BookletChart™

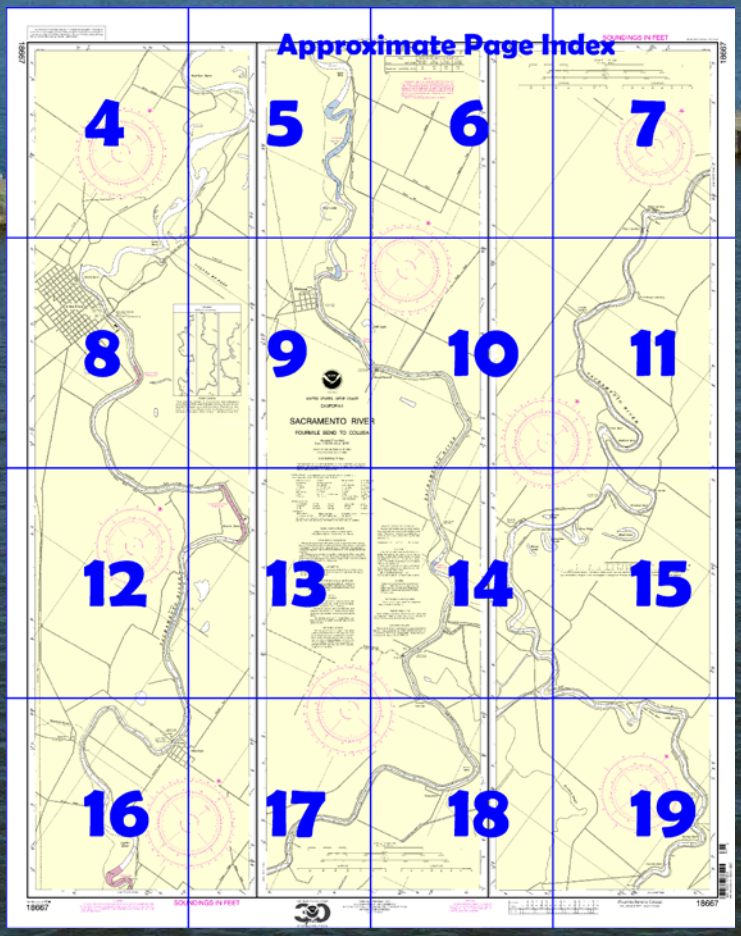
Sacramento River – Fourmile Bend to Colusa

NOAA Chart 18667

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=18667.

(Selected Excerpts from Coast Pilot)
Above Sacramento the prevailing flood conditions are as follows: At Verona at the junction of Feather River, 70 miles above the mouth, 20 feet at ordinary floods and 24 feet at extreme floods; at Colusa, 125 miles above the mouth, 25 feet at ordinary floods and 32 feet at extreme floods.
Between Sacramento and Colusa are numerous warehouses and small landings.
Feather River rises in the Sierra Nevada and empties into Sacramento River at **Verona**, 18 miles above Sacramento. The river has been improved by snagging and the construction of wing dams at **Marysville**, 26 miles above the mouth. The controlling depth is usually 3 feet from about February 15 to June 15. Ordinary flood fluctuation is 20 feet, and extreme flood fluctuation is about 25 feet. With the exception of several small privately owned landings, all loading is handled on the banks. There has been no commercial navigation on the Feather River in recent years.

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

RCC Alameda	Commander 11th CG District Alameda, CA	(510) 437-3700

Table of Selected Chart Notes

Mercator Projection
Scale 1:20,000 at Lat. 38°55'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

CAUTION

Bridge and cable horizontal clearances not subject to tidal influence are referenced to ordinary summer low water level. During flood stage levels, clearances may be reduced by 29 feet or more.

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.

NOAA VHF-FM WEATHER BROADCASTS

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

Sacramento, CA	KEC-57	162.55 MHz

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 0.368" southward and 3.878" westward to agree with this chart.

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 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)

NOTE B
CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along edges of the waterway.

Numerous buoys and signs mark the wing dams, along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The river bed at Gravel Pt., Ogden Bend, and Missouri Bend has shifted. No recent depth information available.

BRIDGE AND OVERHEAD CABLE CLEARANCES

Clearances are charted as furnished by the Corps of Engineers. Overhead cable clearances are referred to high water. Bridge clearances are referred to High Water (HW) and Low Water (LW).

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).

NOTE A

Navigation regulations are published in Chapter 2, U.S. Coast Pilot 7. 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, 11th Coast Guard District in Alameda, California or at the office of the District Engineer, Corps of Engineers in Sacramento, California.

Refer to charted regulation section numbers.

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. Refer to Chapter 1, United States Coast Pilot.

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.

SACRAMENTO RIVER DEPTHS

Although the soundings on this chart depict the general trends in depths, they are unreliable because of continual scouring or shoaling due to changing river stages. The areas which frequently shoal to the extent that passage of vessels drawing over 4 feet is difficult at extreme low water stages are shaded in purple.

The Federal project provides for a shallow-draft channel, 6 feet deep at low water, from Sacramento to Colusa. The Corps of Engineers conducts annual maintenance dredging operations to provide project depth. Consult the District Engineer in Sacramento for controlling depths.

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

TIDAL INFORMATION

Place Name	(LAT/LONG)	Height referred to datum of soundings (MLLW) Mean Higher High Water	Mean High Water	Mean Low Water	Extreme Low Water
Sacramento	(38°35'N/121°30'W)	feet 2.9	feet 2.6	feet 0.3	feet 1.5

(200)

ABBREVIATIONS

(For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical
Al alternating
B black
Bn beacon
C can
DIA diaphone
F fixed
Fl flashing
G green
IQ interrupted quick
Iso isophase
LT HO lighthouse
M nautical mile
m minutes
MICRO TR microwave tower
Mkr marker
Mo morse code
N nun
OBSC obscured
Oc occulting
Or orange
Q quick
R red
Ra Ref radar reflector
R Bn radiobeacon
R TR radio tower
Rot rotating
s seconds
SEC sector
St M statute miles
VQ very quick
W white
WHIS whistle
Y yellow

Bottom characteristics:

Blds boulders
bk broken
Cy clay
Co coral
G gravel
Grs grass
gy gray
h hard
M mud
Oys oysters
Rk rock
S sand
so soft
Sh shells
sy sticky

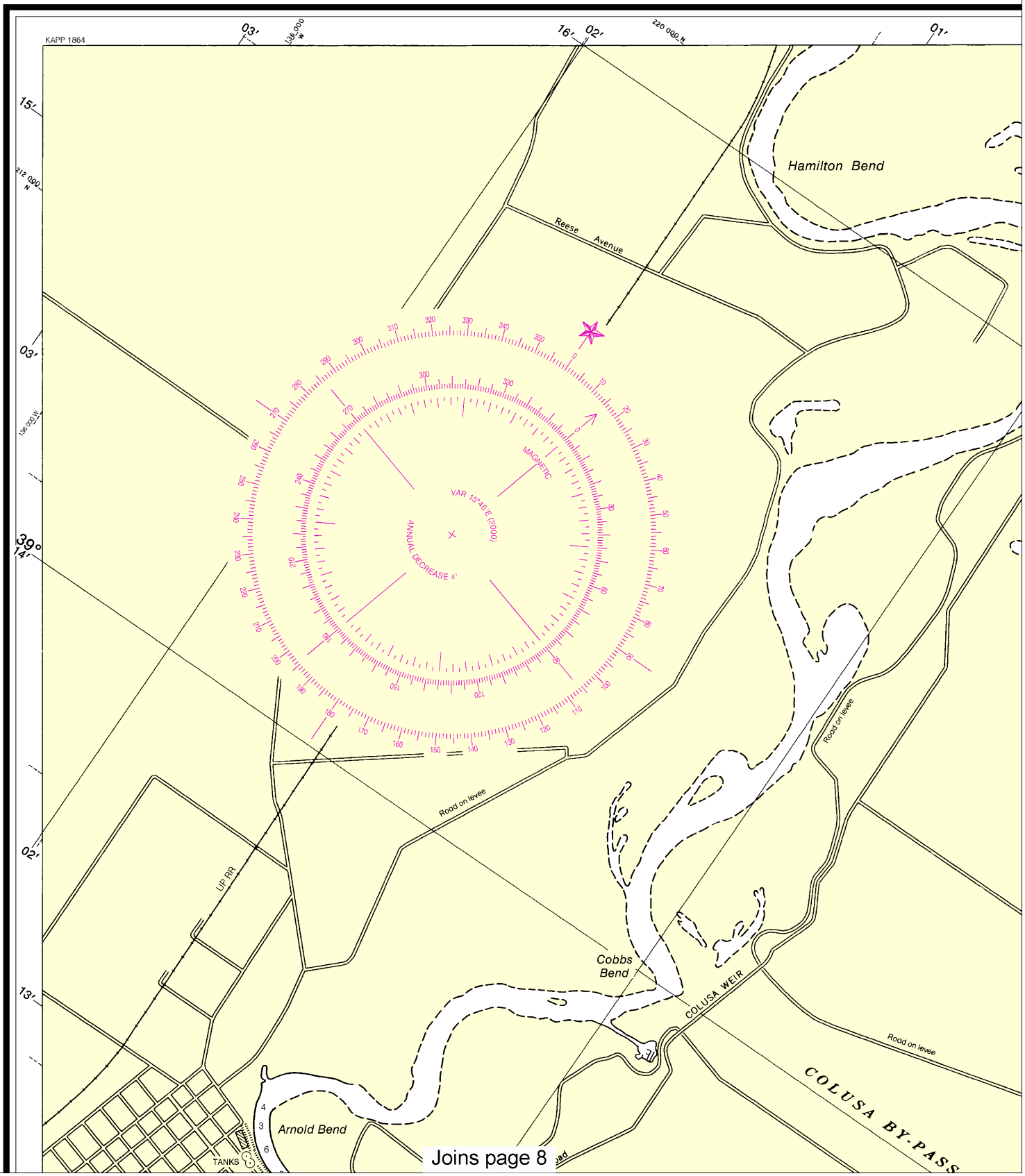
Miscellaneous:

AUTH authorized
ED existence doubtful
Obstn obstruction
PA position approximate
PD position doubtful
Rep reported
Subm submerged

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

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

18667



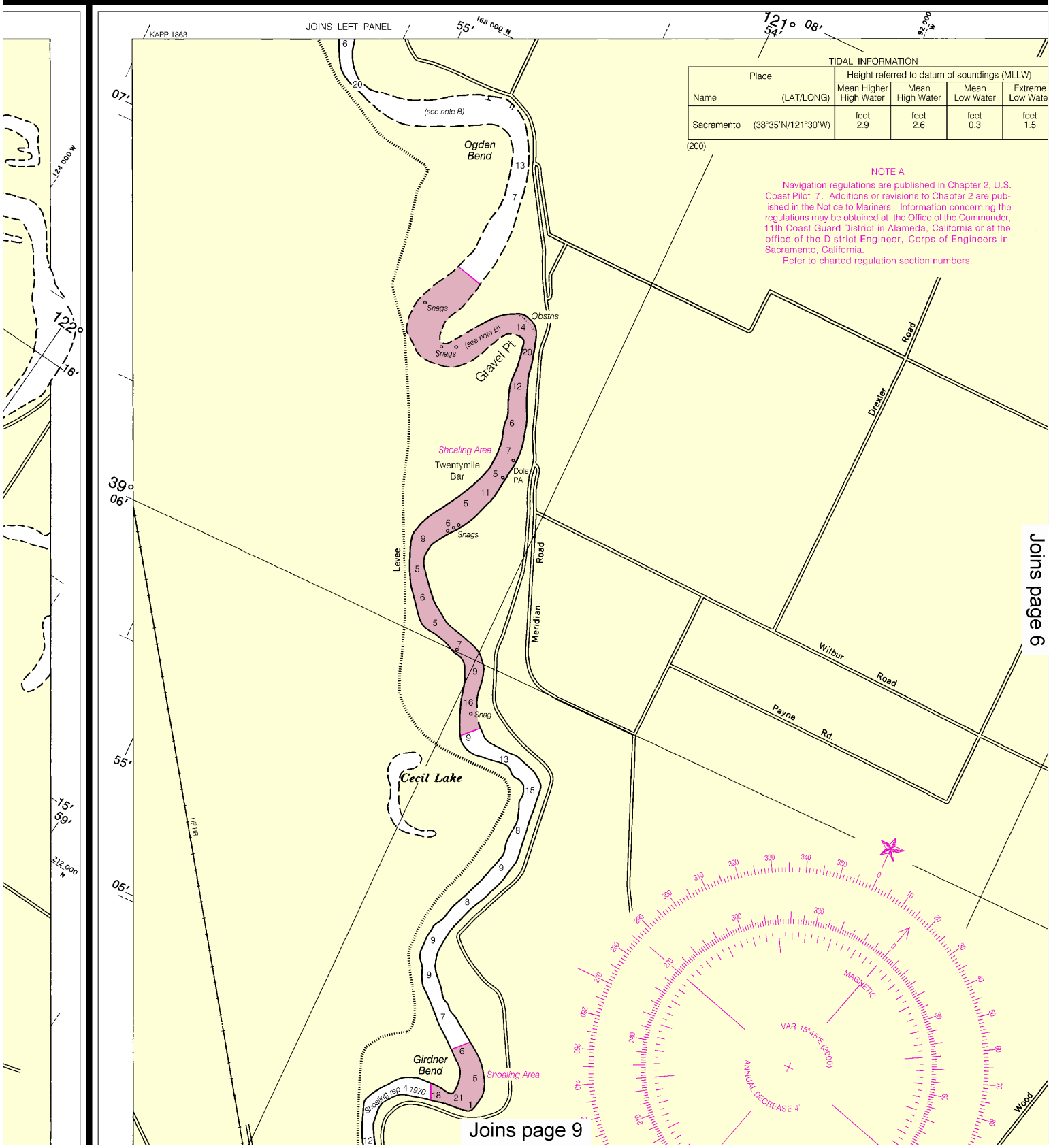
4

Note: Chart grid lines are aligned with true north.

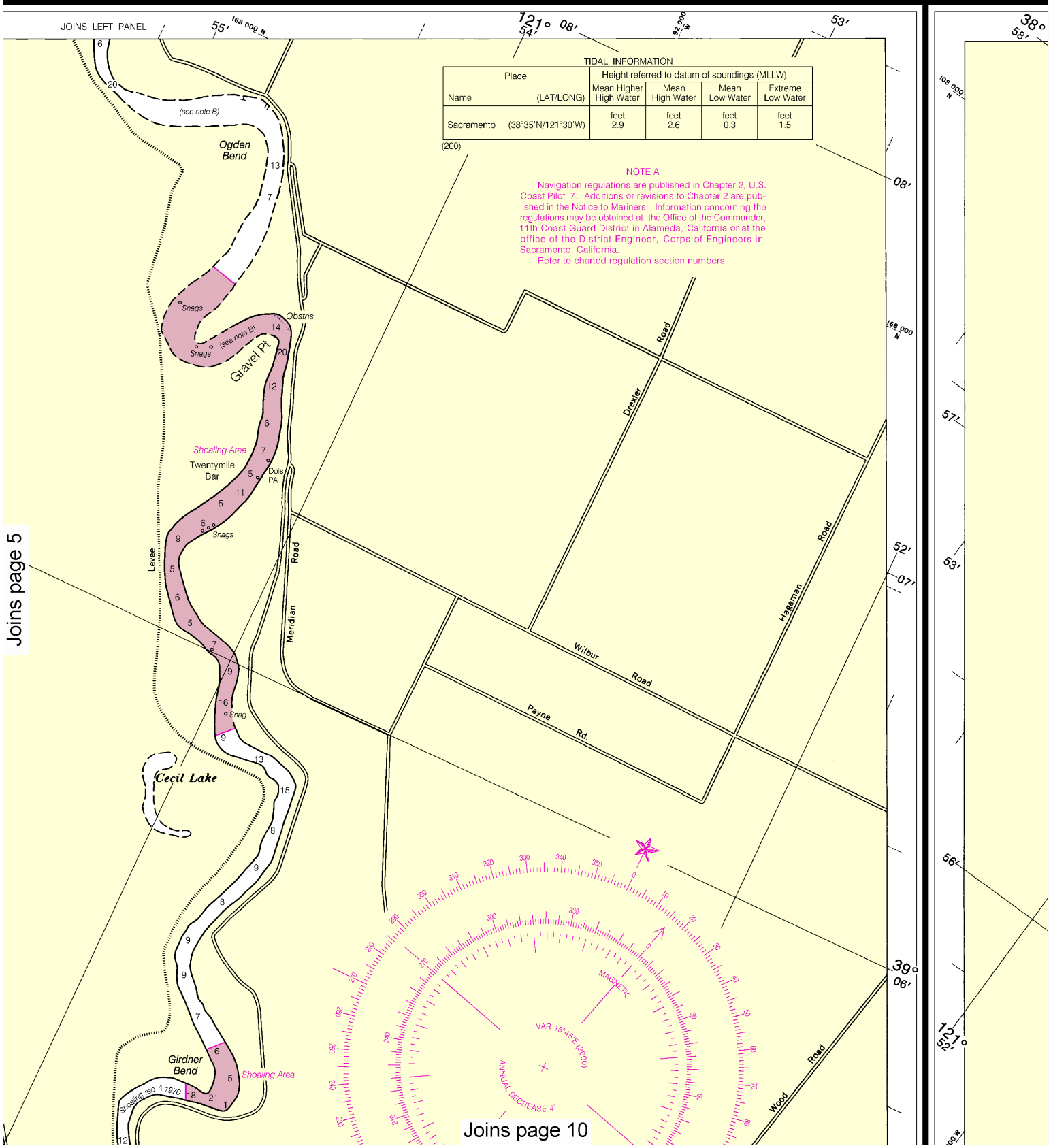
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0, 1, 1 ½

Yards: 500, 0, 500, 1000, 1500, 2000, 2500



This BookletChart was reduced to 75% of the original chart scale. The new scale is 1:26667. Barscales have also been reduced and are accurate when used to measure distances in this BookletChart.

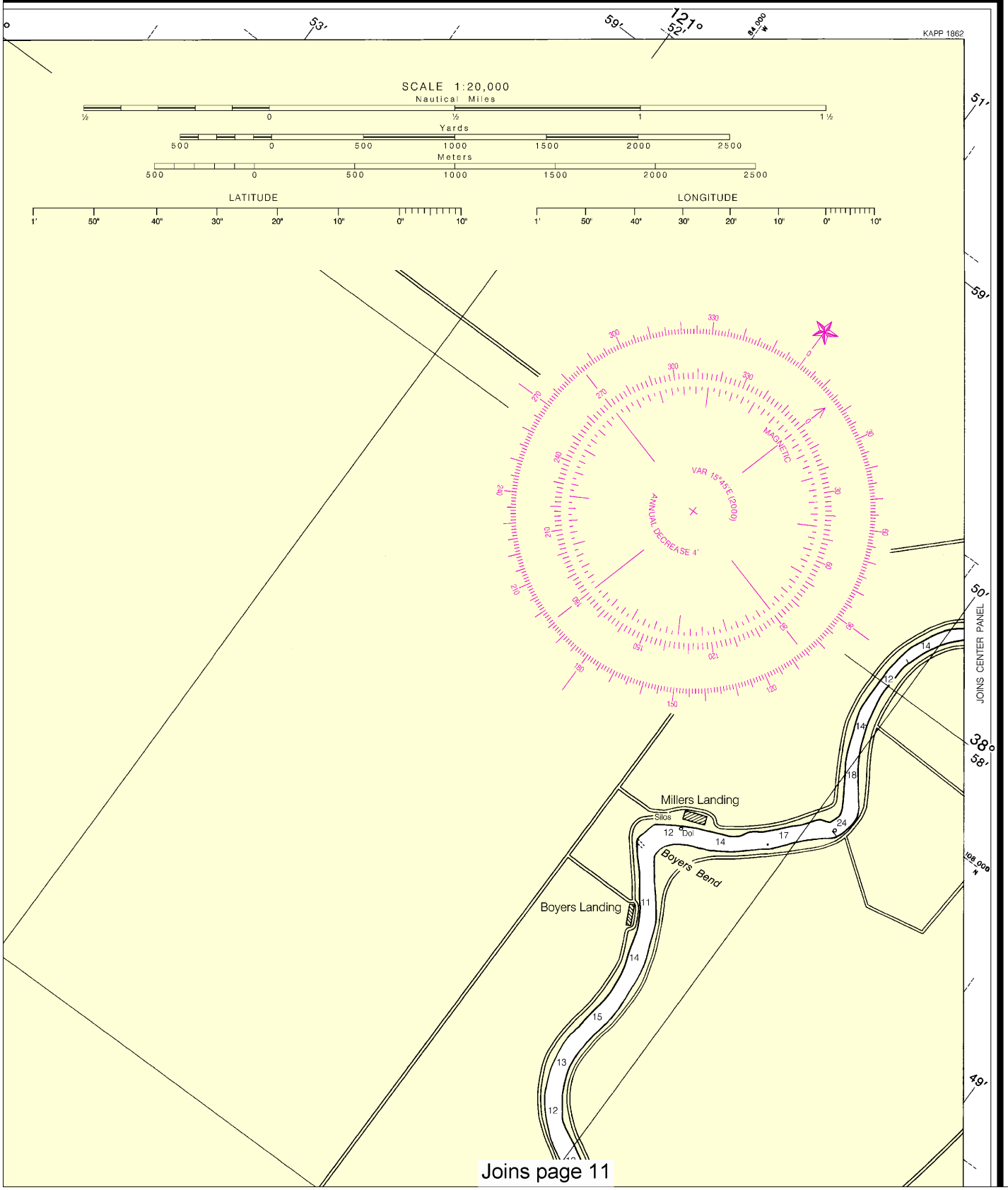


Note: Chart grid lines are aligned with true north.

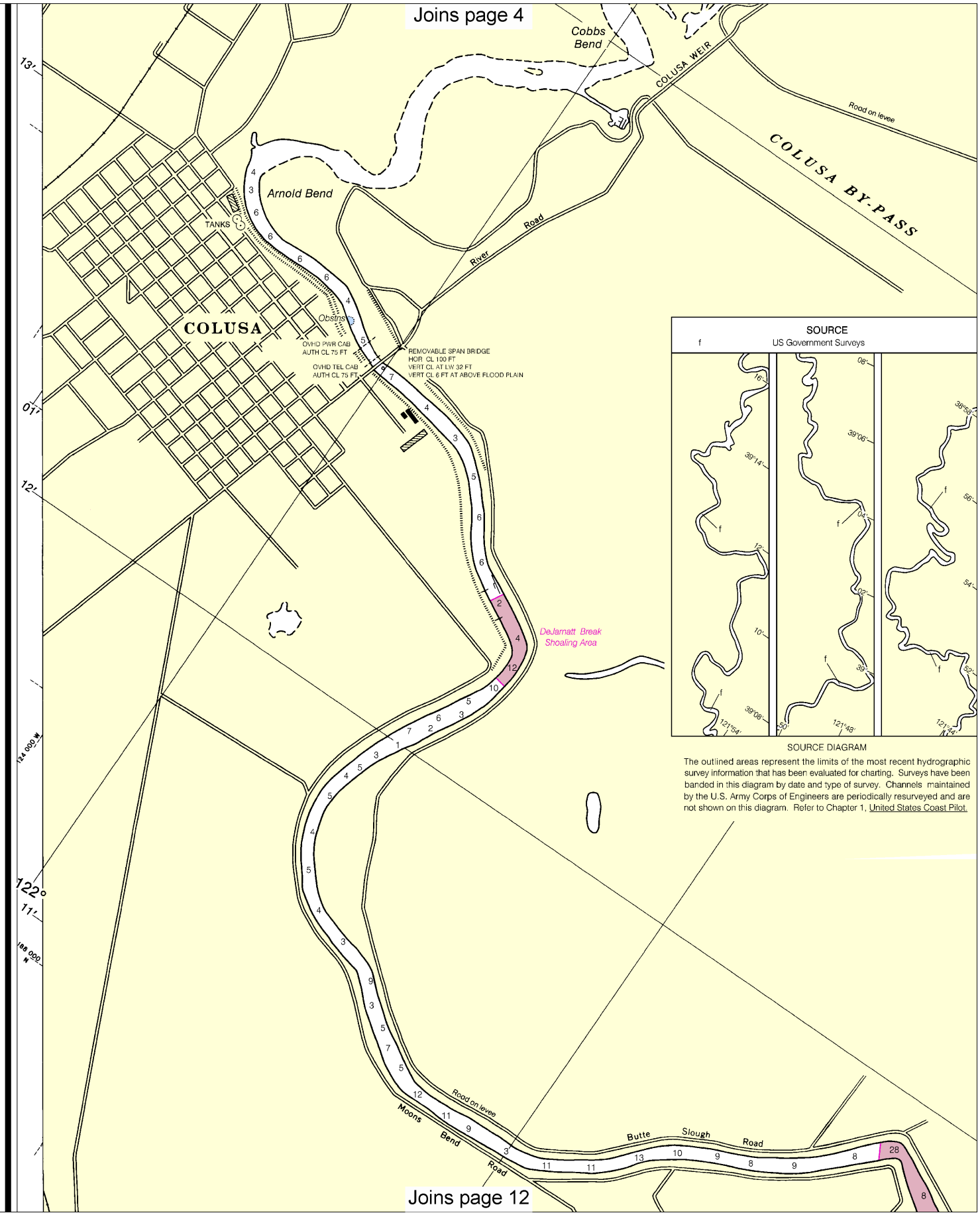
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0, 1, 1 ½

Yards: 500, 0, 500, 1000, 1500, 2000, 2500


KAPP 1862
SCALE 1:20,000
Nautical Miles
Yards
Meters
LATITUDE
LONGITUDE
MAGNETIC
VAR 15°45'E (2000)
ANNUAL DECREASE 4'
JOINS CENTER PANEL
Millers Landing
Silos
Dol
Boyers Bend
Boyers Landing
Joins page 11

Joins page 4



SOURCE

f US Government Surveys

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. Refer to Chapter 1, United States Coast Pilot.

Joins page 12

8

Note: Chart grid lines are aligned with true north.

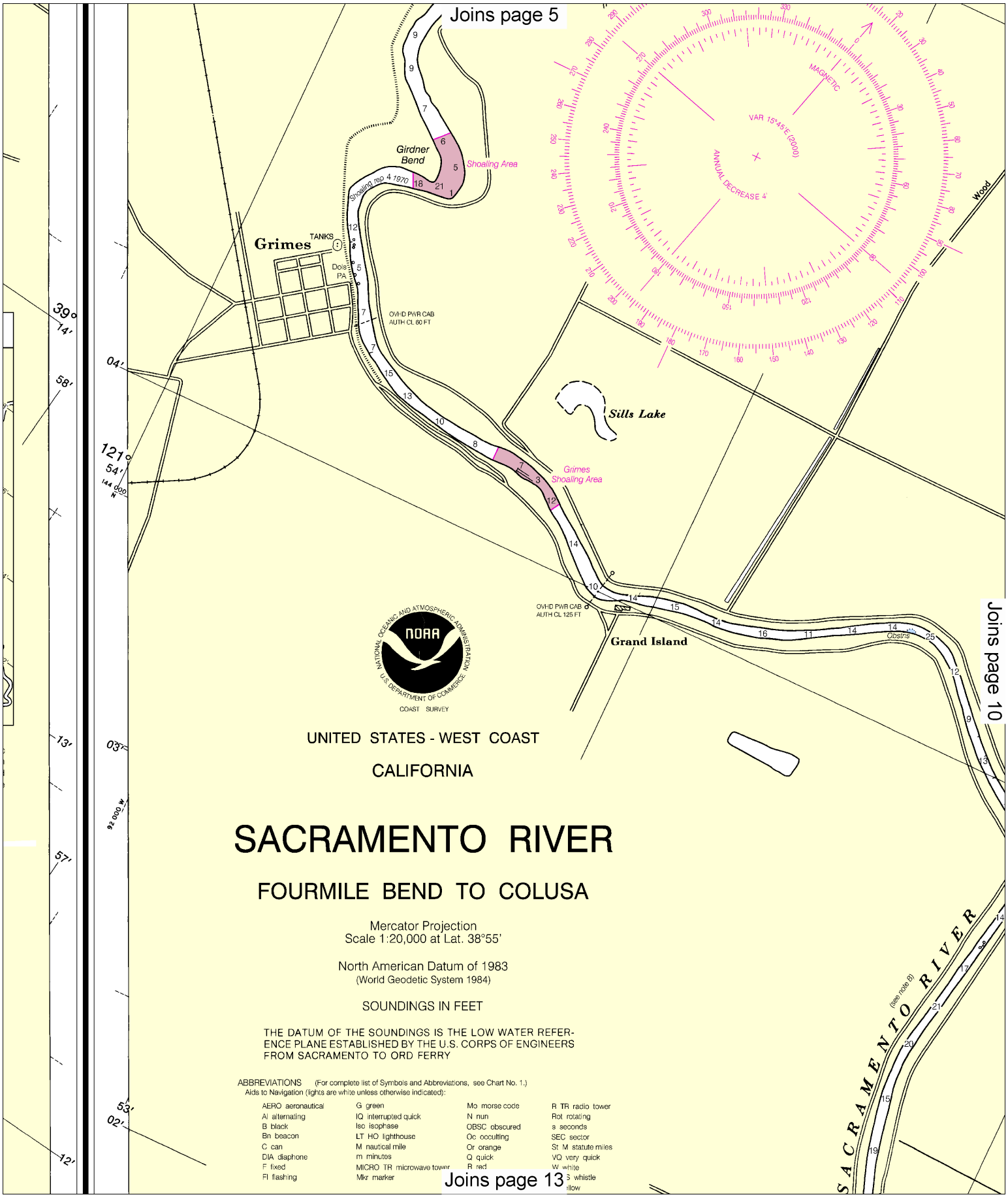
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles

0 1 1½

Yards

500 0 500 1000 1500 2000 2500



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

UNITED STATES - WEST COAST

CALIFORNIA

SACRAMENTO RIVER

FOURMILE BEND TO COLUSA

Mercator Projection
Scale 1:20,000 at Lat. 38°55'

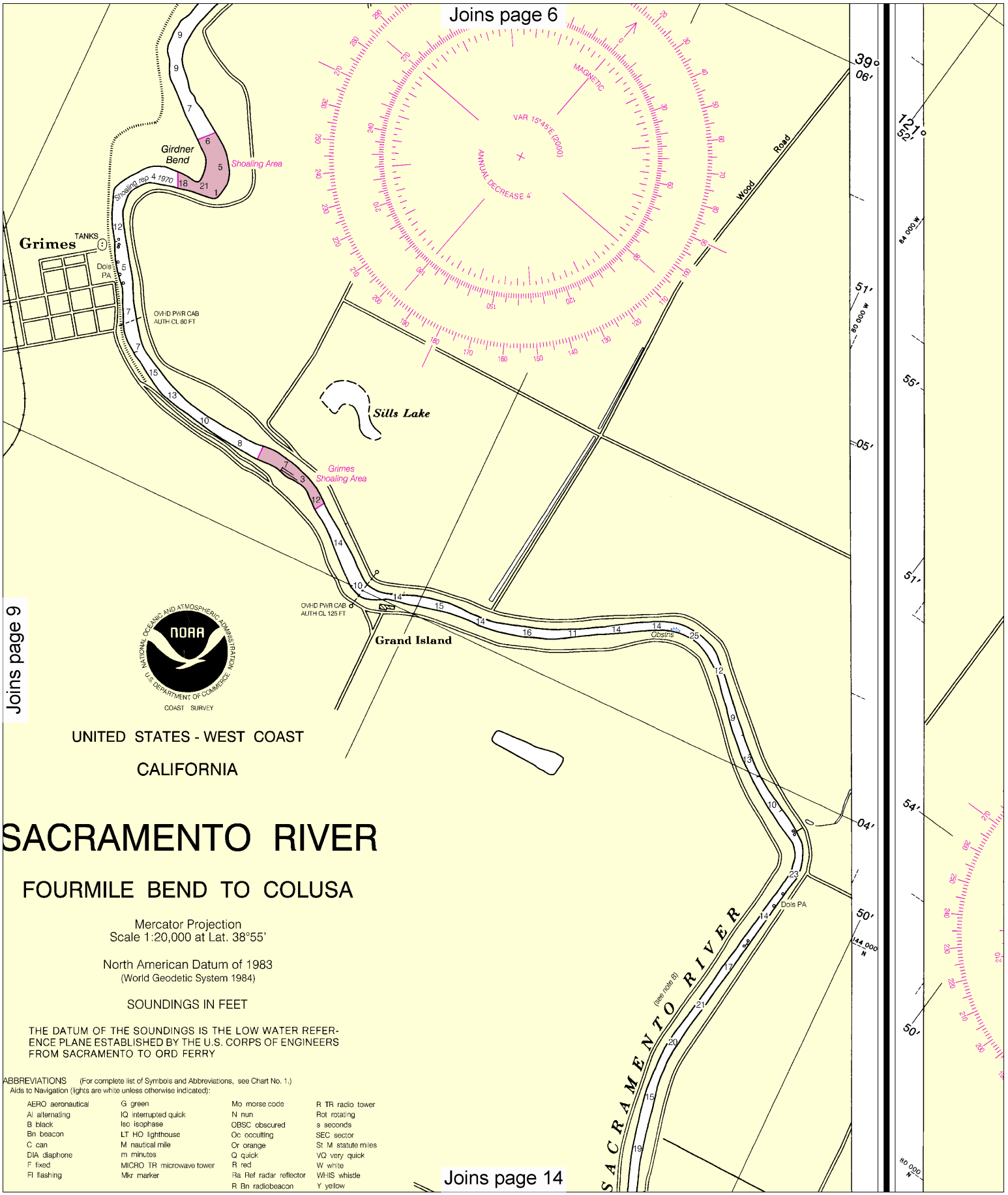
North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker		S whistle
			illow



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

UNITED STATES - WEST COAST

CALIFORNIA

SACRAMENTO RIVER

FOURMILE BEND TO COLUSA

Mercator Projection
Scale 1:20,000 at Lat. 38°55'

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

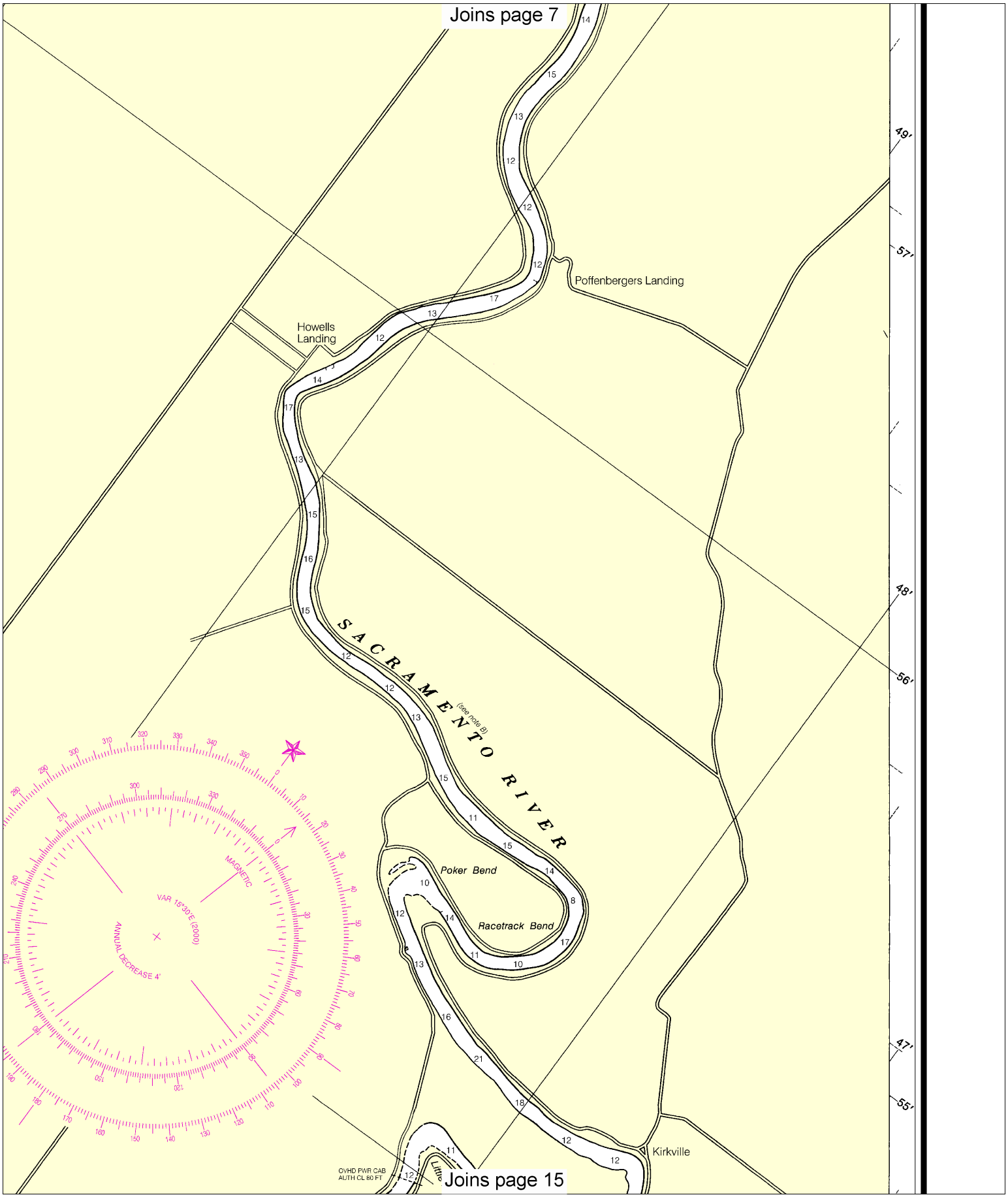
AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

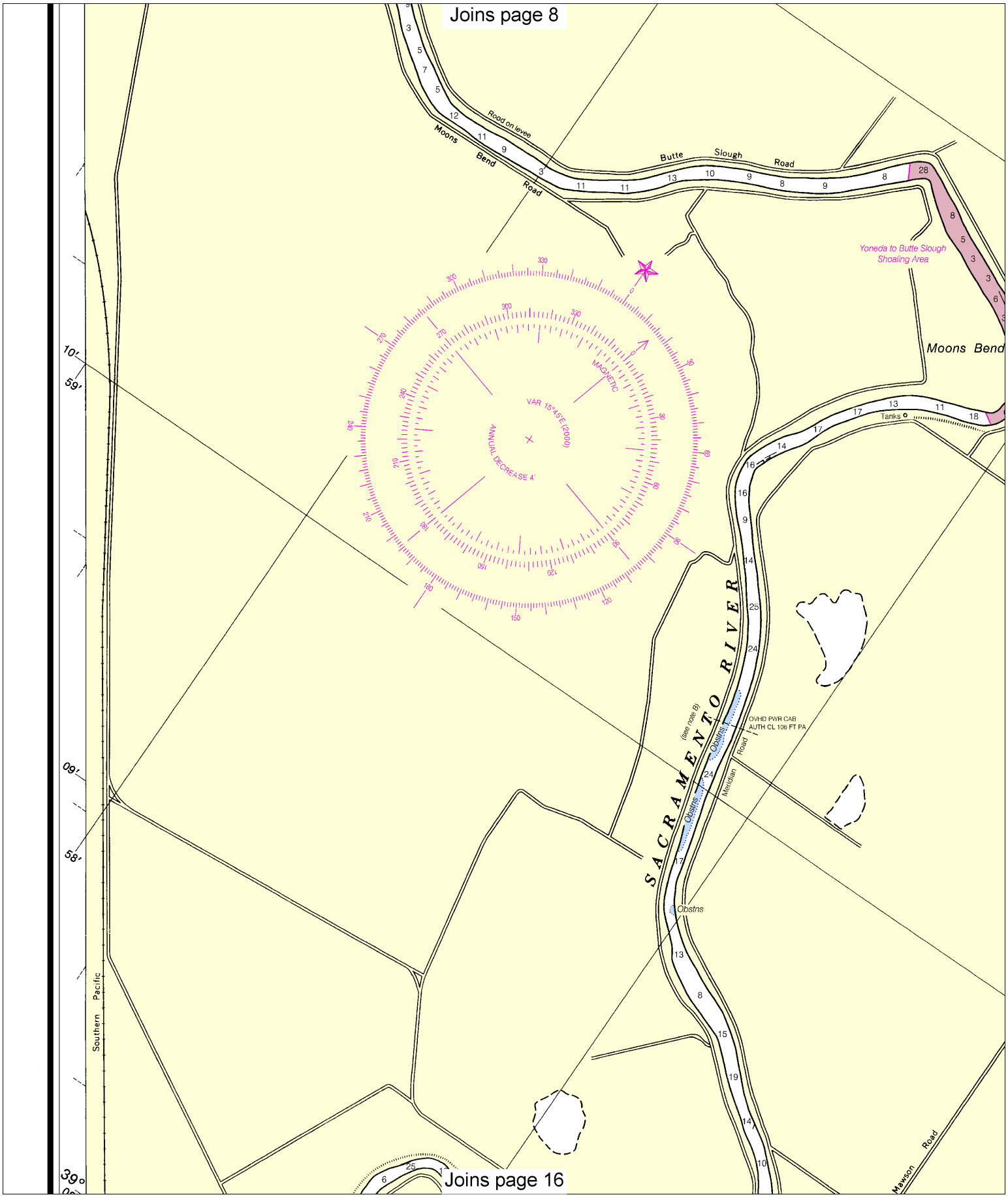
Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles
0 1 1½

Yards
500 0 500 1000 1500 2000 2500


Joins page 7
Poffenbergers Landing
Howells Landing
SACRAMENTO RIVER
(see note B)
Poker Bend
Racetrack Bend
Kirkville
Little
OVHD PWR CAB
AUTH CL 60 FT
Joins page 15
MAGNETIC
VAR 15°30'E (2000)
ANNUAL DECREASE 4'
49'
57'
48'
56'
47'
55'



12

Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles
0 1 1½

Yards
500 0 500 1000 1500 2000 2500

North American Da
(World Geodetic Sy

Joins page 9

SOUNDINGS IN FEET

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)

Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

PLANE COORDINATE GRID

Corps of Engineers plane coordinate grid is indicated by dashed ticks at 4.000 foot intervals

SACRAMENTO RIVER DEPTHS

Although the soundings on this chart depict the general trends in depths, they are unreliable because of continual scouring or shoaling due to changing river stages. The areas which frequently shoal to the extent that passage of vessels drawing over 4 feet is difficult at extreme low water stages are shaded in purple.

The Federal project provides for a shallow-draft channel, 6 feet deep at low water, from Sacramento to Colusa. The Corps of Engineers conducts annual maintenance dredging operations to provide project depth. Consult the District Engineer in Sacramento for controlling depths.

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

Clearances are charted as furnished by the Corps of Engineers. Overhead cable clearances are referred to high water. Bridge clearances are referred to High Water (HW) and Low Water (LW).

NOTE B
CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along edges of the waterway.

Numerous buoys and signs mark the wing dams, along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The river bed at Gravel Pt., Ogden Bend, and Missouri Bend has shifted. No recent depth information available.

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 0.368" southward and 3.878" westward to agree with this chart.

NOAA VHF-FM WEATHER BROADCASTS

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

Sacramento, CA KEC-57 162.55 MHz

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 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)

CAUTION

Bridge and cable horizontal clearances not subject to tidal influence are referenced to ordinary summer low water level. During flood stage levels, clearances may be reduced by 29 feet or more.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 for important supplemental information.

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).

SACRAMENTO R
(see note B)
OVHD PWR CAB
AUTH CL 80 FT
Wilsons
Shoaling Area
TISDALE WEIR
Pump
House
Wilkins Slough
POLE
POLE
OVHD PWR CAB
AUTH CL 125 FT
Pump House
Fraziers
Landing
MAGNETIC
VAR 15°45'E (2000)
53'
02'
12'
56'
01'
11'
188 000
N
52'
55'
39°
10'

Joins page 14

Joins page 17

North American Datum of 1983
(World Geodetic System 1984)

SOUNDINGS IN FEET

THE DATUM OF THE SOUNDINGS IS THE LOW WATER REFERENCE PLANE ESTABLISHED BY THE U.S. CORPS OF ENGINEERS FROM SACRAMENTO TO ORD FERRY

ABBREVIATIONS (For complete list of Symbols and Abbreviations, see Chart No. 1.)
Aids to Navigation (lights are white unless otherwise indicated):

AERO aeronautical	G green	Mo morse code	R TR radio tower
Al alternating	IQ interrupted quick	N nun	Rot rotating
B black	Iso isophase	OBSC obscured	s seconds
Bn beacon	LT HO lighthouse	Oc occulting	SEC sector
C can	M nautical mile	Or orange	St M statute miles
DIA diaphone	m minutes	Q quick	VQ very quick
F fixed	MICRO TR microwave tower	R red	W white
Fl flashing	Mkr marker	Ra Ref radar reflector	WHIS whistle
		R Bn radiobeacon	Y yellow

Bottom characteristics:

Blds boulders	Co coral	gy gray	Oys oysters	so soft
bk broken	G gravel	h hard	Rk rock	Sh shells
Cy clay	Grs grass	M mud	S sand	sy sticky

Miscellaneous:

AUTH authorized	Obstn obstruction	PD position doubtful	Subm submerged
ED existence doubtful	PA position approximate	Rep reported	

(21) Wreck, rock, obstruction, or shoal swept clear to the depth indicated.
(2) Rocks that cover and uncover, with heights in feet above datum of soundings.

PLANE COORDINATE GRID

Corps of Engineers plane coordinate grid is indicated by dashed ticks at 4,000 foot intervals

SACRAMENTO RIVER DEPTHS

Although the soundings on this chart depict the general trends in depths, they are unreliable because of continual scouring or shoaling due to changing river stages. The areas which frequently shoal to the extent that passage of vessels drawing over 4 feet is difficult at extreme low water stages are shaded in purple.

The Federal project provides for a shallow-draft channel, 6 feet deep at low water, from Sacramento to Colusa. The Corps of Engineers conducts annual maintenance dredging operations to provide project depth. Consult the District Engineer in Sacramento for controlling depths.

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

Clearances are charted as furnished by the Corps of Engineers. Overhead cable clearances are referred to high water. Bridge clearances are referred to High Water (HW) and Low Water (LW).

NOTE B
CAUTION

Mariners are warned that numerous uncharted piles, snags, pumps, and pipes, some submerged, may exist along edges of the waterway.

Numerous buoys and signs mark the wing dams, along the Sacramento River. Mariners should never attempt to pass between the warning buoys and the shore.

The river bed at Gravel Pt., Ogden Bend, and Missouri Bend has shifted. No recent depth information available.

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 0.368" southward and 3.878" westward to agree with this chart.

NOAA VHF-FM WEATHER BROADCASTS

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

Sacramento, CA KEC-57 162.55 MHz

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 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)

CAUTION

Bridge and cable horizontal clearances not subject to tidal influence are referenced to ordinary summer low water level. During flood stage levels, clearances may be reduced by 29 feet or more.

SUPPLEMENTAL INFORMATION

Consult U.S. Coast Pilot 7 for important supplemental information.

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.

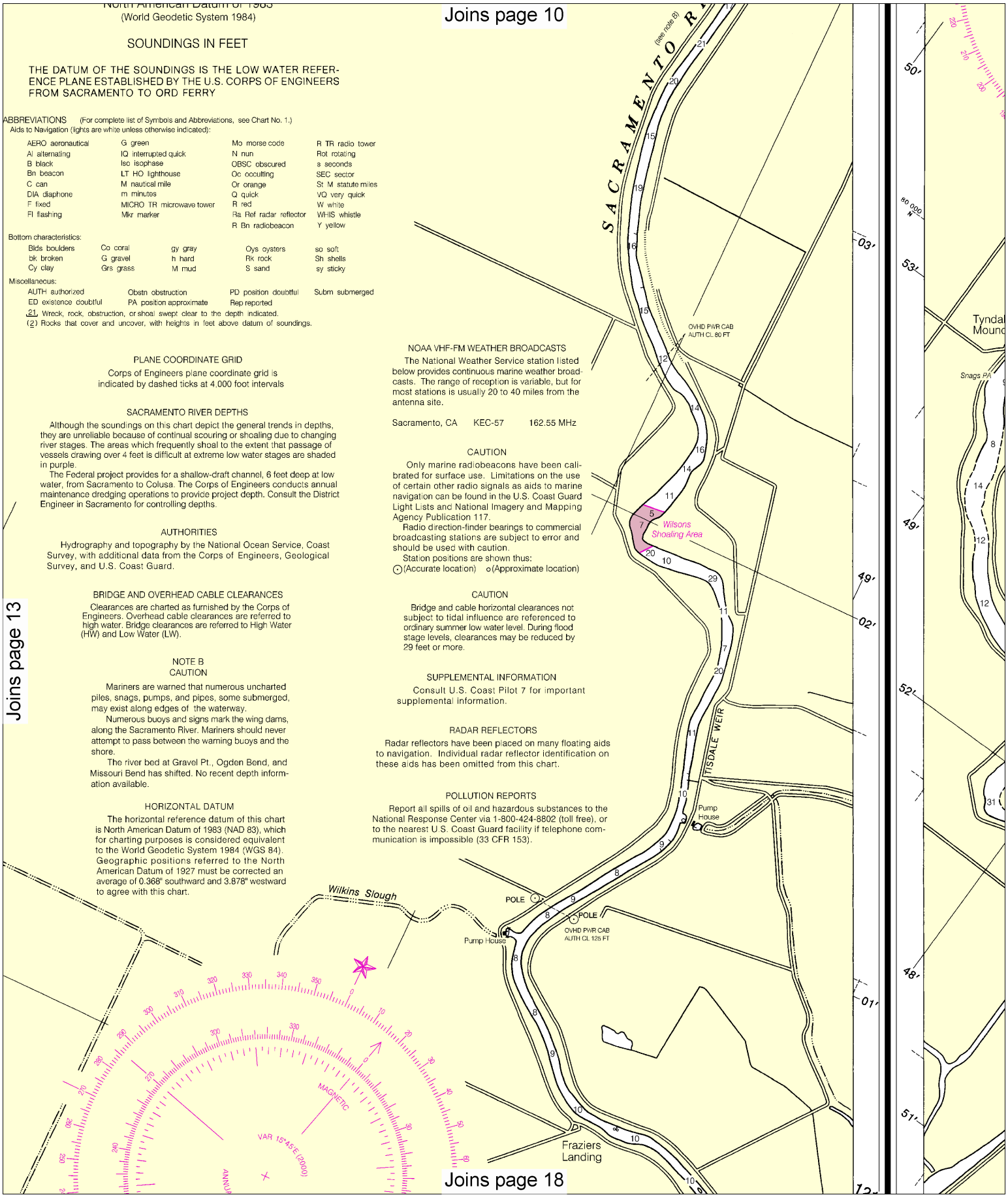
POLLUTION REPORTS

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).

Joins page 10

Joins page 13

Joins page 18

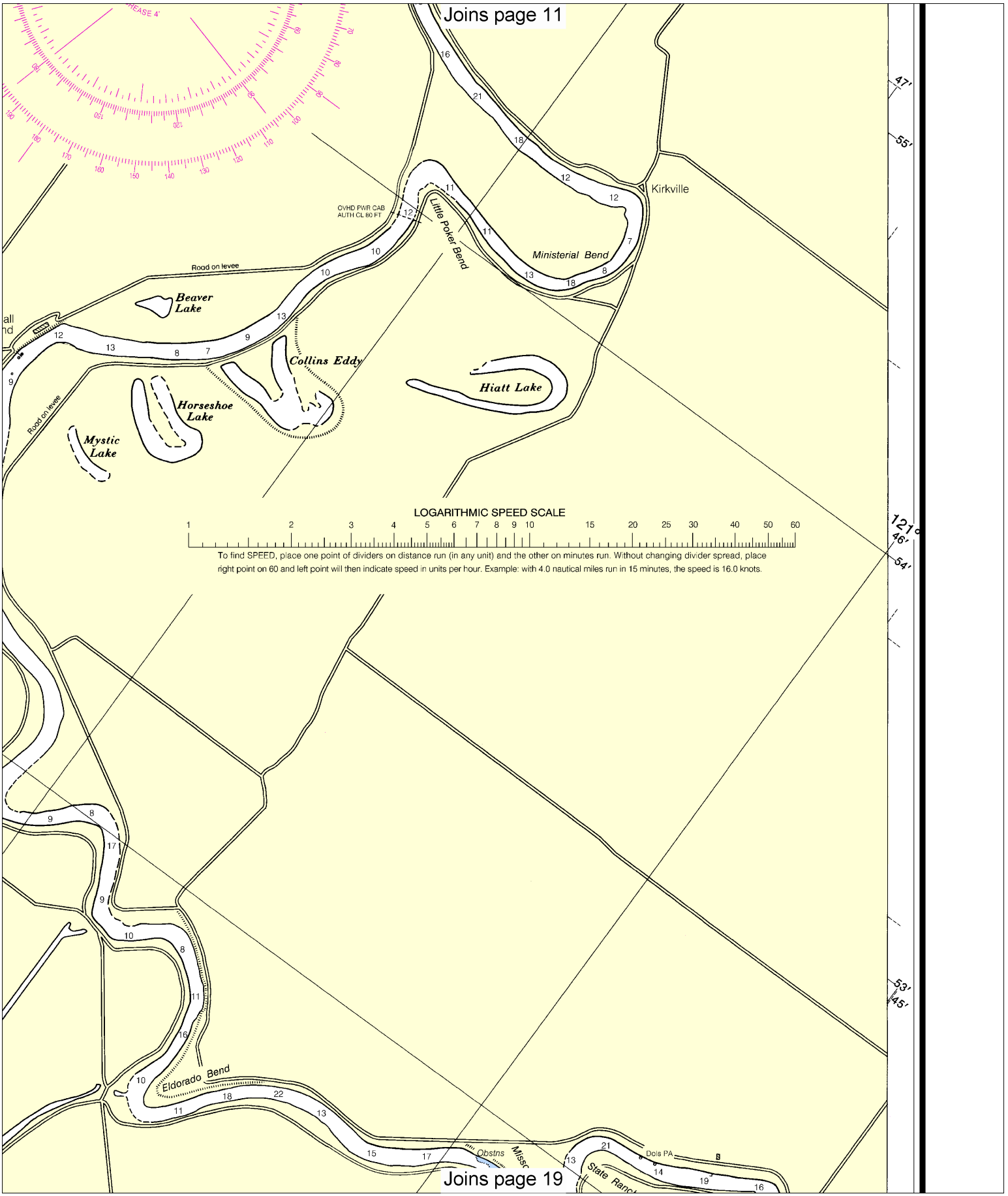


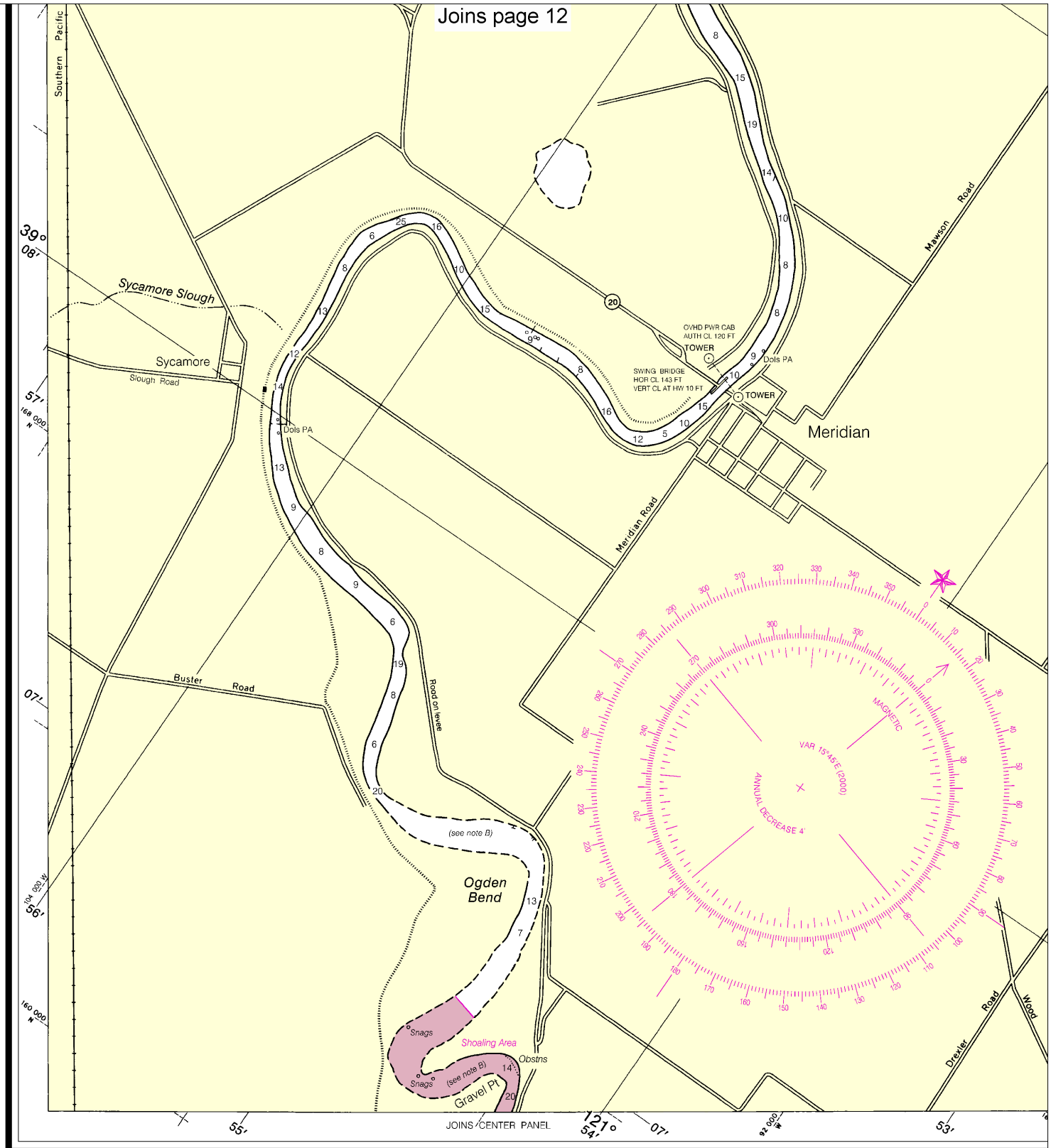
Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles
0 1 1½

Yards
500 0 500 1000 1500 2000 2500


Joins page 11
Kirkville
OVHD PWR CAB
AUTH CL 80 FT
Little Poker Bend
Ministerial Bend
Road on levee
Beaver Lake
Collins Eddy
Hiatt Lake
Horseshoe Lake
Mystic Lake
Road on levee
LOGARITHMIC SPEED SCALE
1 2 3 4 5 6 7 8 9 10 15 20 25 30 40 50 60
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.
Eldorado Bend
Obstns
Missr
Dols PA
Joins page 19
47'
55'
121°
46'
54'
53'
45'



12th Ed., Aug. 26/00■

18667

CAUTION

This chart has been corrected from the Notice to Mariners published weekly by the National Imagery and Mapping Agency and the Local Notice to Mariners issued periodically by each U.S. Coast Guard district to the date shown in the lower left hand corner.

SOUNDINGS IN FEET

16

Note: Chart grid lines are aligned with true north.

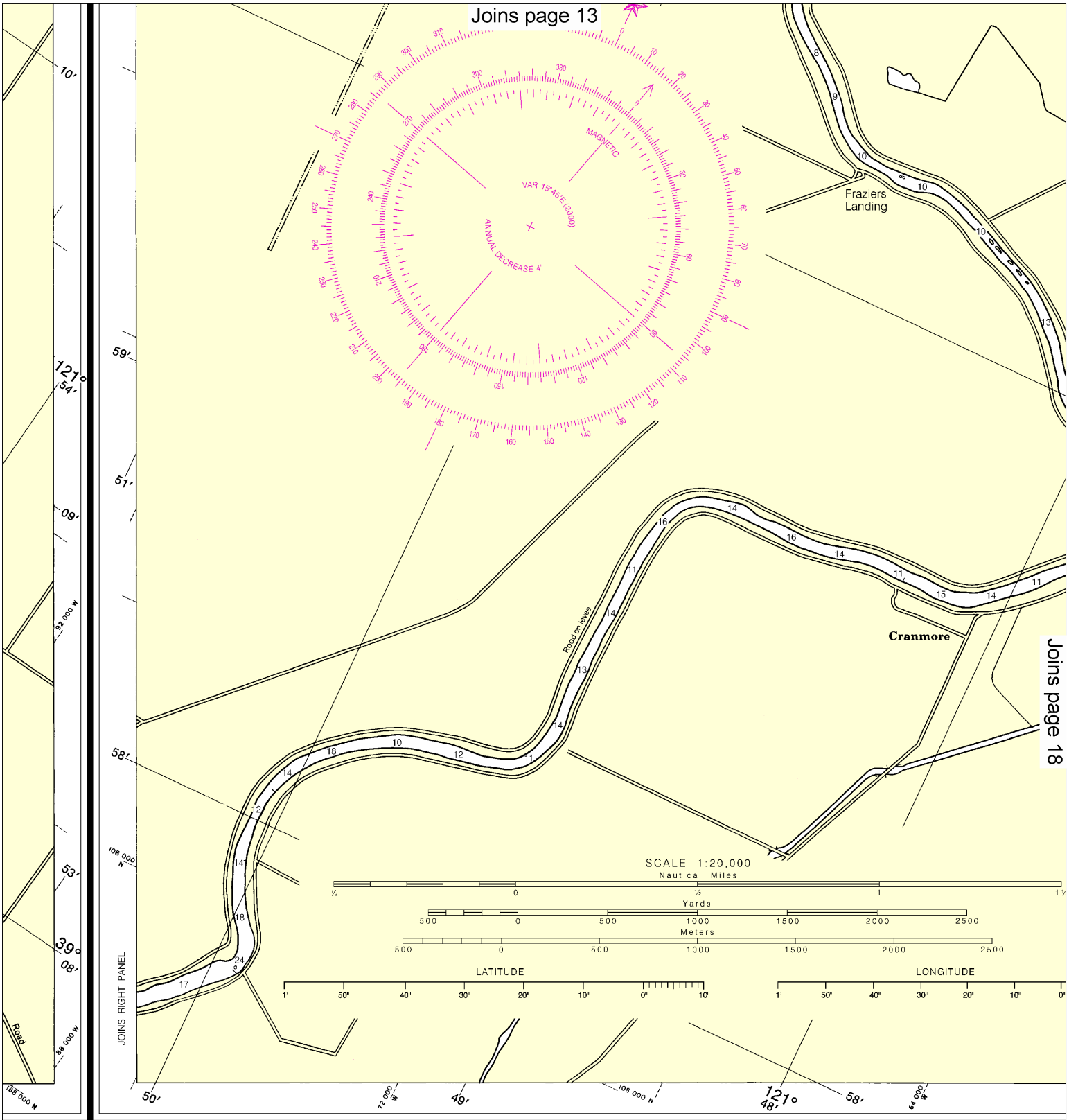
Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles

0 1 1½

Yards

500 0 500 1000 1500 2000 2500

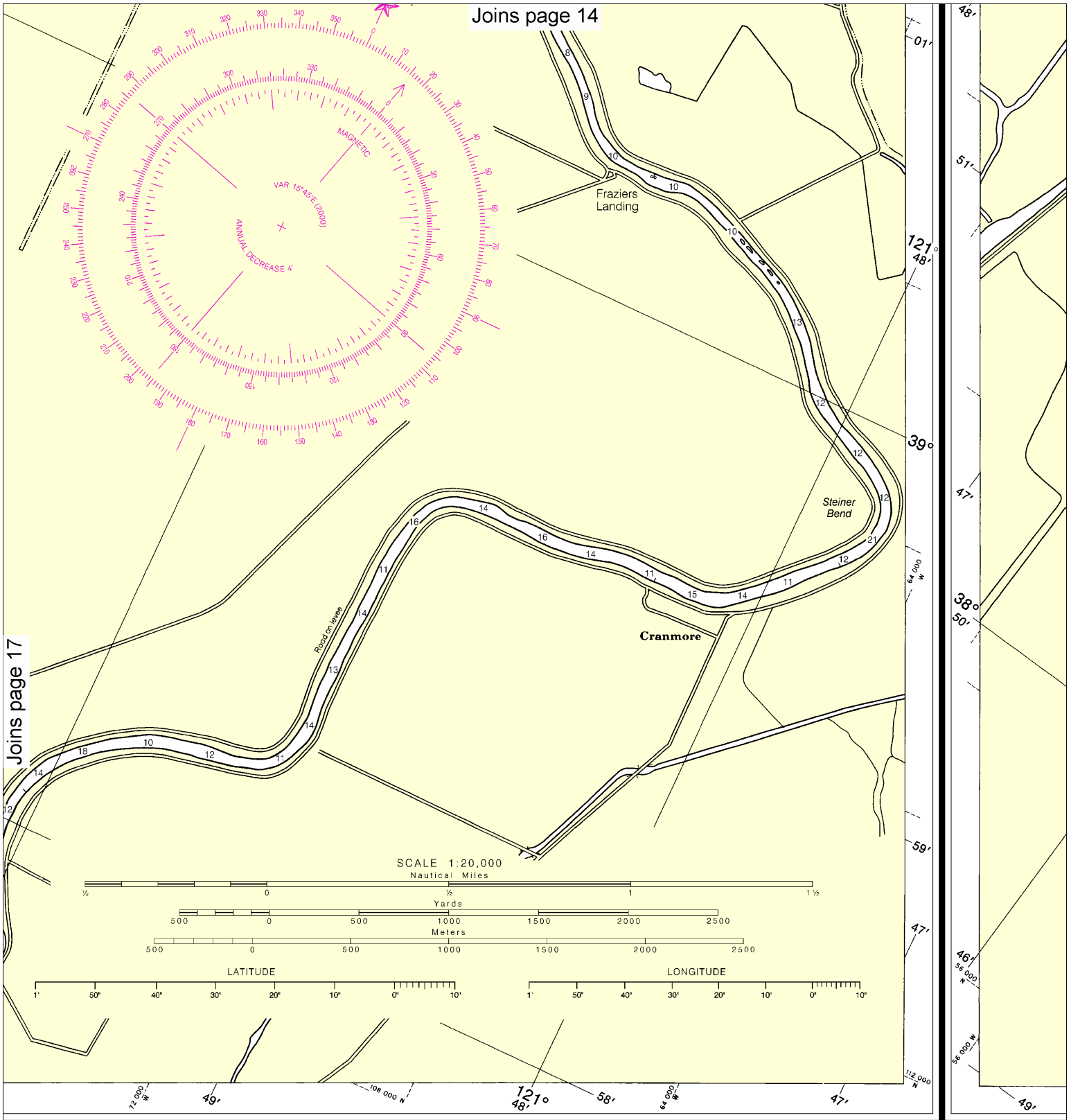


OUR SEAS AND OUR SKIES

OF EXCELLENCE AT NOAA

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

The prude
any single ai
floating aids.
and U.S. Coa



OUR SEAS AND OUR SKIES

OF EXCELLENCE AT NOAA

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

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.

FATH
FE
METE

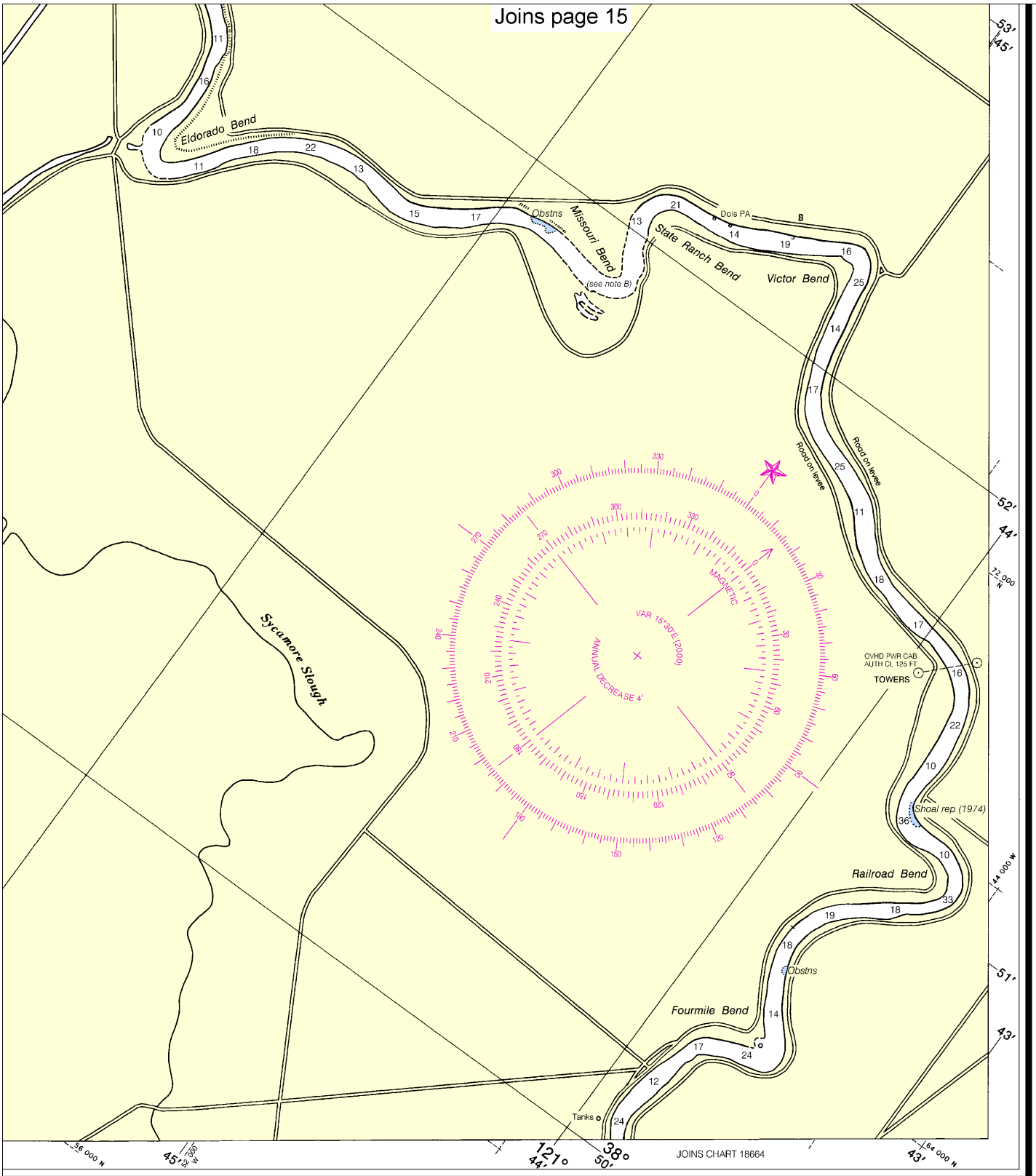
Note: Chart grid lines are aligned with true north.

Printed at reduced scale. ~~SCALE 1:20,000~~ See Note on page 5.

Nautical Miles: 0 — 1 — 1 ½

Yards: 500 — 0 — 500 — 1000 — 1500 — 2000 — 2500

Joins page 15



(Fourmile Bend to Colusa)

SOUNDINGS IN FEET - SCALE 1:20,000

18667

ED. NO. 12

NSN 7642014775018 NIMA REFERENCE NO. 18AHA18667

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!

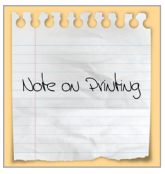
All Hazards NOAA Weather Radio NOAA's National Weather Service

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**
Online chart viewer	—	**http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html**
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 **@nauticalcharts**



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