BookletChart™

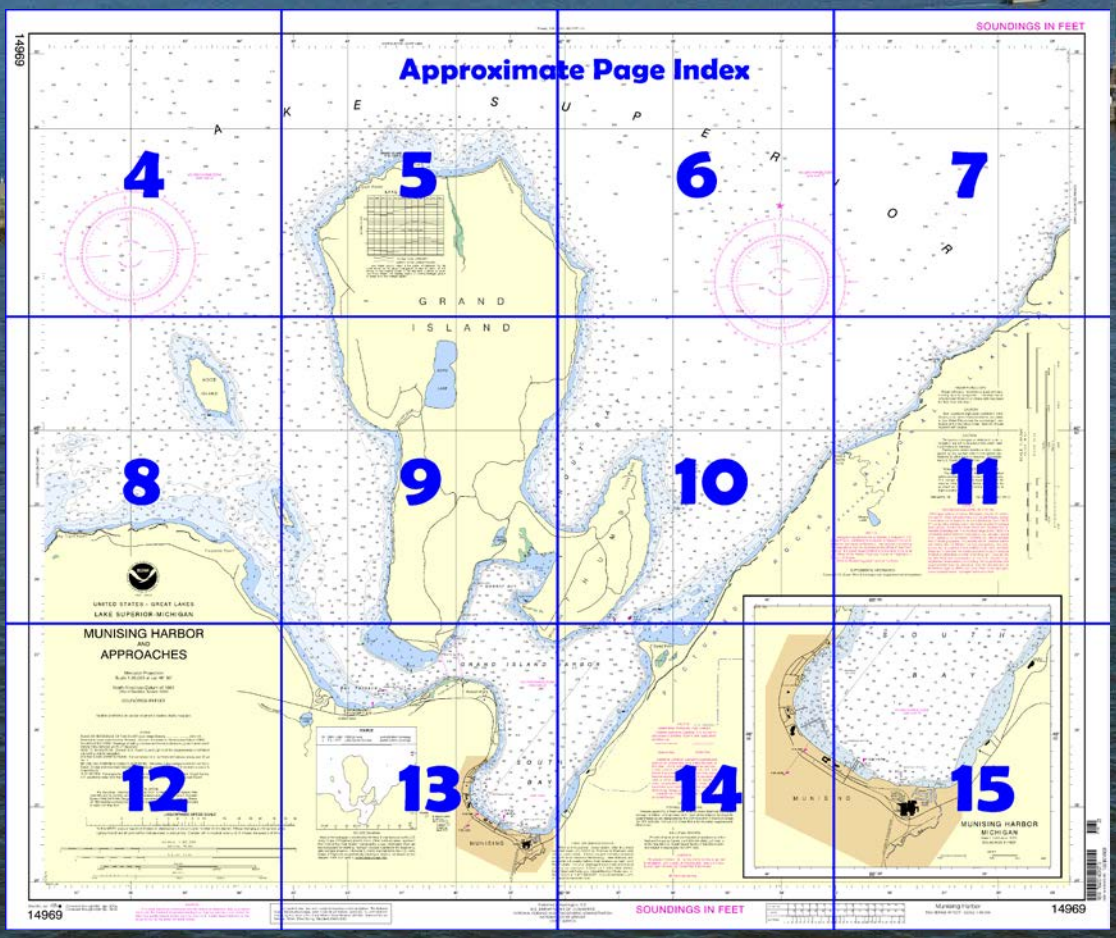
Munising Harbor and Approaches

NOAA Chart 14969

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/searchbychart.php?chart=14969.

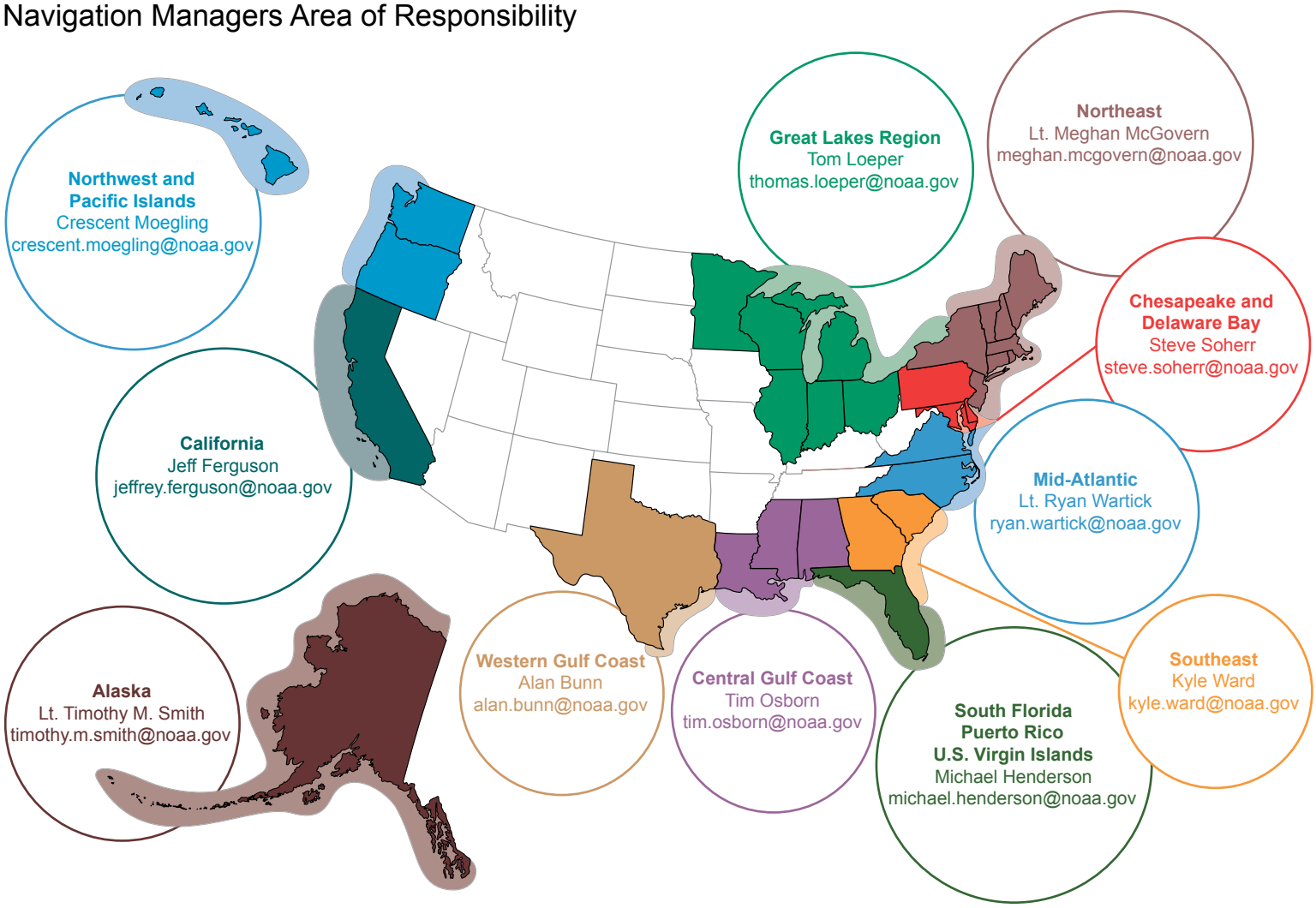
(Selected Excerpts from Coast Pilot)
From Grand Portal Point, the shore trends southwest for 9.7 miles to **Sand Point. Sail Rock** and **Miners Castle Point,** 1 and 6 miles southwest of Grand Portal Point, respectively, are prominent. S of Pictured Rocks, a high wooded bluff continues close to shore past Sand Point. Shoals extend about 0.3 mile offshore in this stretch. About 2.2 miles southwest of Miners Castle Point, a shoal with a least depth of ½ foot makes out from shore and extends southwest to a point 0.3 mile northwest of Sand Point. The shoal is marked by a lighted bell buoy.

Grand Island, about 7.5 miles long and 3.5 miles wide, is a high wooded island west of this reach. The north end is 9 miles west of Grand Portal Point, and the southeast end is 0.7 mile west of Sand Point. **Grand Island Light** (46°33'35"N., 86°40'48"W.), 190 feet above the water, is shown from a white post on the northwest point of the island. Shoals extend about 0.5 mile off the two points at the north end of the island, and a shoal with depths of 2 to 6 feet extends 0.5 mile S and southwest from the south point of the island. A buoy marks the southwest edge and the south edge of the shoal at the south end of the island. Shoals extend no more than 0.3 mile off the east and west shores of the island.
The **Thumb,** the southeast part of Grand Island, is high and roughly oval in shape, about 3 miles long and 1 mile wide. The Thumb is connected to the southeast side of Grand Island by a low narrow neck of land, with bays formed on either side between the Thumb and the island. **Trout Bay** is north of the neck, and **Murray Bay** is S.
A shoal with depths of 10 to 18 feet extends 0.6 mile north from **Trout Point,** the north point of the Thumb. A shoal, with a depth of 8 feet at the outer edge and marked by a lighted bell buoy, extends 0.5 mile east from shore just southeast of Trout Point. The shoal border for the remainder of the east side of the Thumb is narrow and is marked by a buoy opposite Sand Point.
A narrow deepwater channel leads between the southeast side of the Thumb and the shoal off Sand Point to Grand Island Harbor. The shoal is marked on its west edge by a lighted bell buoy; least depth of the shoal is ½ foot. The channel is marked by a **217°** lighted range at Munising.
Grand Island Harbor, the area of deep water off the south end of Grand Island, is a refuge during N storms for the largest vessels plying the Great Lakes. Anchorage with good holding ground is in the mouth of Murray Bay, between the S point of Grand Island and **Wick Point,** the S point of the Thumb. Avoid the submerged cables that extend from Powell Point to the south end of Grand Island.
South Bay, between Sand Point on the East and **Powell Point** on the West, extends 2.5 miles South from Grand Island Harbor. Shoals extend about 0.2 mile from the shores of the bay.
Munising Harbor is at the south end of South Bay at the town of **Munising, MI** Prominent are the lighted radio masts on the high ground west of the town and the black stack and silver tank at the Neenah Paper Company on the southeast side of the town. A hospital is in the town. A **217°** lighted range in the town marks the harbor approach.
Anna River, which flows into the southeast corner of South Bay, is not navigable by even small craft.
Small-craft facilities.–The L-shaped city dock is 0.6 mile west of the mouth of Anna River. The dock has depths of 14 to 21 feet along the outer face and depths greater than 6 feet along the remainder of the outer half. Facilities developed by the Michigan State Waterways Commission are at the dock, Transient berths, gasoline, electricity, and sewage pump-out facilities are available. Limited repairs are available from local garages. A launching ramp is 0.6 mile northwest of the dock. The ruins of a large dock are 0.4 mile northwest of the city dock.
From Powell Point, on the west side of the entrance to South Bay, the shore trends southwest for 1.5 miles, thence northwest for 3 miles to **Fivemile Point,** and thence W for 2.5 miles to **Au Train Point. Bay Furnace** is the bight formed west of Powell Point. From a width of 0.2 mile in Bay Furnace, the shoal border increases to a width of 1.2 miles northeast of Fivemile Point. **Williams Island** is near the outer edge of the shoals northeast of Fivemile Point.

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 Managers Area of Responsibility

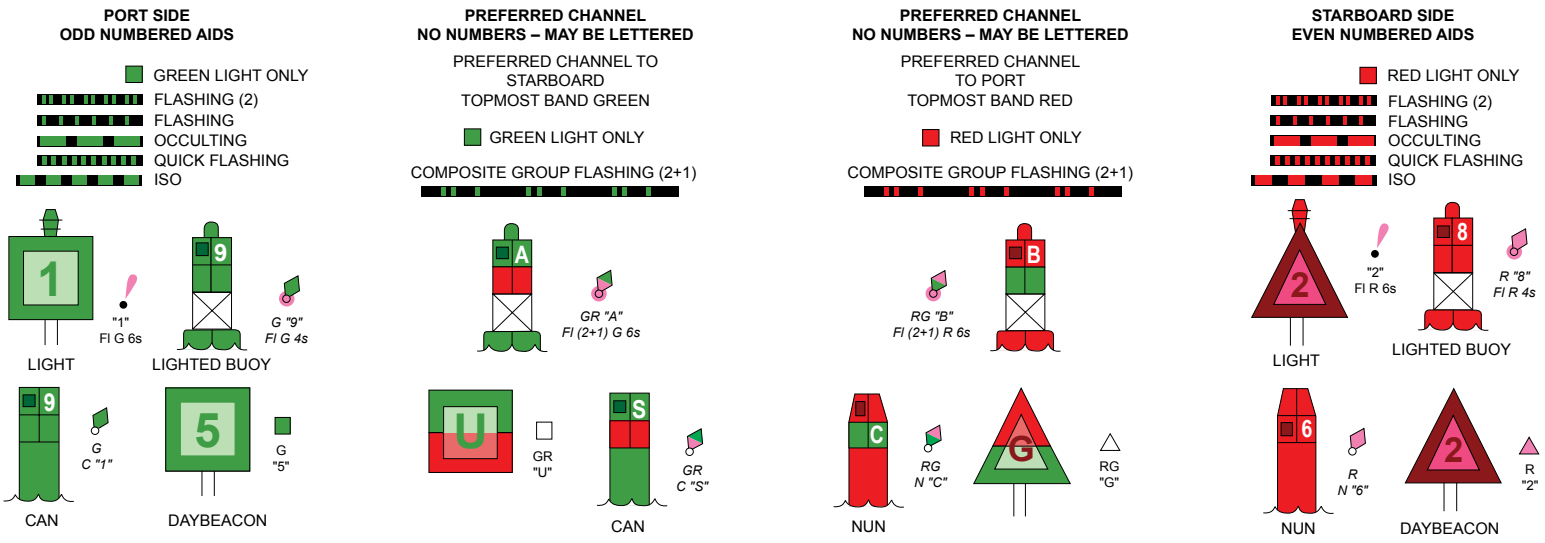


NOAA's navigation managers serve as ambassadors to the maritime community. They help identify navigational challenges facing professional and recreational mariners, and provide NOAA resources and information for safe navigation. For additional information, please visit *nauticalcharts.noaa.gov/service/navmanagers*

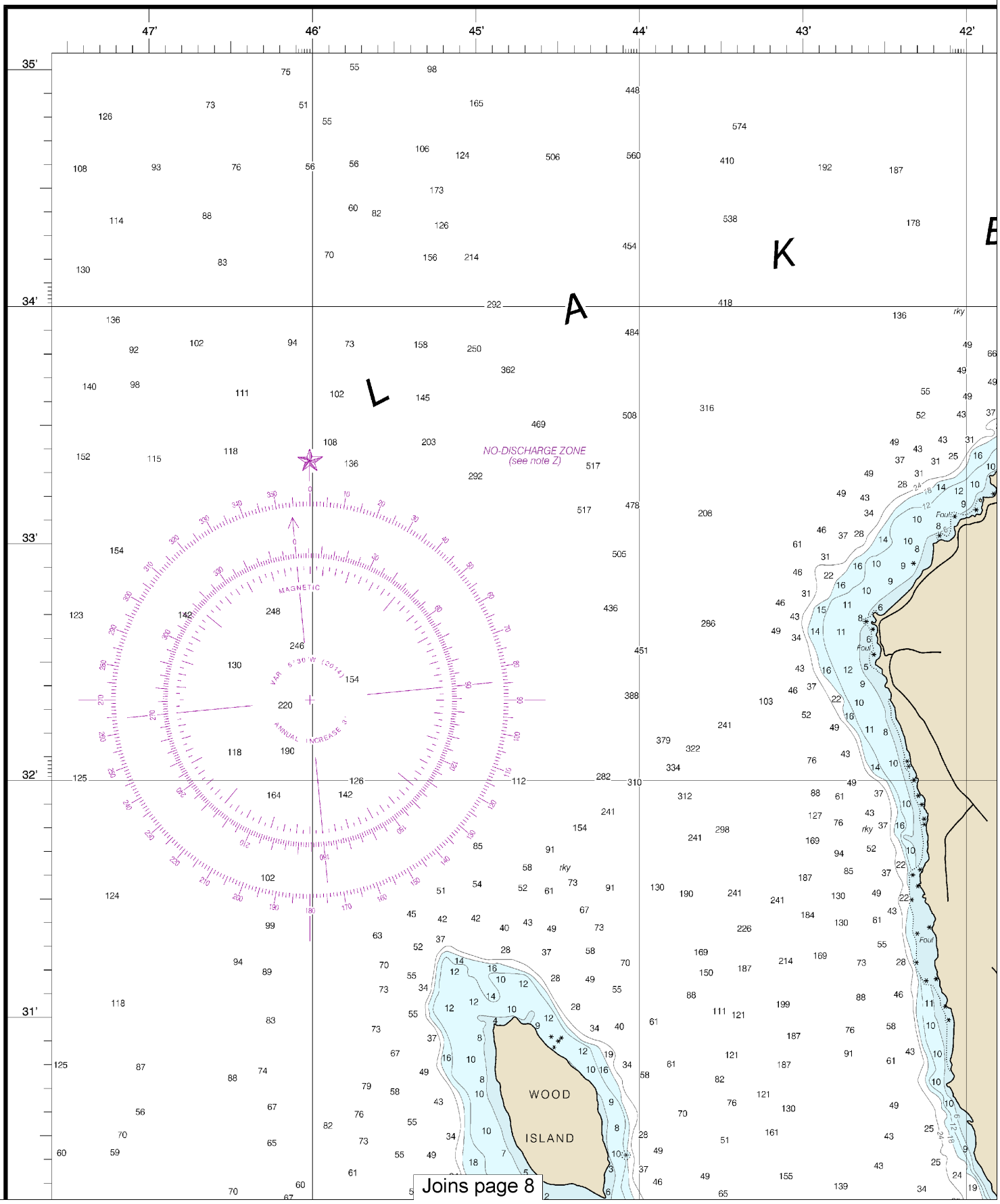
To make suggestions or ask questions online, go to *nauticalcharts.noaa.gov/inquiry*.
To report a chart discrepancy, please use *ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx*.

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*



Joins page 8

4

Note: Chart grid lines are aligned with true north.

Printed at reduced scale.

~~SCALE 1:30,000~~

Nautical Miles

1 0 1 2

Yards

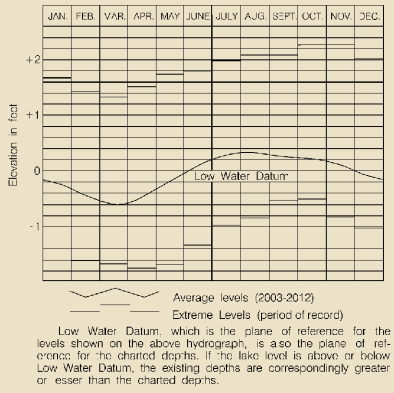
1000 0 1000 2000 3000

See Note on page 5.

41'
CONTINUED ON CHART 14963
40'
39'
86° 38'
37'
36'

E S U P

GRAND ISLAND LIGHT
Fl 6s 190ft 9 St M
ABAND LT HO
North Point
Gull Point
Northeast Point
Marsh
LAKE SUPERIOR



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.

G R A N D

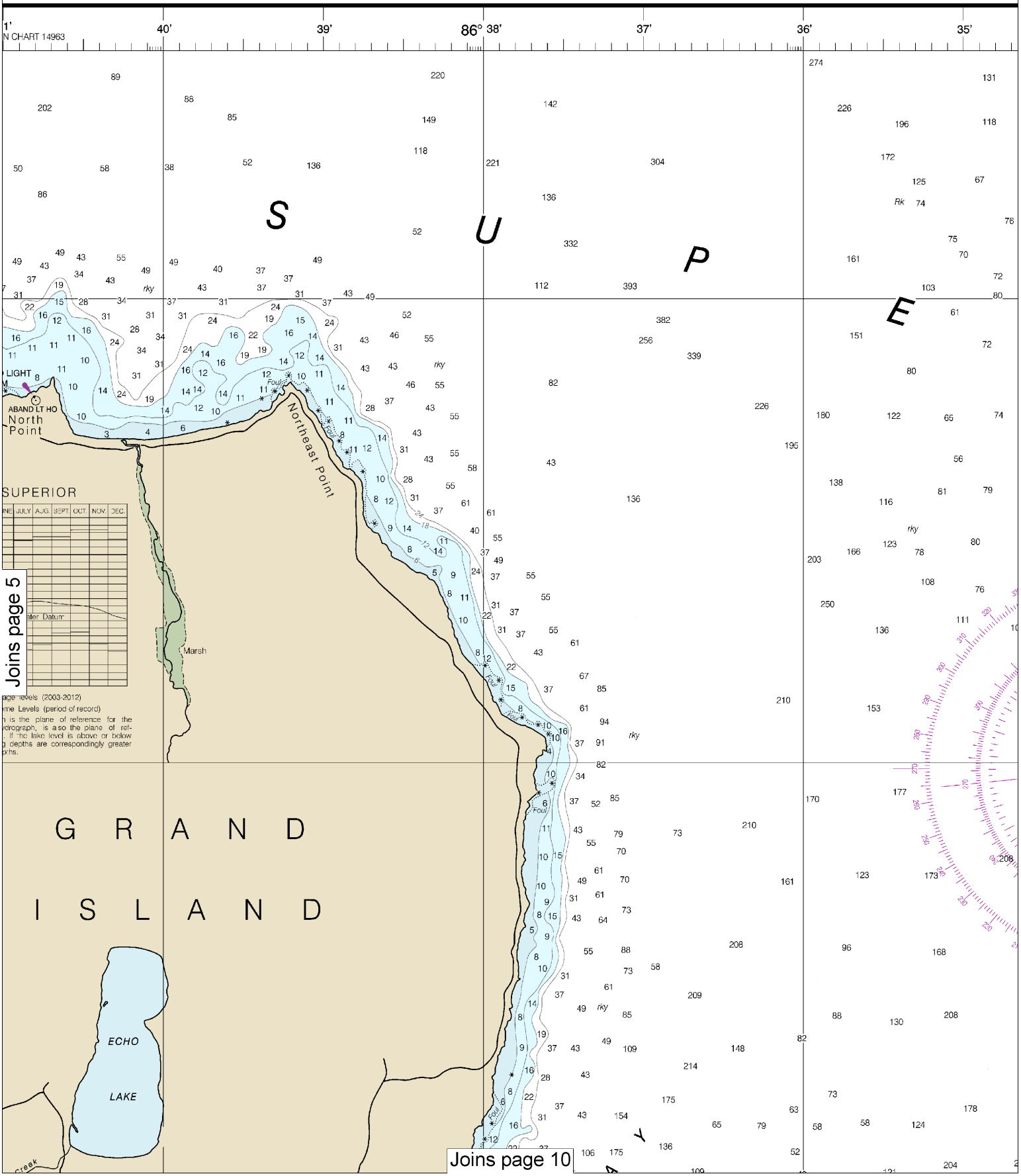
I S L A N D

ECHO
LAKE

Joins page 6

Joins page 9

This BookletChart was reduced to 75% of the original chart scale.
The new scale is 1:40000. Barscales have also been reduced and
are accurate when used to measure distances in this BookletChart.



6

Note: Chart grid lines are aligned with true north.

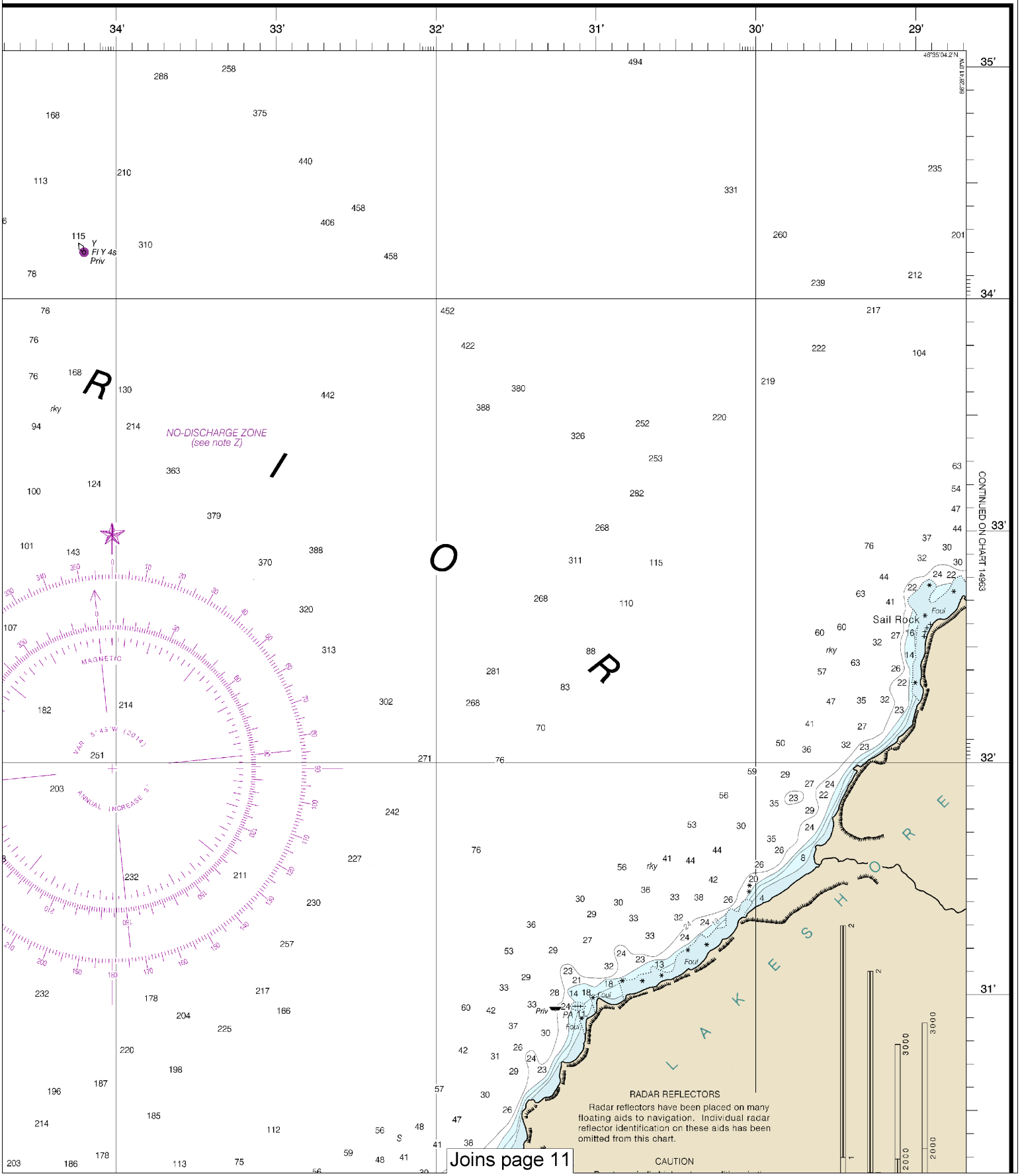
Printed at reduced scale. ~~SCALE 1:30,000~~

Nautical Miles: 1 0 1 2

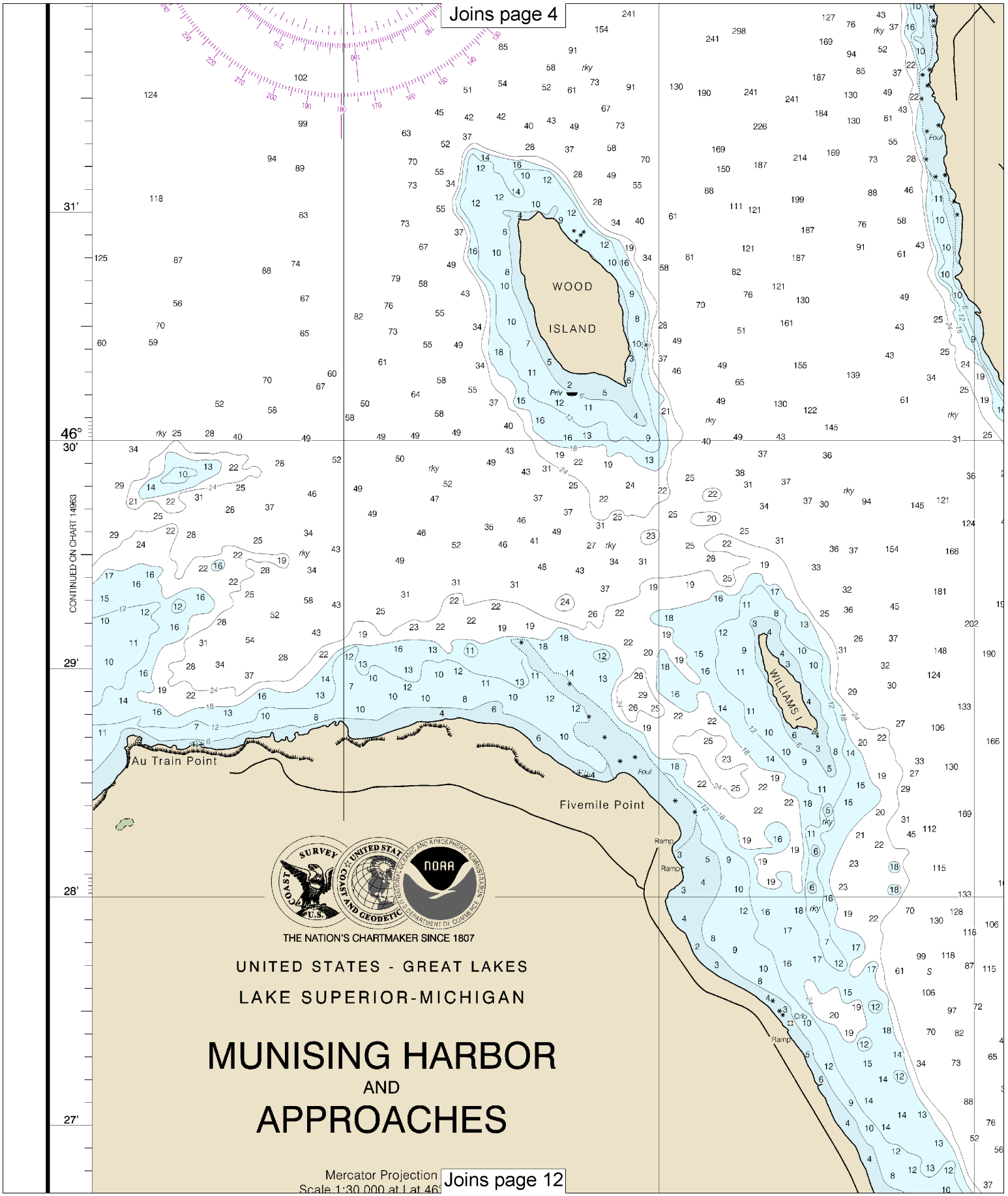
Yards: 1000 0 1000 2000 3000

See Note on page 5.

SOUNDINGS IN FEET



Last Correction: 4/14/2015. Cleared through:
LNM: 4616 (11/15/2016), NM: 4616 (11/12/2016), CHS: 1016 (10/28/2016)



8

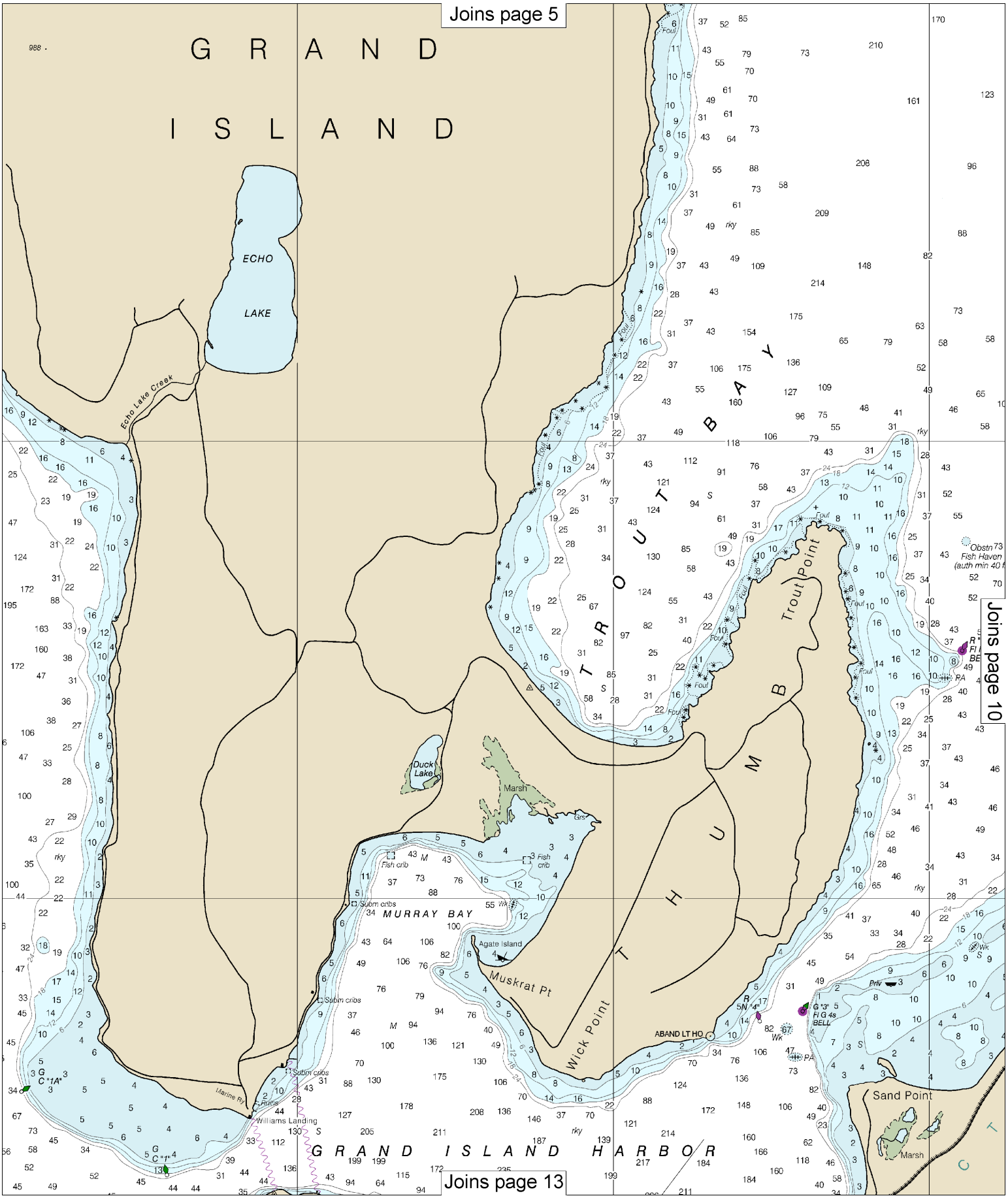
Note: Chart grid lines are aligned with true north.

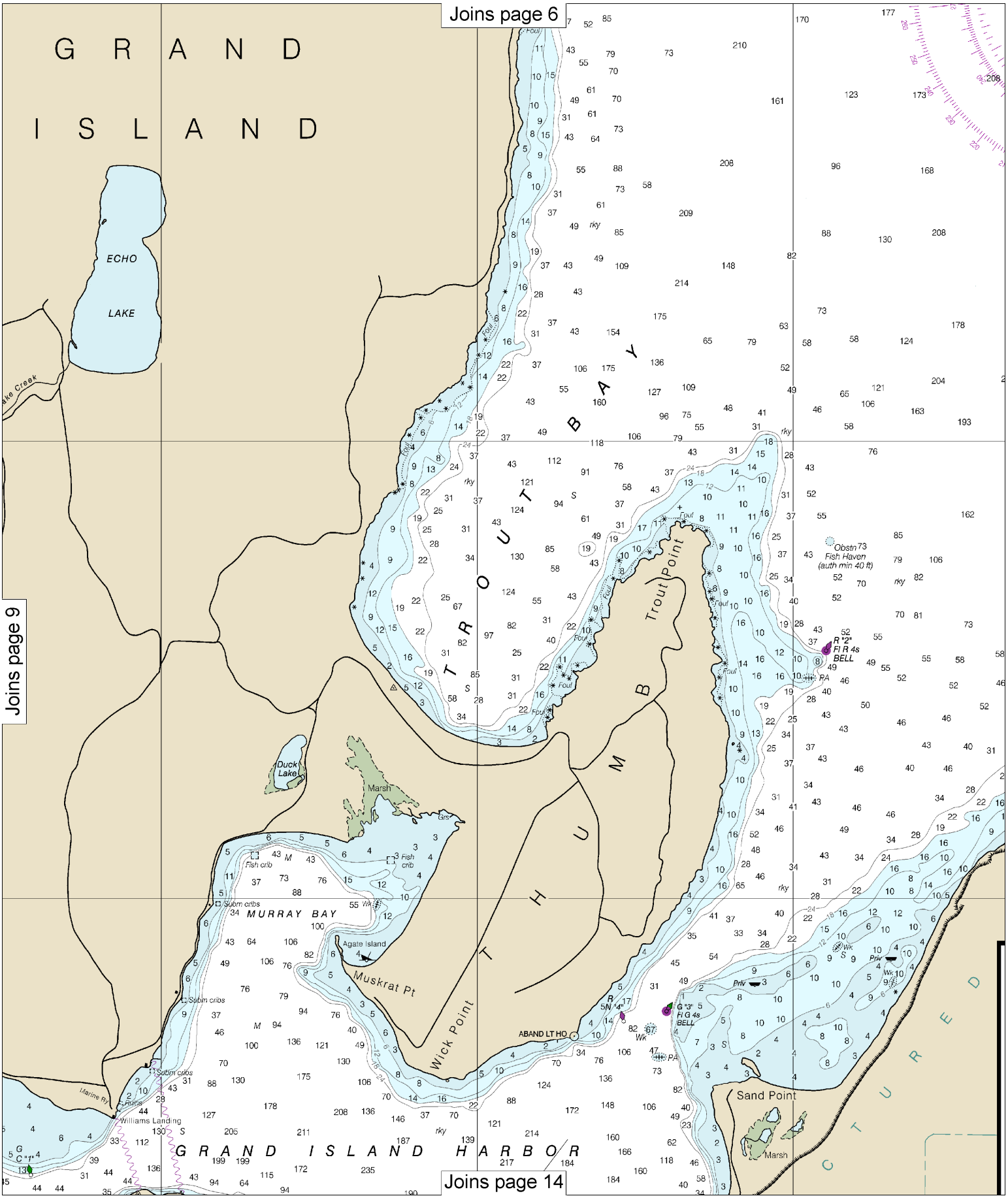
Printed at reduced scale. ~~SCALE 1:30,000~~

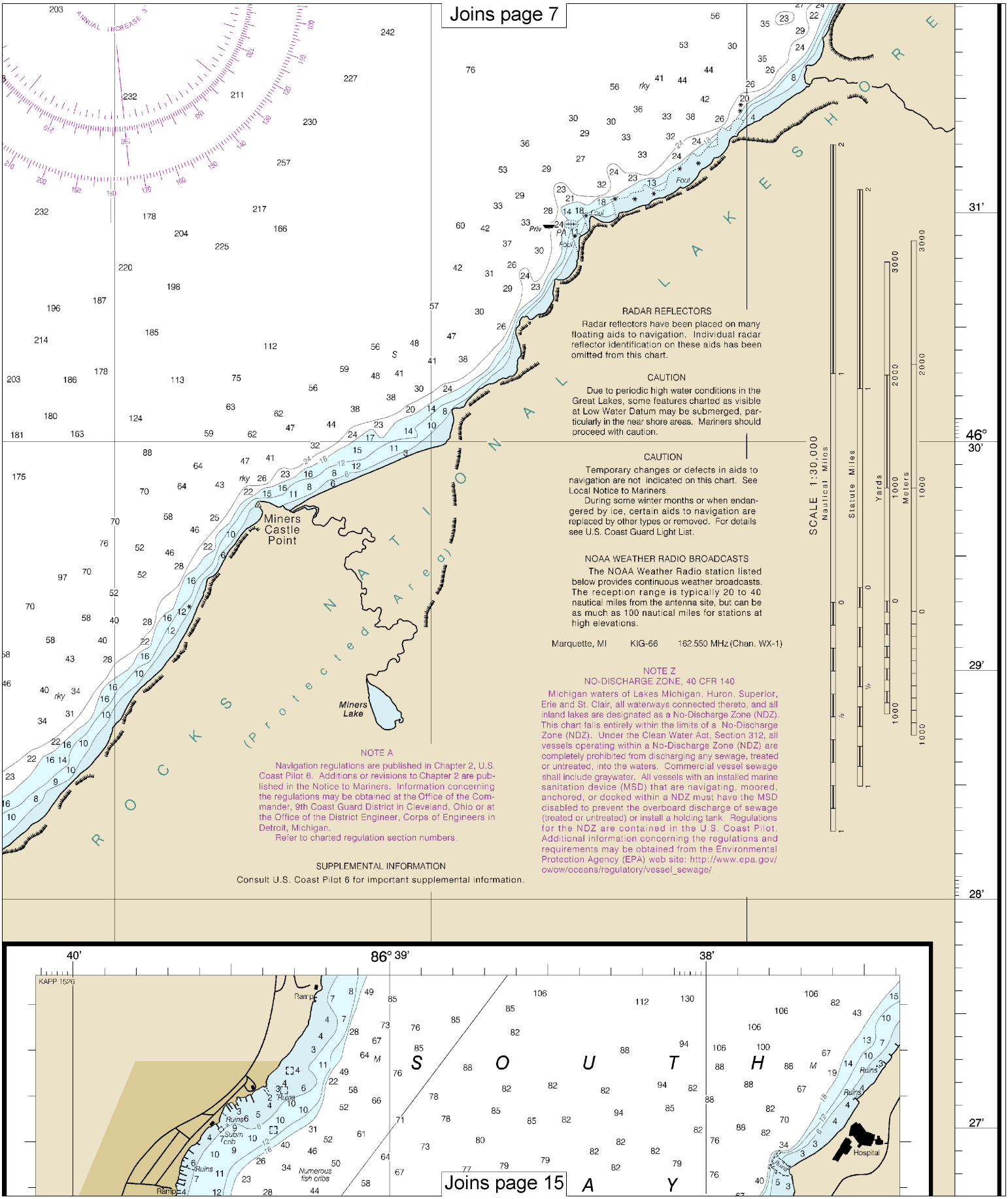
Nautical Miles: 1 0 1 2

Yards: 1000 0 1000 2000 3000

See Note on page 5.


Joins page 5
GRAND ISLAND
ECHO LAKE
Echo Lake Creek
TROUT BAY
Trout Point
Joins page 10
Duck Lake
Marsh
MURRAY BAY
Fish crib
Subm cribs
Agate Island
Muskrat Pt
THUMB
Wick Point
ABAND LT HO
Sand Point
Marsh
Williams Landing
Marine Ry
GRAND ISLAND HARBOR
Joins page 13


Joins page 6
GRAND ISLAND
ECHO LAKE
TROUT BAY
THUMB
Trout Point
Obstn
Fish Haven
(auth min 40 ft)
R "2"
Fl R 4s
BELL
Duck Lake
Marsh
MURRAY BAY
Fish crib
Subm cribs
Agate Island
Muskrat Pt
Wick Point
ABAND LT HO
G "3"
Fl G 4s
BELL
Sand Point
Marsh
Marine Rly
Williams Landing
GRAND ISLAND HARBOR
Joins page 9
Joins page 14
10
Note: Chart grid lines are aligned with true north.
Printed at reduced scale.
SCALE 1:30,000
Nautical Miles
1 0 1 2
Yards
1000 0 1000 2000 3000
See Note on page 5.


Joins page 7
ANNUAL INCREASE 3'
Miners Castle Point
Miners Lake
ROCKS (Protected Area)
NATIONAL LAKESHORE
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
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.
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.
NOAA WEATHER RADIO BROADCASTS
The NOAA Weather Radio station listed below provides 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.
Marquette, MI KIG-66 162.550 MHz (Chan. WX-1)
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 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.
SCALE 1:30,000
Nautical Miles
Statute Miles
Yards
Meters
31'
46° 30'
29'
28'
27'
40'
86° 39'
38'
KAPP 1526
Ramp
Ruins
Subm crib
Numerous fish cribs
Ramp
SOUTH BAY
Hospital
Joins page 15

Joins page 8

THE NATION'S CHARTMAKER SINCE 1807

UNITED STATES - GREAT LAKES

LAKE SUPERIOR-MICHIGAN

MUNISING HARBOR AND APPROACHES

Mercator Projection
Scale 1:30,000 at Lat 46° 30'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

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 1984 (WGS 84). Geographic positions referred to the North American Datum of 1927 must be corrected an average of 0.471" southward and 0.764" westward to agree with this chart.

NOTES

PLANE OF REFERENCE OF THIS CHART (Low Water Datum).....601.1 ft. Referred to mean water level at Rimouski, Quebec, International Great Lakes Datum (1985).
SAILING DIRECTIONS. Bearings of sailing courses are true and distances given thereon are in statute miles between points of departure.
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, U.S. Coast Guard.

SCALE 1:30,000

Nautical Miles: 1 ½ 0 1 2

Statute Miles: 1 ½ 0 1 2

Yards: 1000 0 1000 2000 3000

Meters: 1000 0 1000 2000 3000

Most of the hydrography iden... Army Corps of Engineers pri... the limits of the most recent ... been evaluated for charting. ... date and type of survey. Chan... Corps of Engineers are period... diagram. Refer to Chapter 1, U...

23rd Ed., Jun. 2014
14969

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, discrepanc... about this chart at http://www.nauticalcharts.noaa.gov/staff/c...

Last Correction: 4/14/2015. Cleared through:
LNM: 4616 (11/15/2016), NM: 4616 (11/12/2016), CHS: 1016 (10/28/2016)

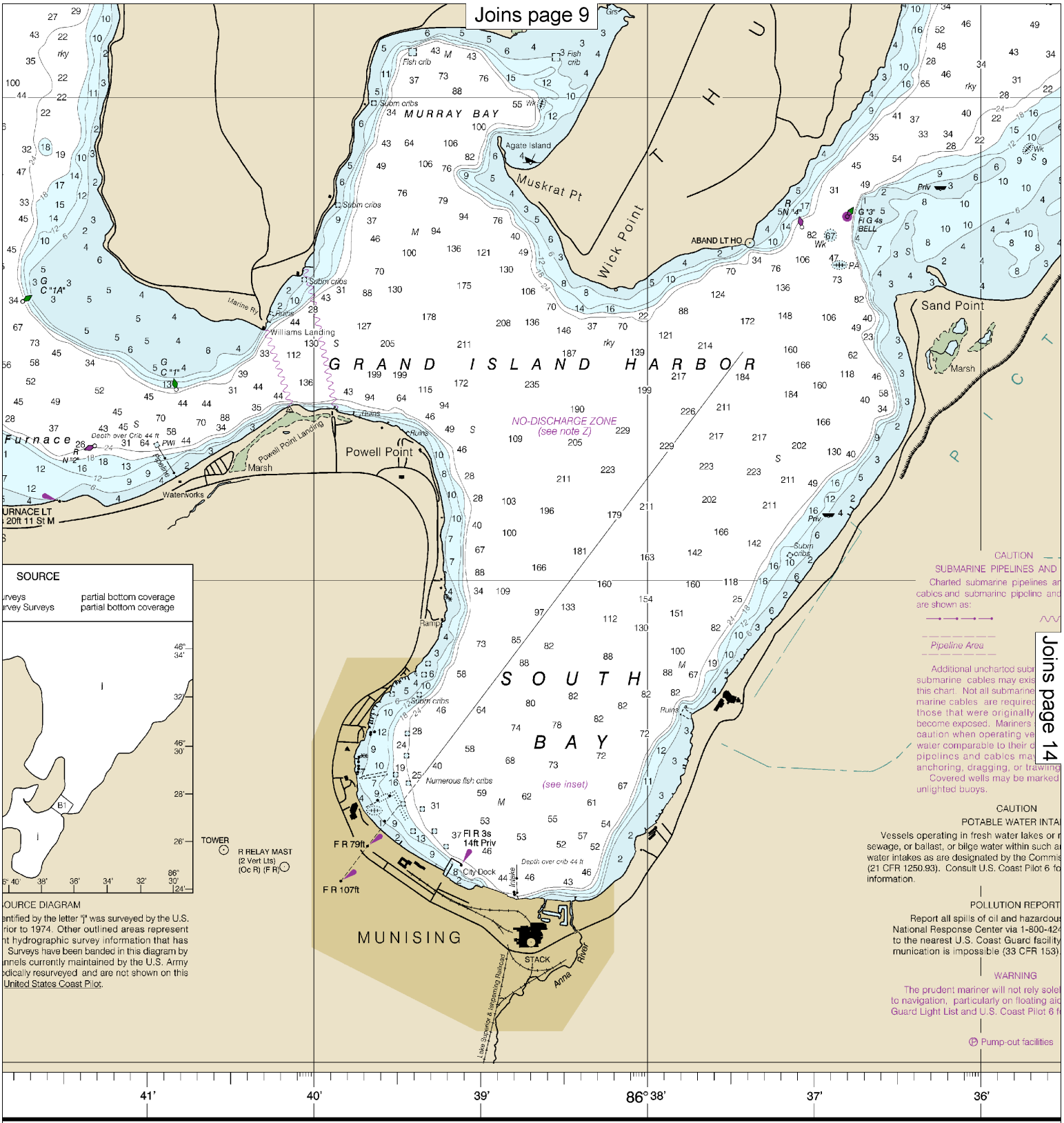
Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:30,000~~

Nautical Miles: 1 0 1 2

Yards: 1000 0 1000 2000 3000

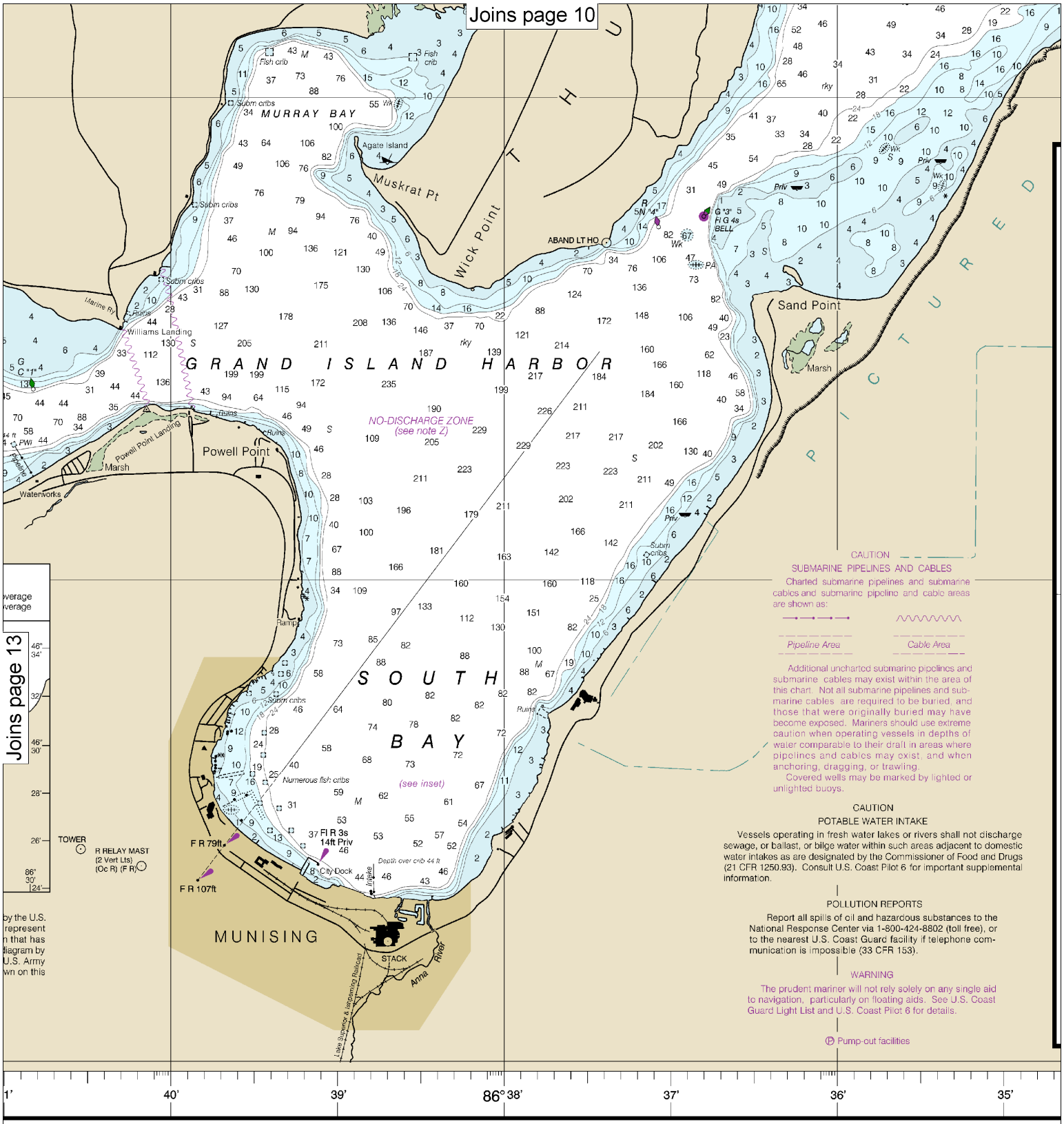
See Note on page 5.



ncies or comments
/contact.htm.

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

SOUNDINGS



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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 1:30,000~~

Nautical Miles: 1 0 1 2

Yards: 1000 0 1000 2000 3000

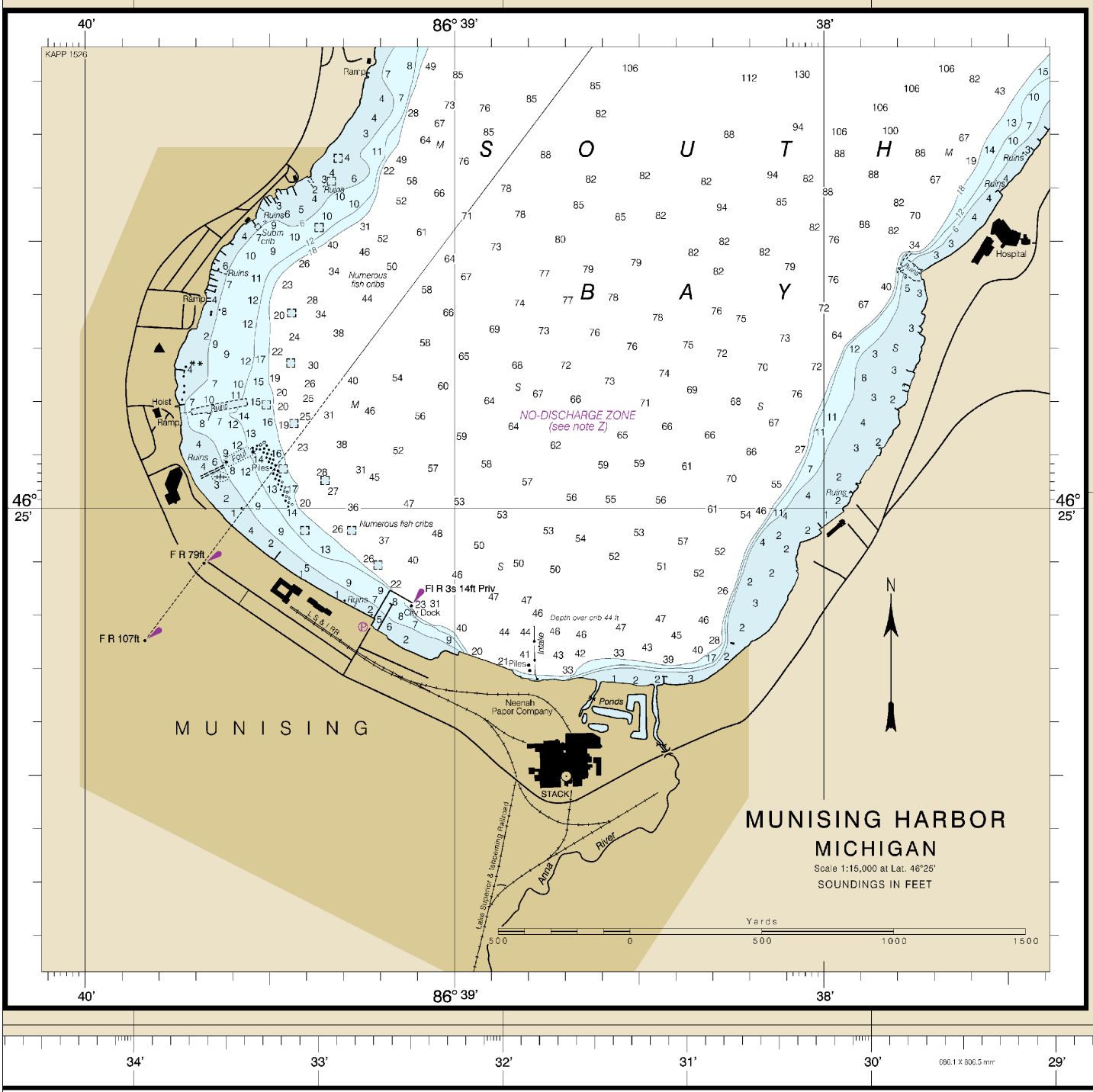
See Note on page 5.

Joins page 11

the Office of the District Engineer, Corps of Detroit, Michigan.
Refer to charted regulation section numbers.

d or untreated) or install a holding tank. Regulations e 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/

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



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	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Munising Harbor
SOUNDINGS IN FEET - SCALE 1:30,000

14969

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

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://ocsdata.ncd.noaa.gov/idrs/discrepancy.aspx**
Chart and chart related inquiries and comments	—	**http://ocsdata.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 Hurrican Center	—	**http://www.nhc.noaa.gov/**
Pacific Tsunami Warning Center	—	**http://ptwc.weather.gov/**
Contact Us	—	**http://www.nauticalcharts.noaa.gov/staff/contact.htm**

twitter —— 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.

NOAA's Office of Coast Survey The Nation's Chartmaker