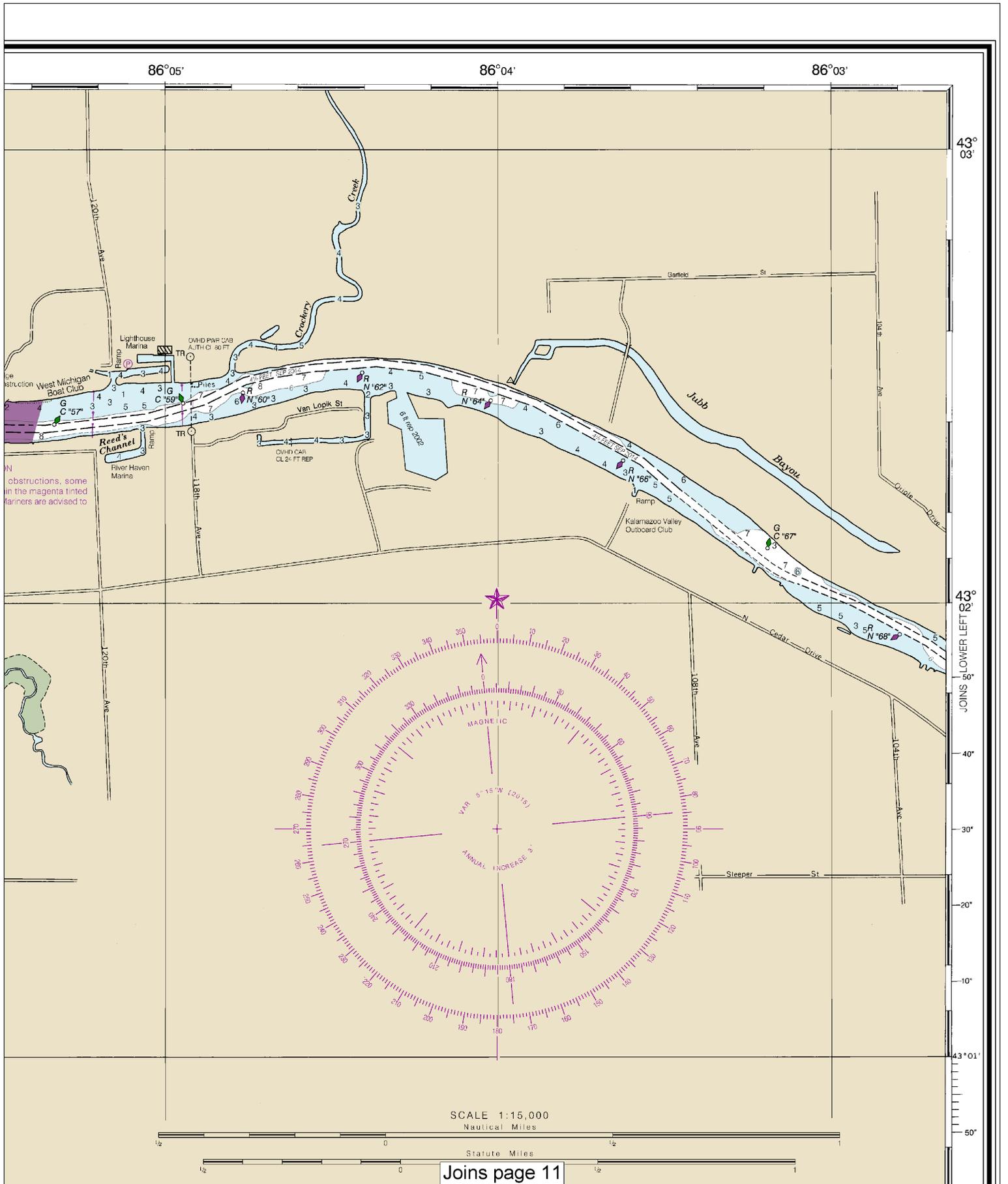
Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

SCALE 1:15,000
Nautical Miles

See Note on page 5.





Joins page 11

Last Correction: 11/17/2015. Cleared through:
 LNM: 4616 (11/15/2016), NM: 4616 (11/12/2016), CHS: 1016 (10/28/2016)

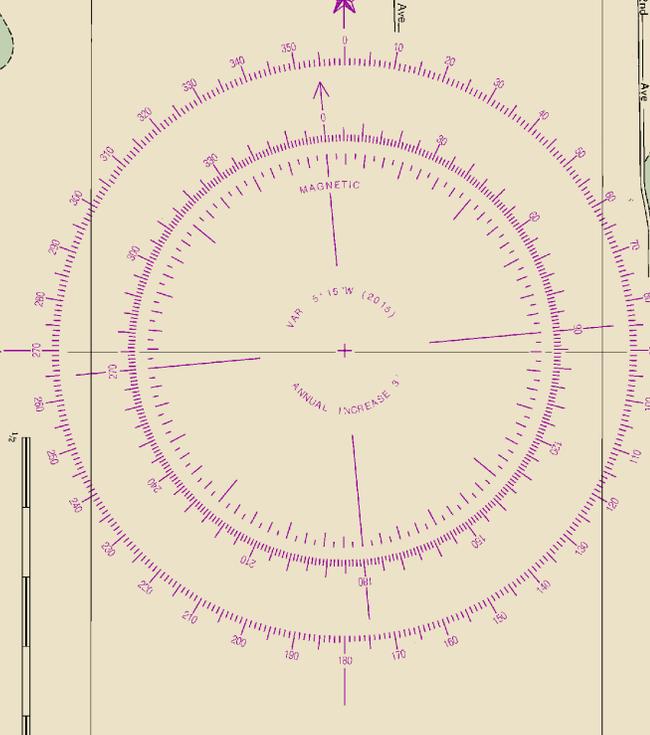


ISLAND

Potato Island Dyke
Brenell Dr
152nd Ave
148th Ave

Millhorse Bayou
Pine Ridge Rd

FIXED BRIDGE
HORCLED FT
VERT CL 11 FT



43° 01'
50°
40°
30°
20°
10°
43° 00'



THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - G

NOTE Z
NO-DISCHARGE ZONE, 40 CFR 140

Michigan waters of Lakes Michigan, Huron, Superior, Erie and St. Clair, all waterways connected thereto, and inland lakes are designated as a No-Discharge Zone. This chart falls entirely within the limits of a No-Discharge Zone (NDZ). Under the Clean Water Act, Section 311, vessels operating within a No-Discharge Zone (NDZ) are completely prohibited from discharging any sewage, toilet or untreated, into the waters. Commercial vessel sewage shall include graywater. All vessels with an installed marine sanitation device (MSD) that are navigating, motored, anchored, or docked within a NDZ must have the device 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 Guard's Vessel Sanitation Manual. Additional information concerning the regulation requirements may be obtained from the Environmental Protection Agency (EPA) web site: http://www.epa.gov/oceans/regulatory/vessel_sewage/.

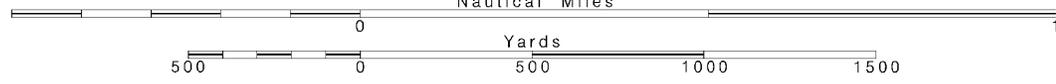
CAUTION
Due to periodic high water conditions in the Great Lakes, some features charted as visible

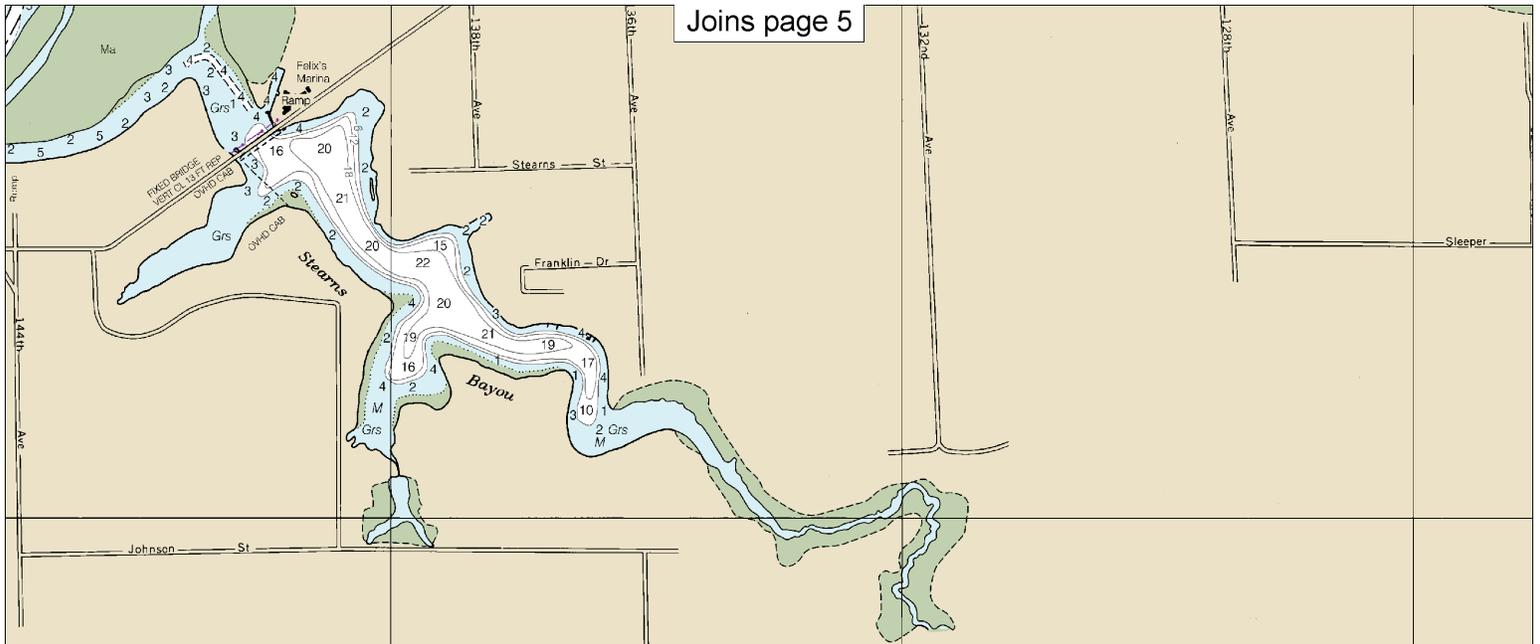


Note: Chart grid lines are aligned with true north.

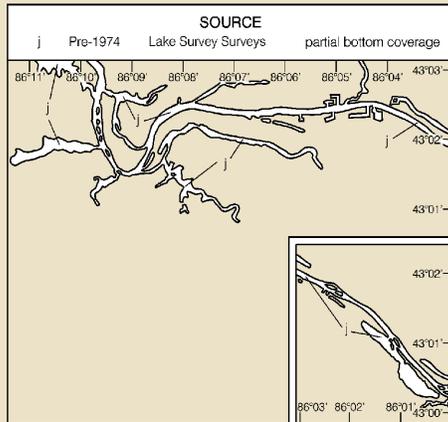
Printed at reduced scale. SCALE 1:15,000 Nautical Miles

See Note on page 5.



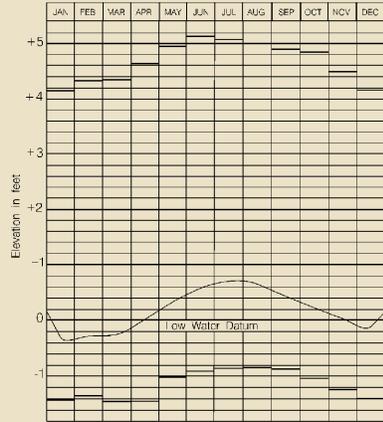


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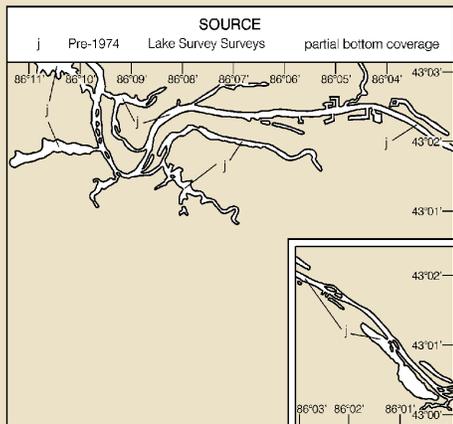
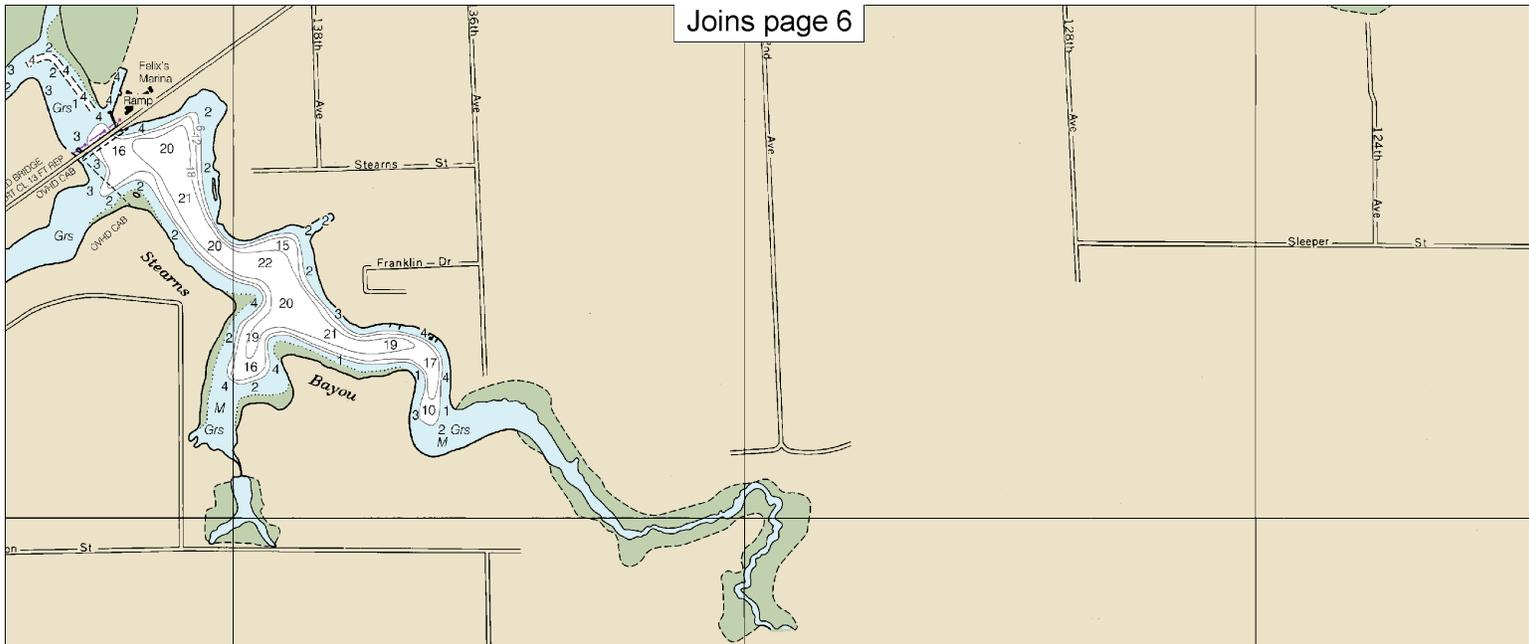


SOURCE DIAGRAM
Most of the hydrography identified by the letter "j" was surveyed by the U.S. Army Corps of Engineers prior to 1974. Channels currently maintained by the U.S. Army Corps of Engineers are pe
shown on this diagram. Refer to Chapter

LAKE MICHIGAN - HURON



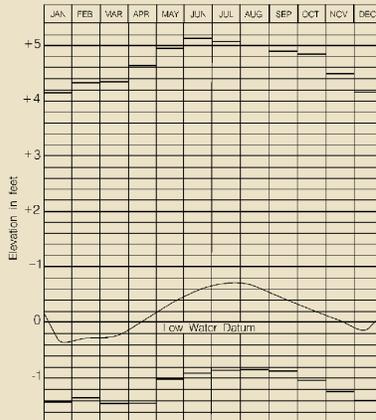
Average Levels (2005-2014)
Extreme Levels (period of record)
Low Water Datum, which is the plane of reference for the levels shown on the above hydrograph, is also the plane of reference for the charted depths. If the lake level is above or below Low Water Datum, the existing depths are corre-



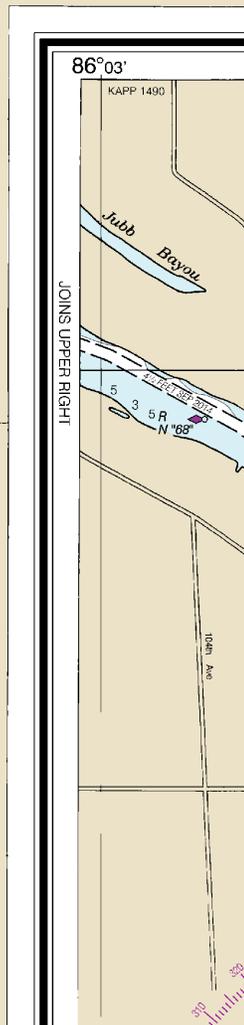
SOURCE DIAGRAM

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 shown on this diagram. Refer to Chapter 1, United States Coast Pilot.

LAKE MICHIGAN - HURON



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Note: Chart grid lines are aligned with true north.

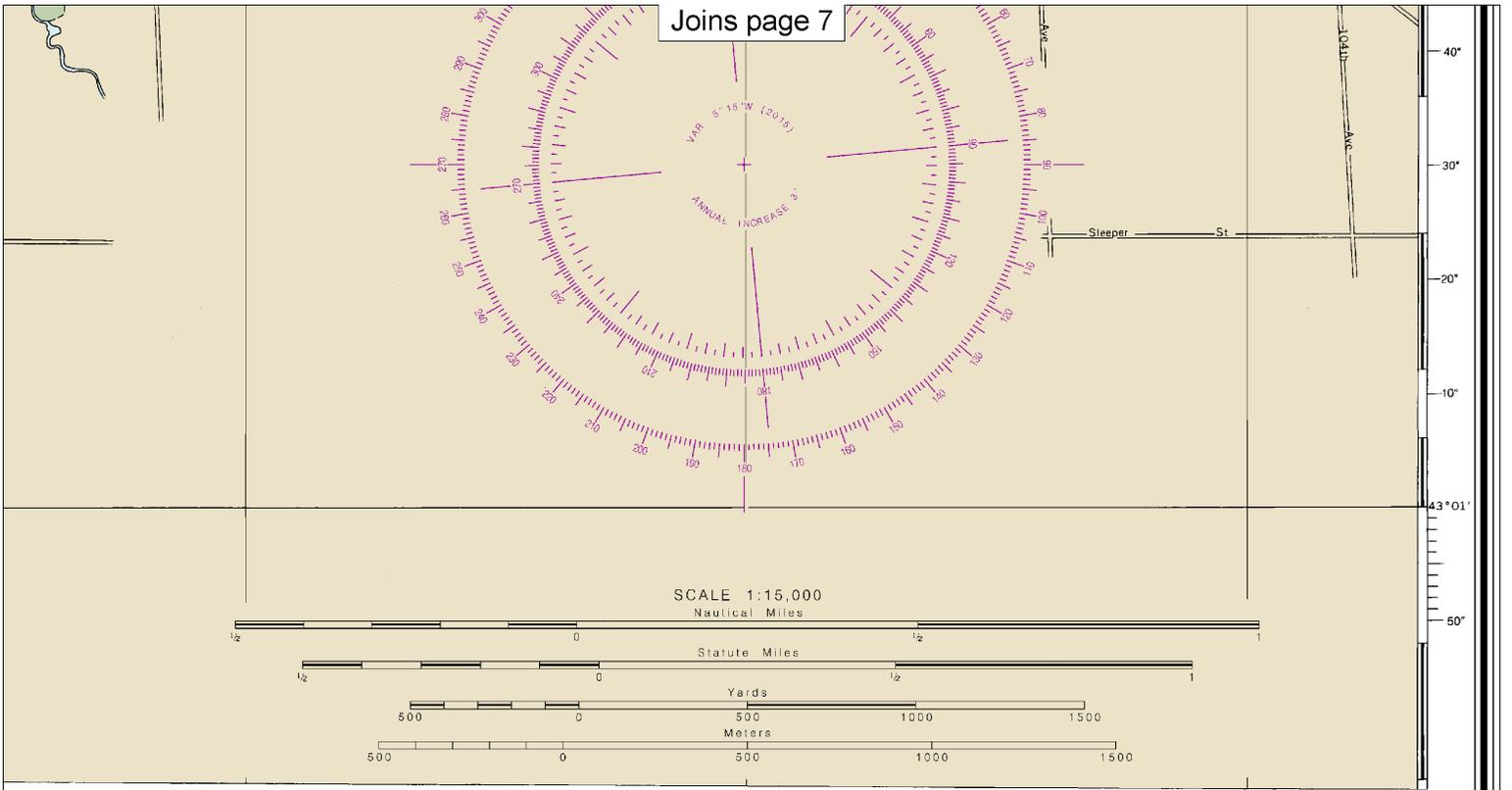
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SCALE 1:15,000
 Nautical Miles

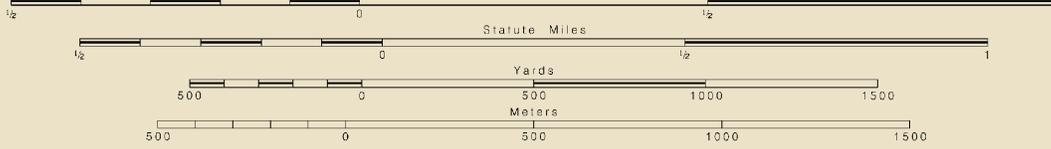
See Note on page 5.



Joins page 7



SCALE 1:15,000
Nautical Miles



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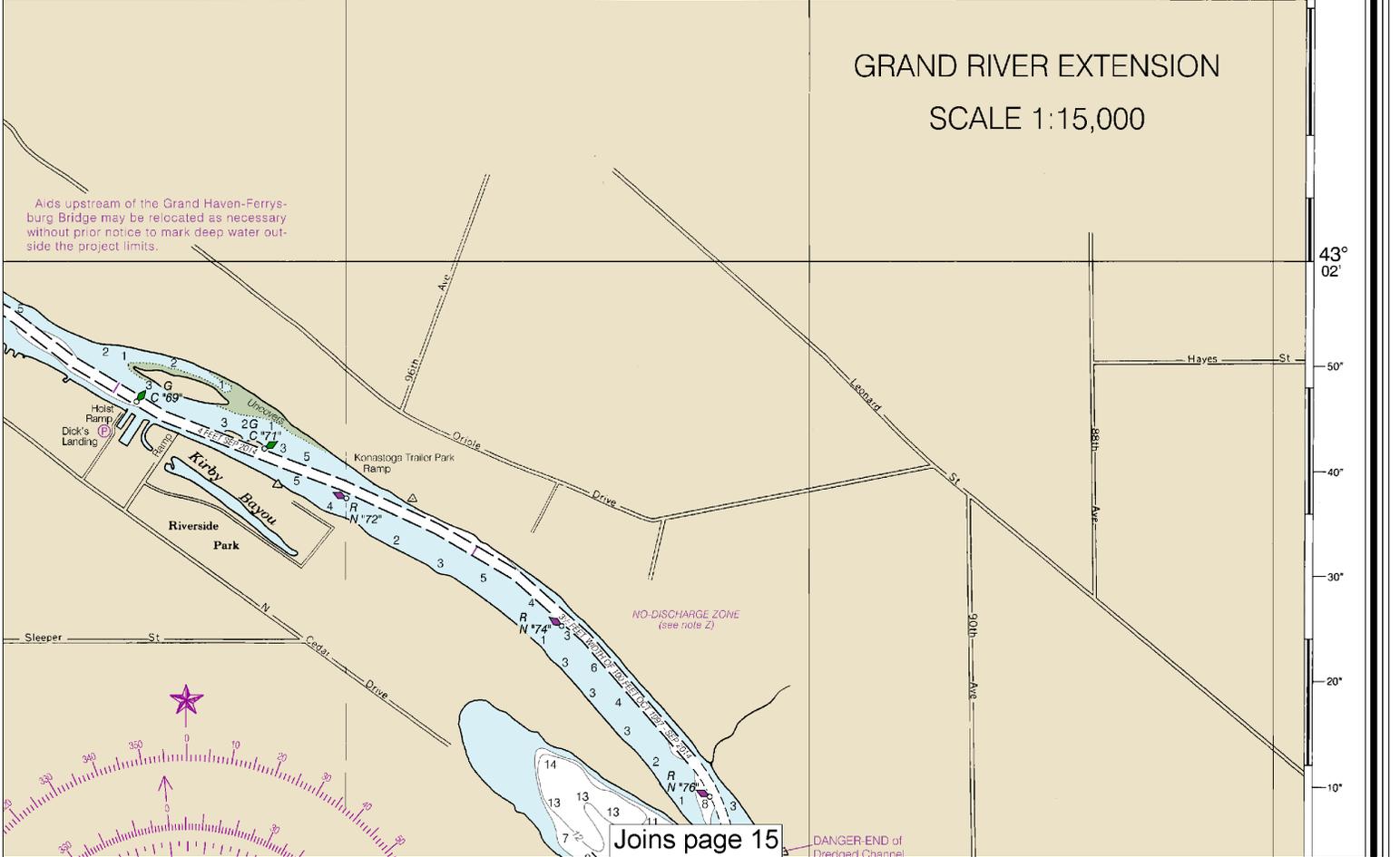
86°01'

86°00'

GRAND RIVER EXTENSION

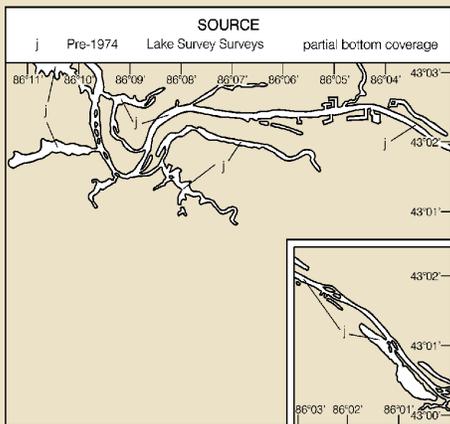
SCALE 1:15,000

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



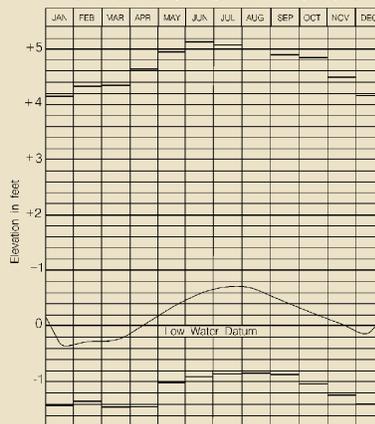
Joins page 15

DANGER END of
Dredged Channel



SOURCE DIAGRAM
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LAKE MICHIGAN - HURON



Average Levels (2005-2014)
 Extreme Levels (period of record)
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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 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.

Grand Rapids, MI	KIG-63	162.550 MHz
Hesperia, MI	WWF-36	162.475 MHz
West Olive, MI	WXN-99	162.425 MHz

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.

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.

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

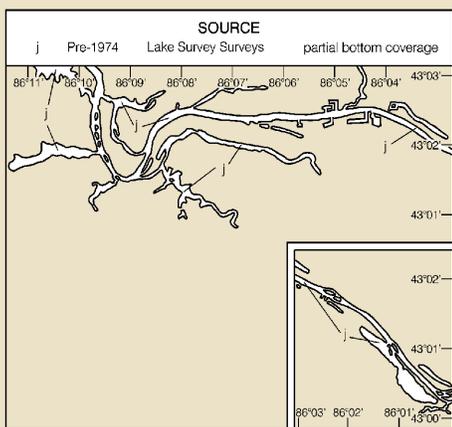
Ⓟ Pump-out facilities

86°08' 50' 40' 30' 20' 10' 86°07' 50' 642.1 X 394.2 mm 86°06'

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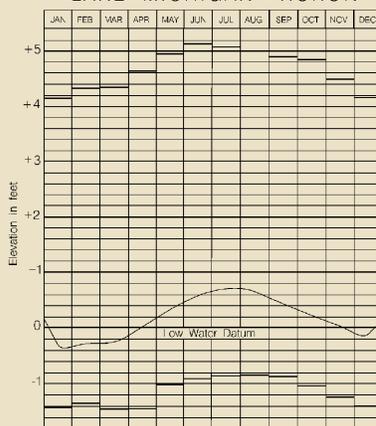
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 U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SERVICE
 COAST SURVEY

SOUNDINGS IN F



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LAKE MICHIGAN - HURON



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Ⓟ Pump-out facilities

86°08' 50' 40' 30' 20' 10' 86°07' 50' 642.1 X / 34.2 mm 86°06'

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

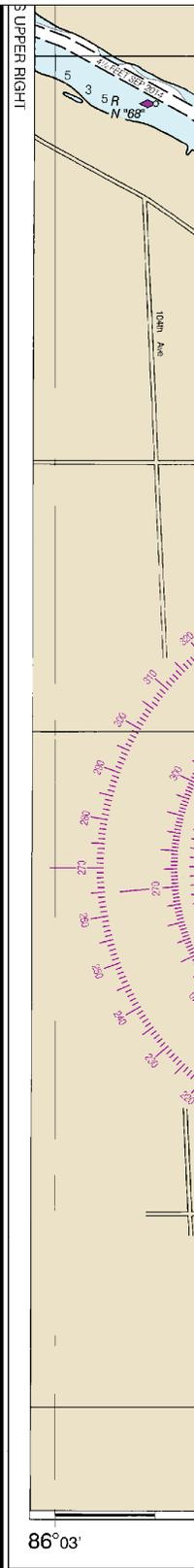
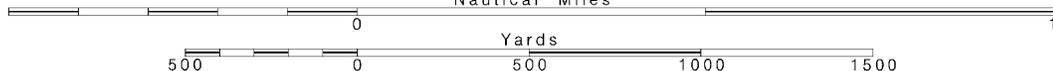
SOUNDINGS IN FEET

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

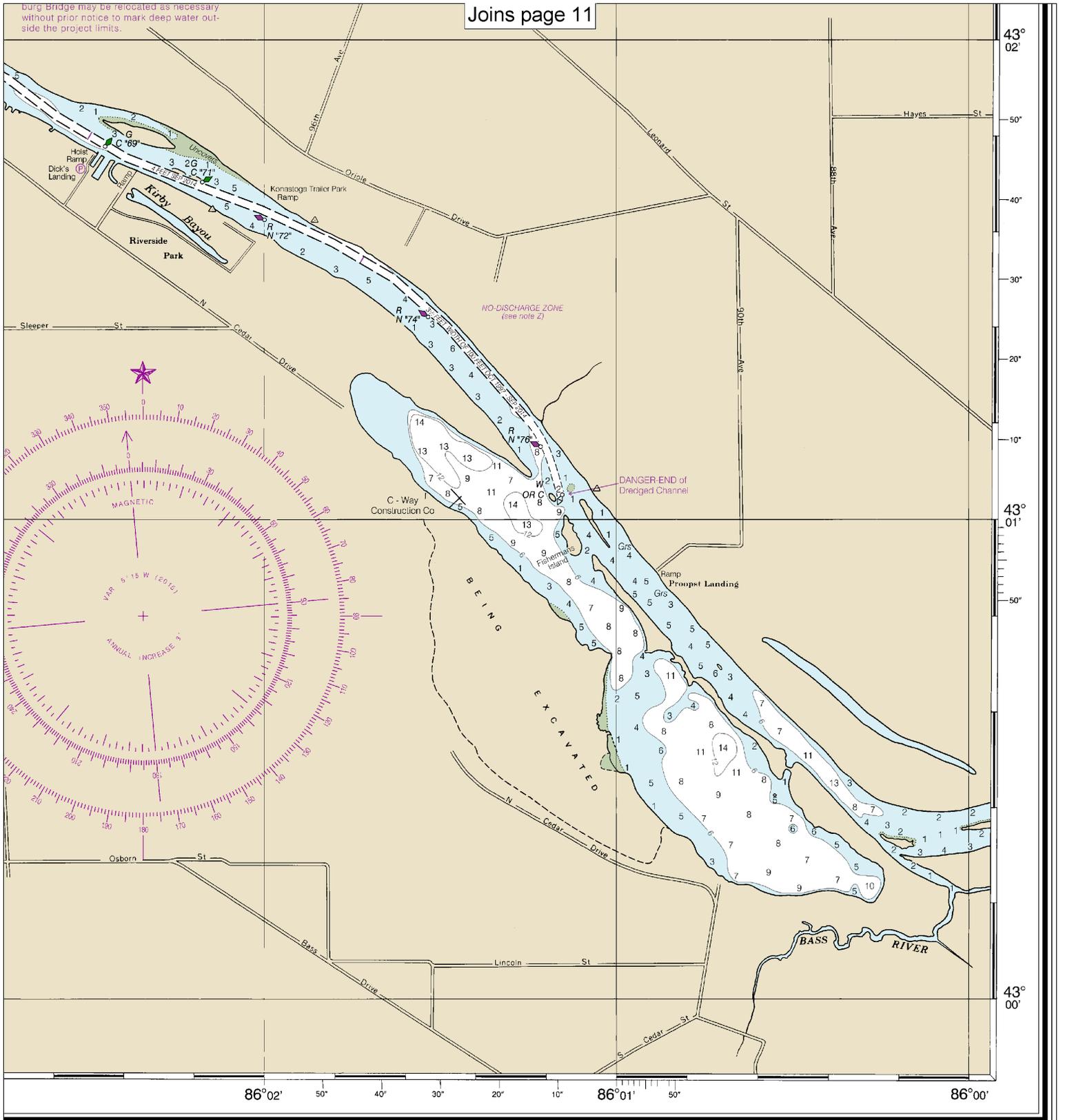
SCALE 1:15,000 Nautical Miles

See Note on page 5.



burg Bridge may be relocated as necessary without prior notice to mark deep water outside the project limits.

Joins page 11



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



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>
- Interactive chart catalog — <http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml>
- 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>



— For the latest news from Coast Survey, follow @NOAAcharts



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.