US Army Corps of Engineers (USACE) Navigation Program, Services And Projects

Corps Navigation Mission

Provide safe, reliable, efficient, effective and environmentally sustainable waterborne transportation systems for movement of commerce, national security needs, and recreation.

USACE Navigation Assets

COASTAL NAVIGATION
- 1067 Navigation Projects
- 27 lock chambers
- 13,000 miles of channels
- 929 navigation structures
- 844 bridges

INLAND NAVIGATION
- **27 Inland River Systems**
- **214 lock chambers @ 172 lock sites**
- **12,000 miles of inland river channels**

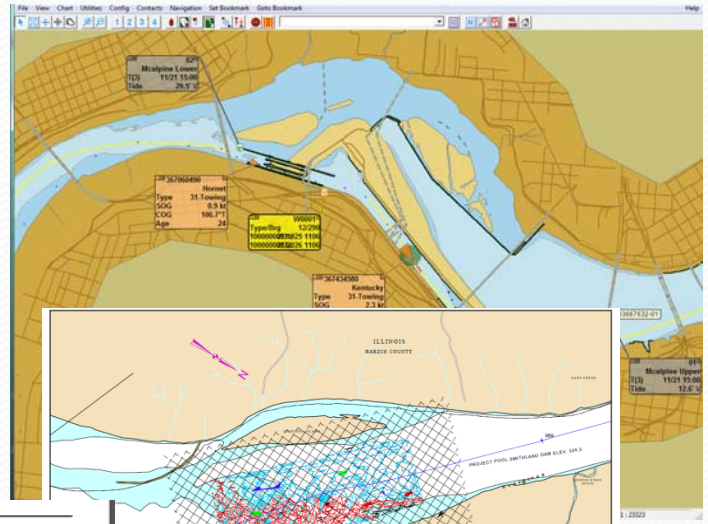
Current Infrastructure Situation

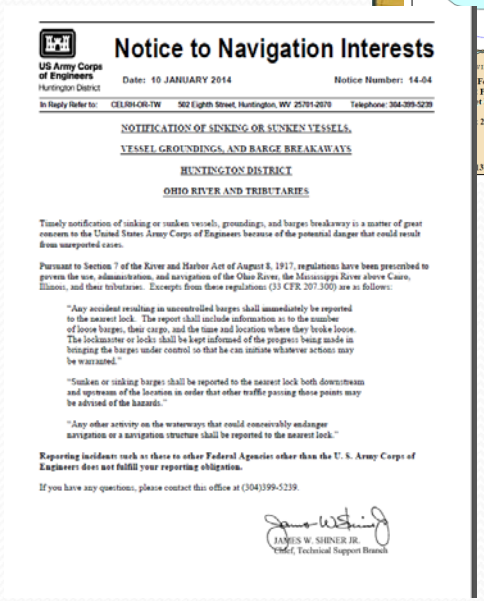
- Channels and harbors are not maintained to authorized dimensions

- Much of our economic and physical security and quality of life depends on infrastructure that is wearing out faster than it is being replaced or rehabilitated.
- Decreasing reliability of locks and other navigation infrastructure impedes transportation of goods.
- A direct relationship exists between increasing age and increasing needs for maintenance, rehabilitation, replacement and repurposing.
- 21st Century needs are different or greater than those of the last century.

USACE Navigation Services

- Inland Electronic Navigation Charts (IENCs)
- Hydrographic surveys
- Notices to Navigation Interests
- Dredging information
- Traditional Navigation Books





Notice to Navigation Interests

US Army Corps of Engineers
Huntington District

Date: 10 JANUARY 2014 Notice Number: 14-04

In Reply Refer to: CELRH-OR-TW 502 Eighth Street, Huntington, WV 25701-2070 Telephone: 304-399-5239

NOTIFICATION OF SINKING OR SUNKEN VESSELS,
VESSEL GROUNDINGS, AND BARGE BREAKAWAYS
HUNTINGTON DISTRICT
OHIO RIVER AND TRIBUTARIES

Timely notification of sinking or sunken vessels, groundings, and barges breakaway is a matter of great concern to the United States Army Corps of Engineers because of the potential danger that could result from unreported cases.

Pursuant to Section 7 of the River and Harbor Act of August 8, 1917, regulations have been prescribed to govern the use, administration, and navigation of the Ohio River, the Mississippi River above Cairo, Illinois, and their tributaries. Excerpts from these regulations (33 CFR 207.300) are as follows:

"Any accident resulting in uncontrolled barges shall immediately be reported to the nearest lock. The report shall include information as to the number of loose barges, their cargo, and the time and location where they broke loose. The lockmaster or locks shall be kept informed of the progress being made in bringing the barges under control so that he can initiate whatever actions may be warranted."

"Sunken or sinking barges shall be reported to the nearest lock both downstream and upstream of the location in order that other traffic passing these points may be advised of the hazards."

"Any other activity on the waterways that could conceivably endanger navigation or a navigation structure shall be reported to the nearest lock."

Reporting incidents such as these to other Federal Agencies other than the U. S. Army Corps of Engineers does not fulfill your reporting obligation.

If you have any questions, please contact this office at (304)399-5239.

JAMES W. SHINER JR.
Chief, Technical Support Branch

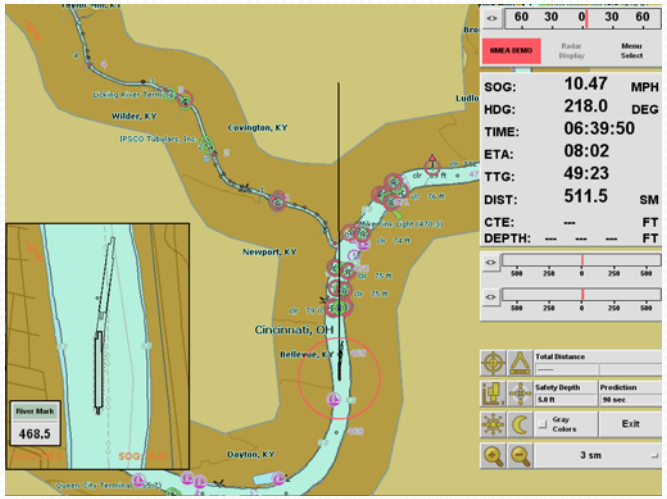
USACE Inland Electronic Navigational Chart Program Status - 2014

- 106 charts of inland rivers available on web
- ~7000 miles available in Inland Standard 2.2, shapefiles and KML
- US Coast Guard buoys chart overlay available
- Program managed via Army Geospatial Center & Louisville District

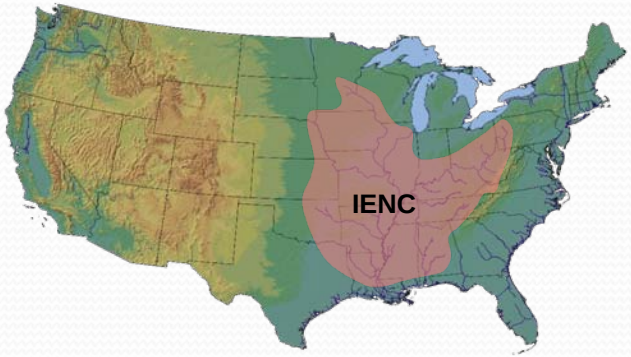
- Monthly Update cycle, can update weekly as needed
- 100% traceable audit trail for source data
- RSS and XML catalogs available for all data
- IENC data on WWW (Amazon Cloud & Web Services)

- R&D: IENC mobile apps for Android
- Mississippi River SW Pass overlay near release.
- 265 Miles of the White River, AR to be released in June 2014.

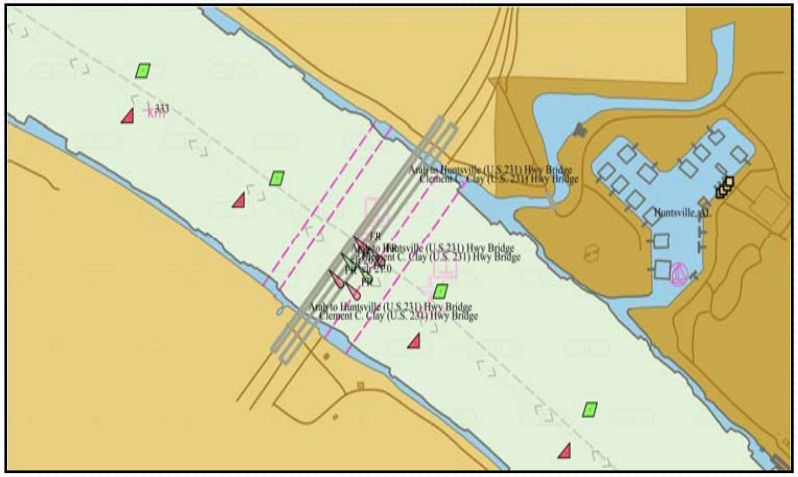
IENC Examples



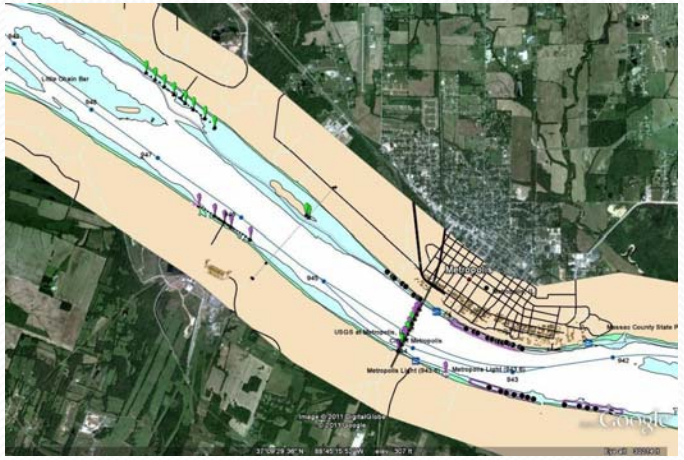
ECS showing Ohio River data



IENC coverage

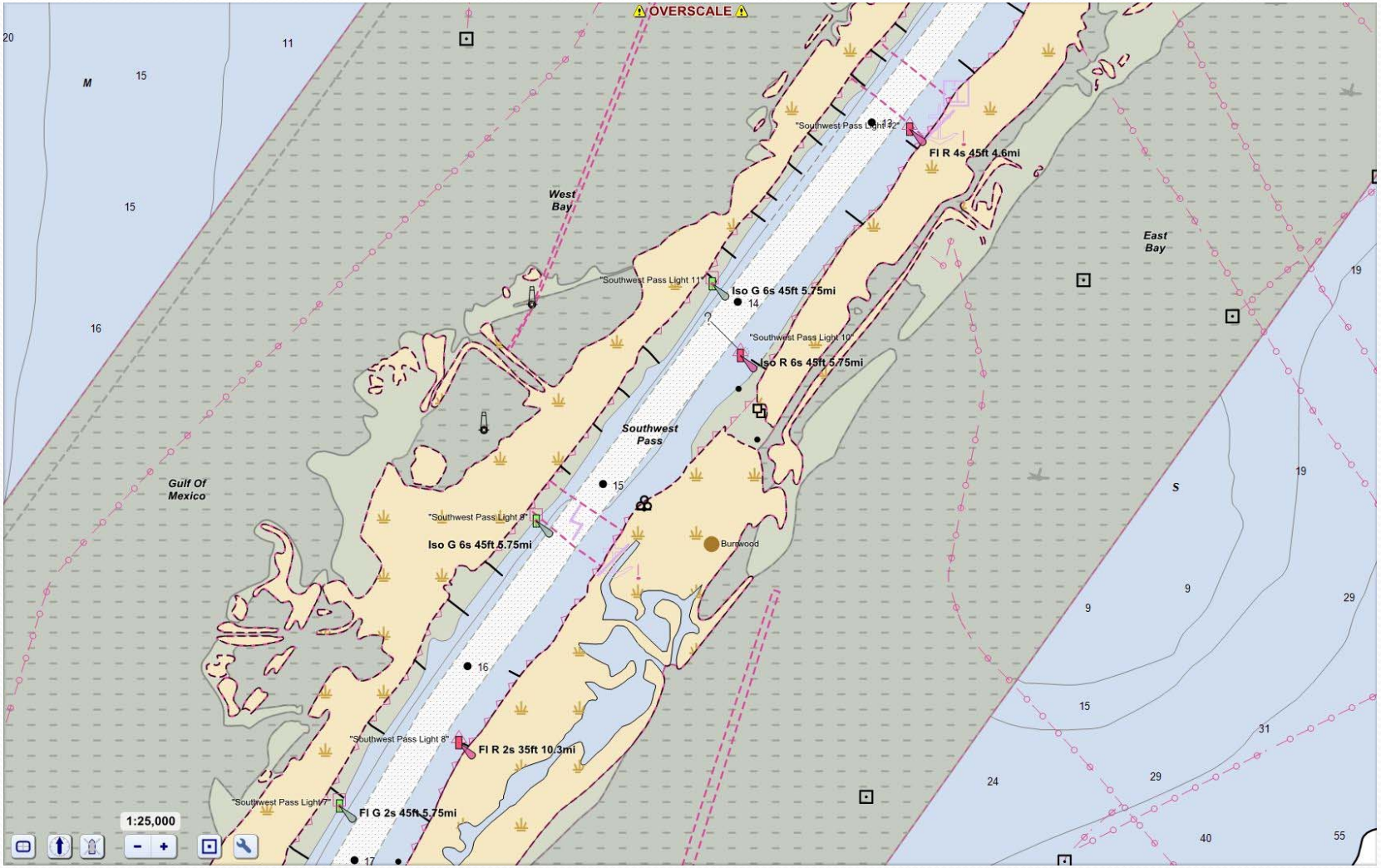


S-57 example

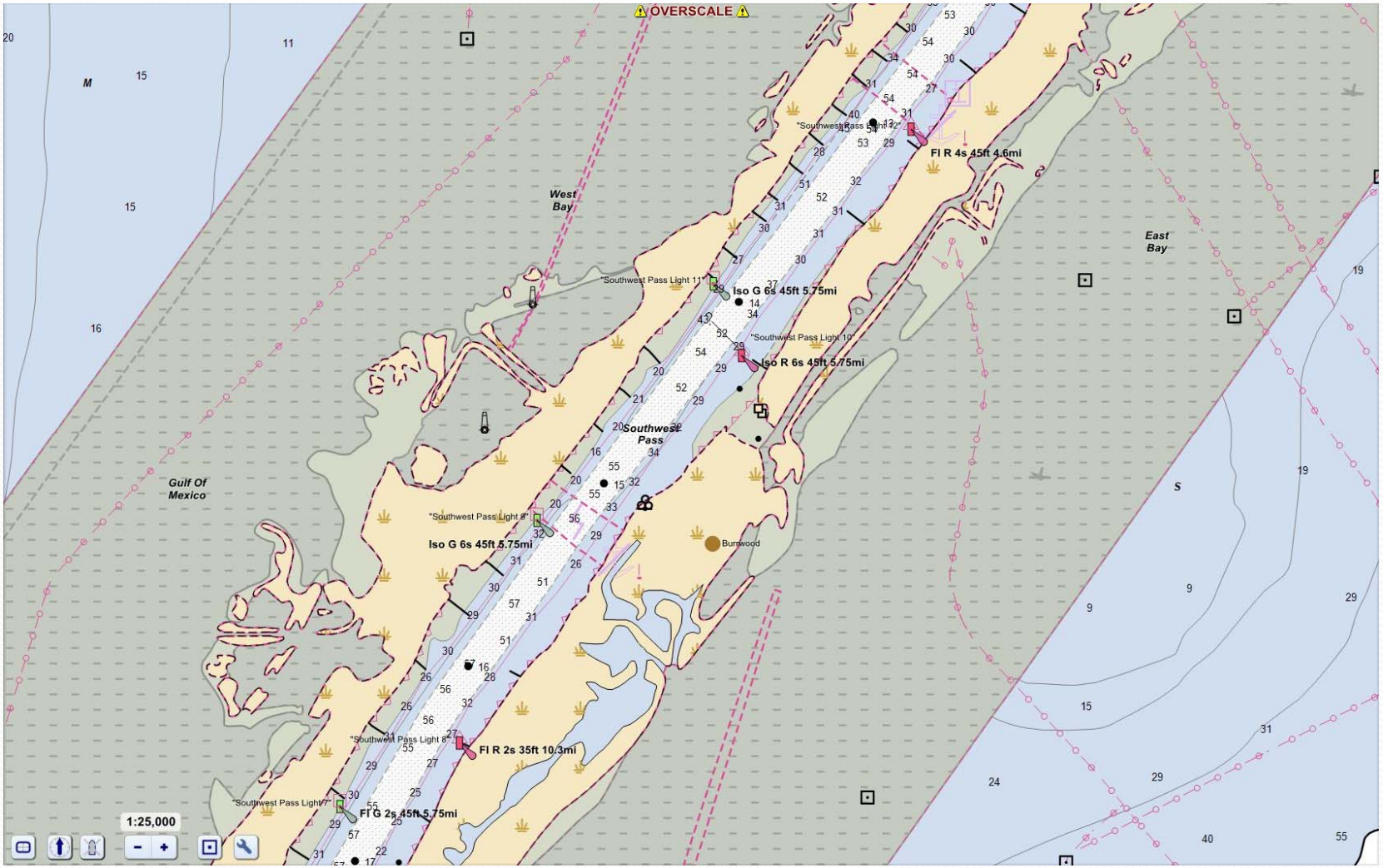


KML File of Allegheny River

Miss River Southwest Pass



Miss River Southwest Pass



Jefferson County Port Authority Proposed Fleeting Area
Will It Affect Navigation?

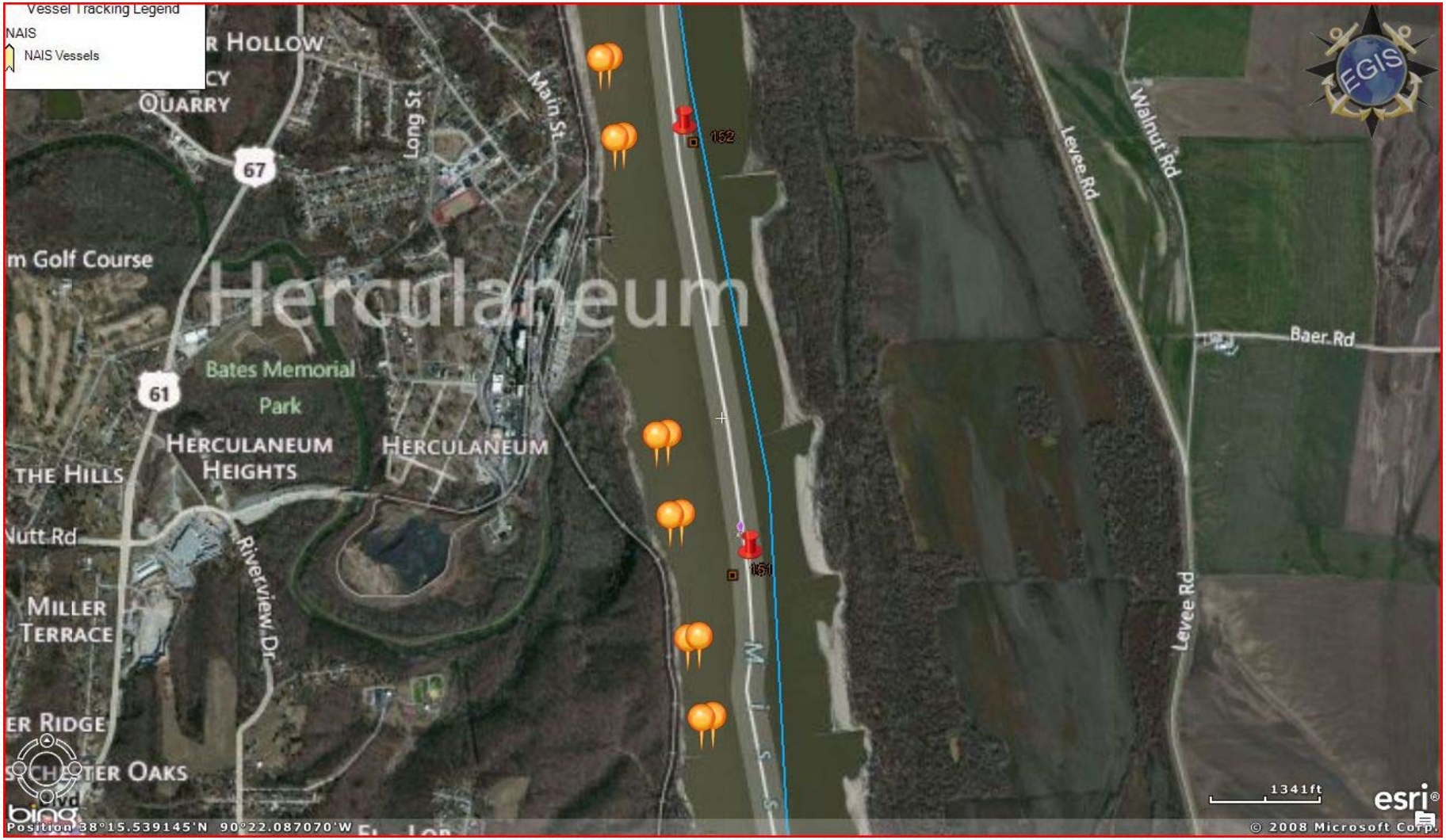
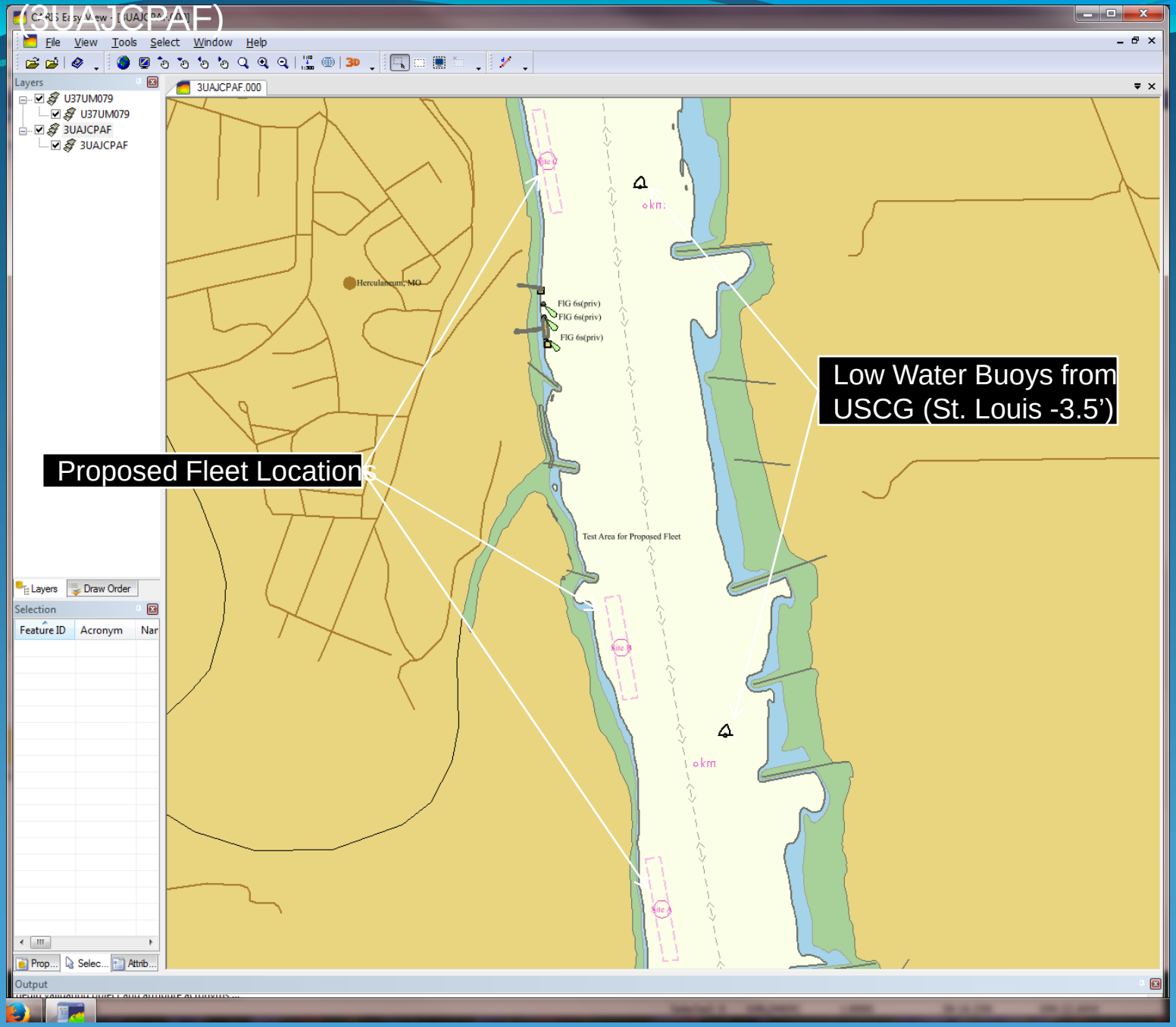
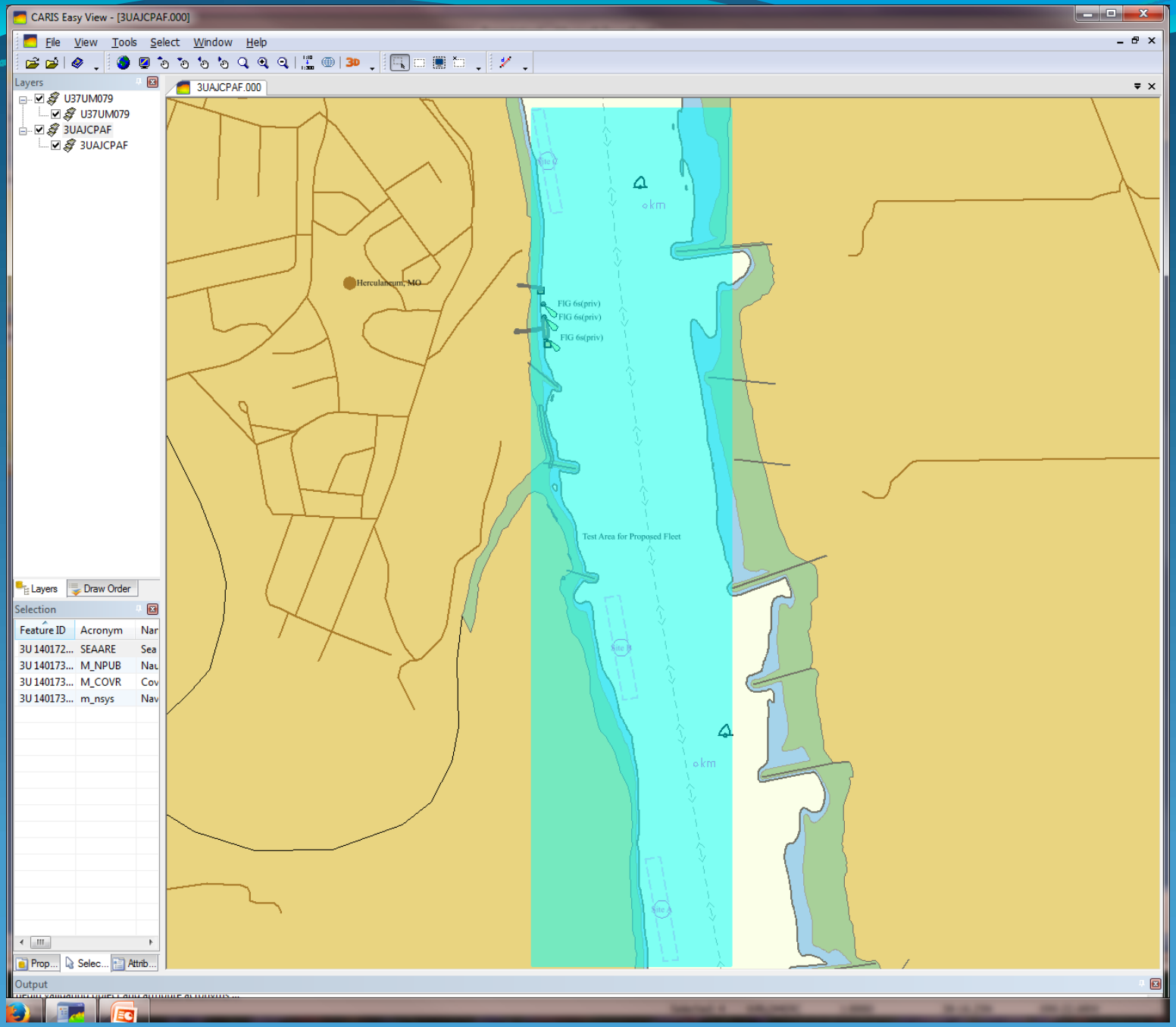


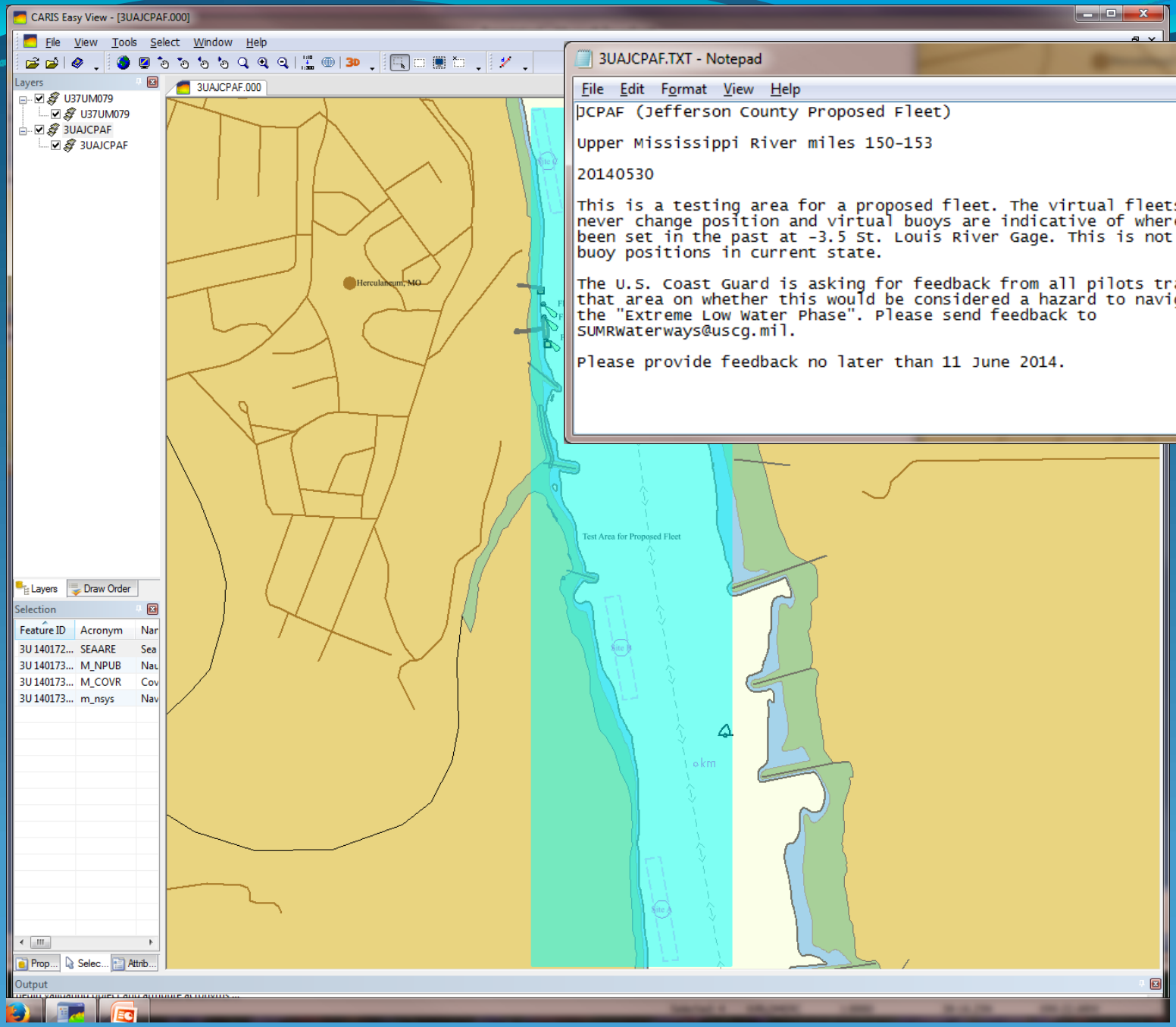
Chart U37UM079 with Proposed Fleet & Low Water Buoy Overlay



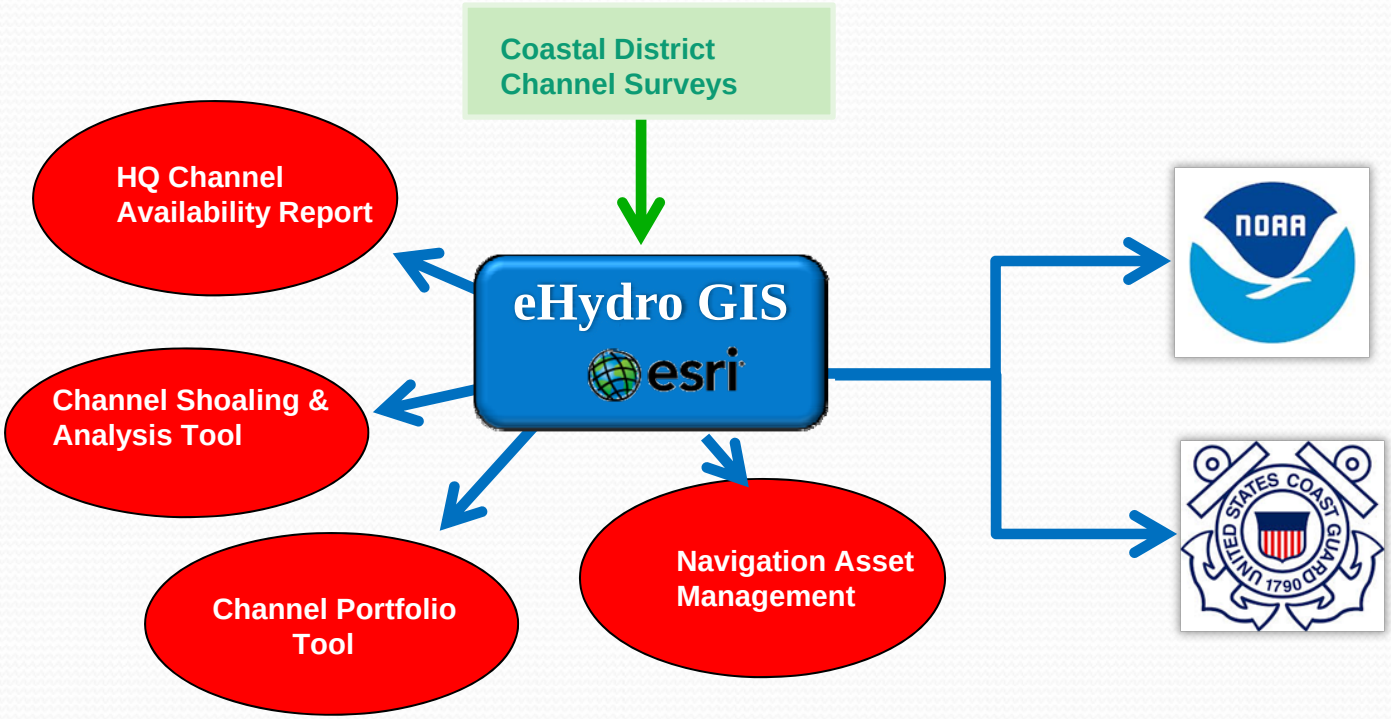
Overlay Chart 3UAJCPAF Overlay Area



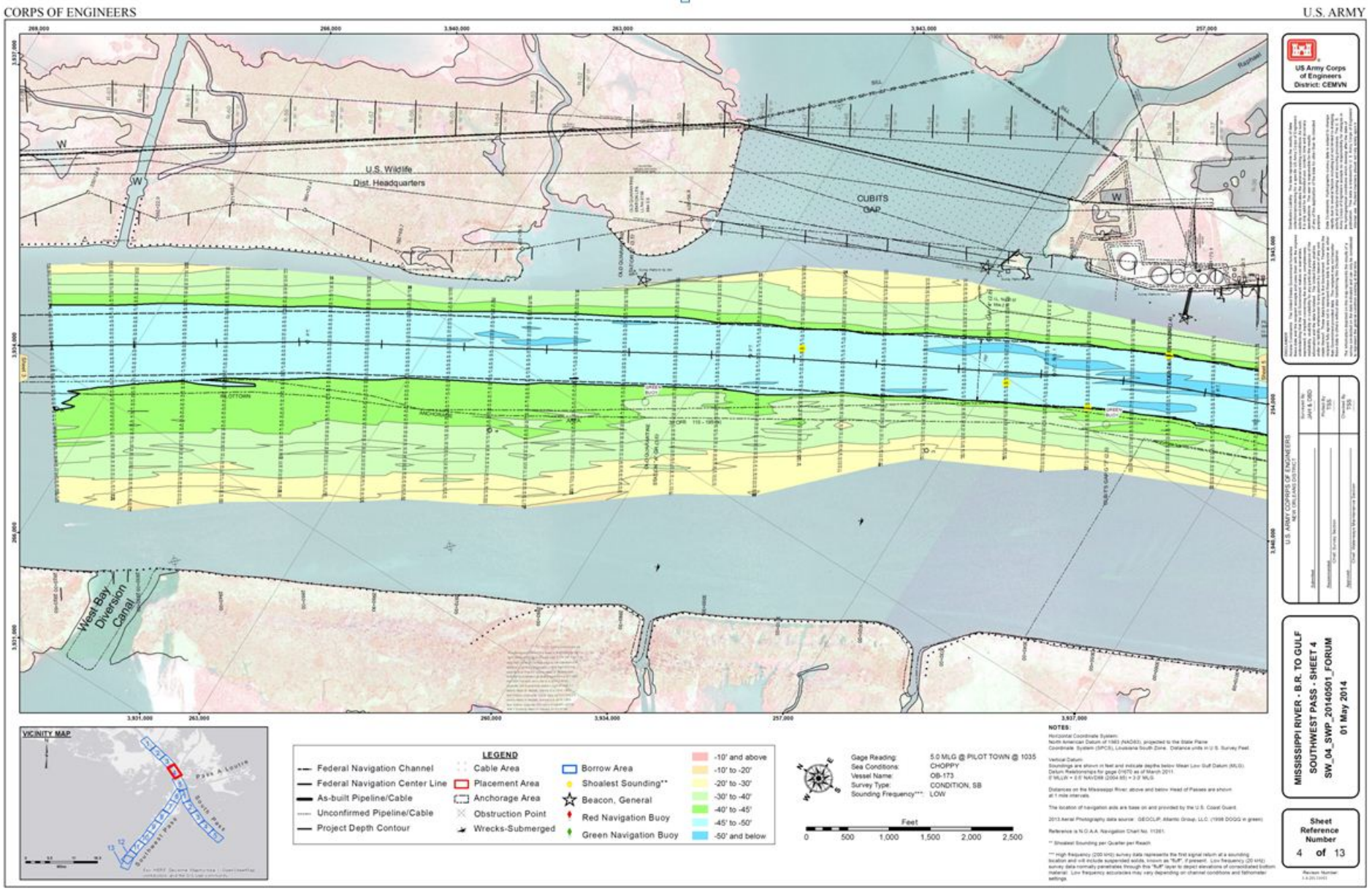
Overlay Chart 3UAJCPAF Overlay with M_NPUB Text Description



USACE Development - eHydro



USACE - eHydro



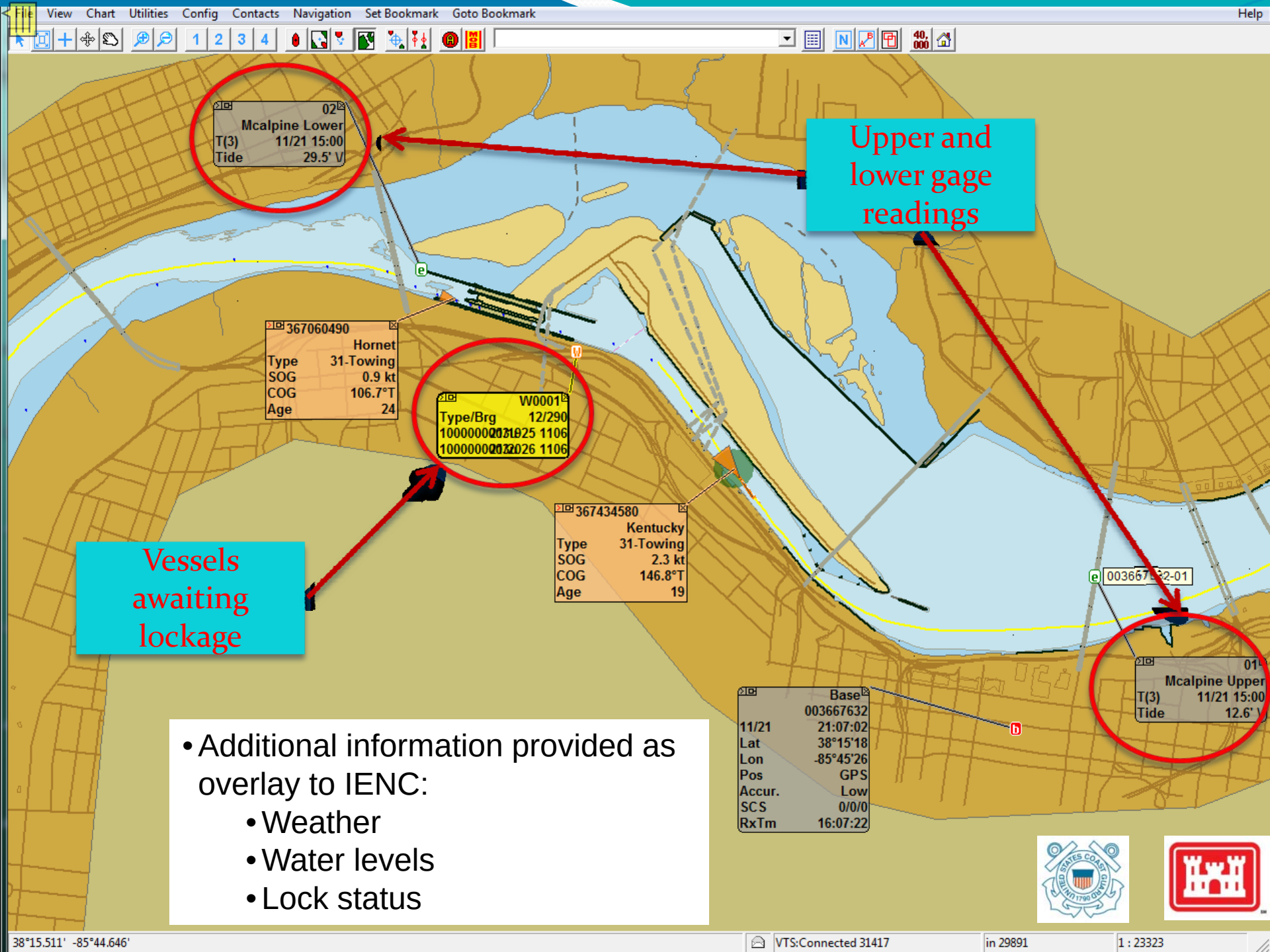
USACE Navigation developments

Lock Operations Management Application (LOMA)

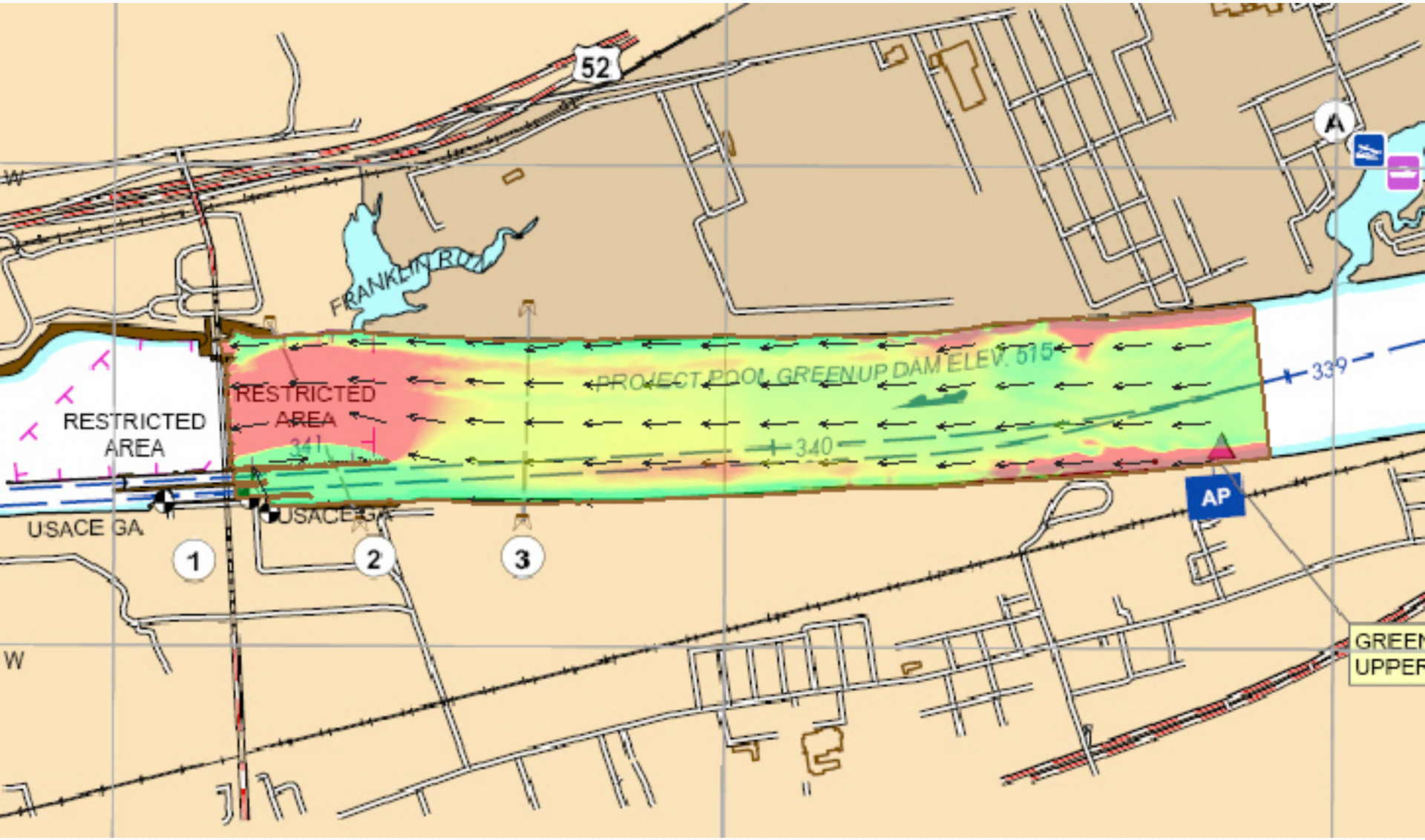
- Purpose:
  - Provide end users information needed for decision support
- Goals:
  - Increase lock operator situational awareness
  - Provide vessel operators better information
  - Provide better information to Corps management
  - Exchange information with external users
- AIS is the central LOMA technology

LOMA current capabilities

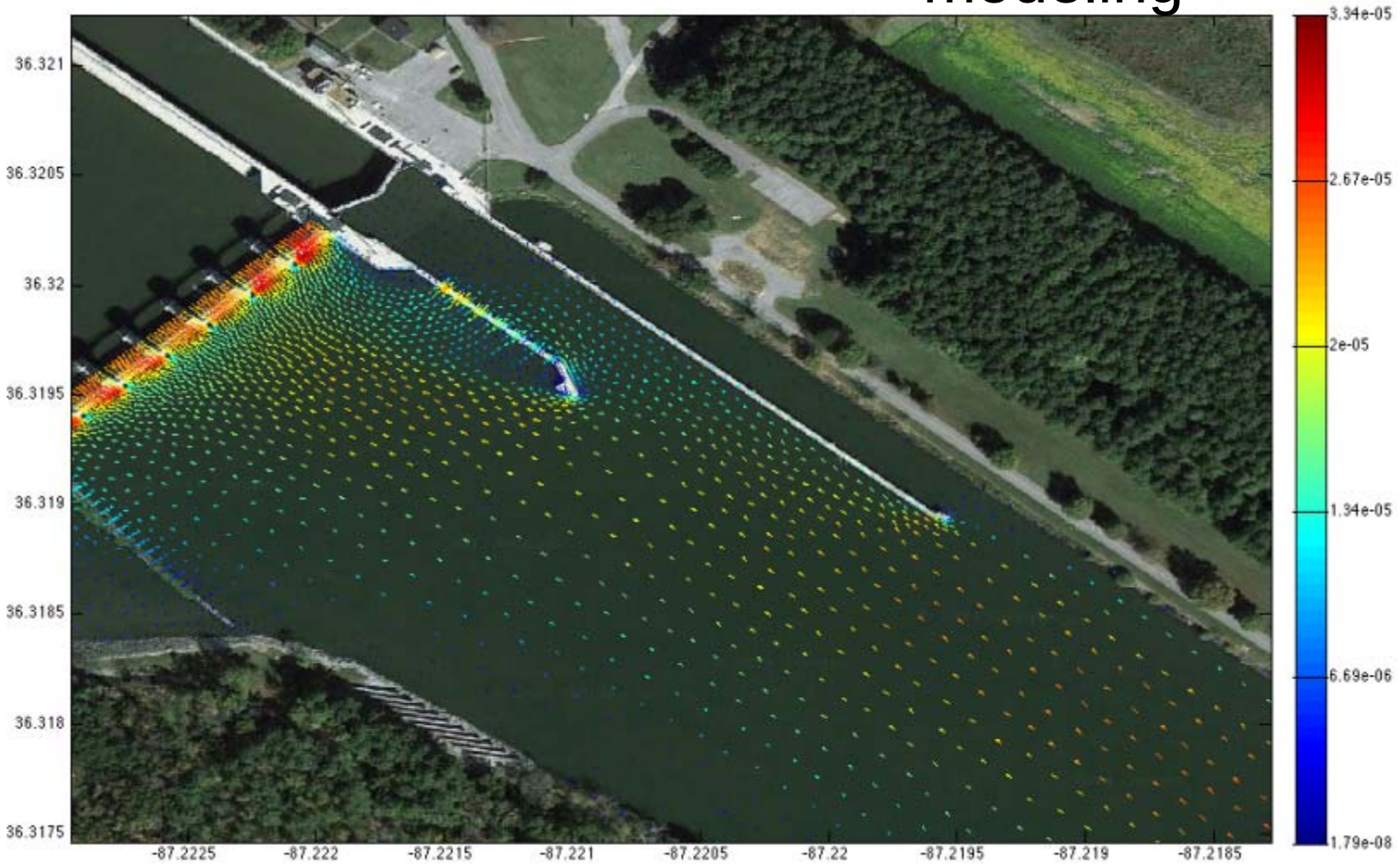
- Lock operator situational display
- AIS vessel information
- Zone management
- Playback capability

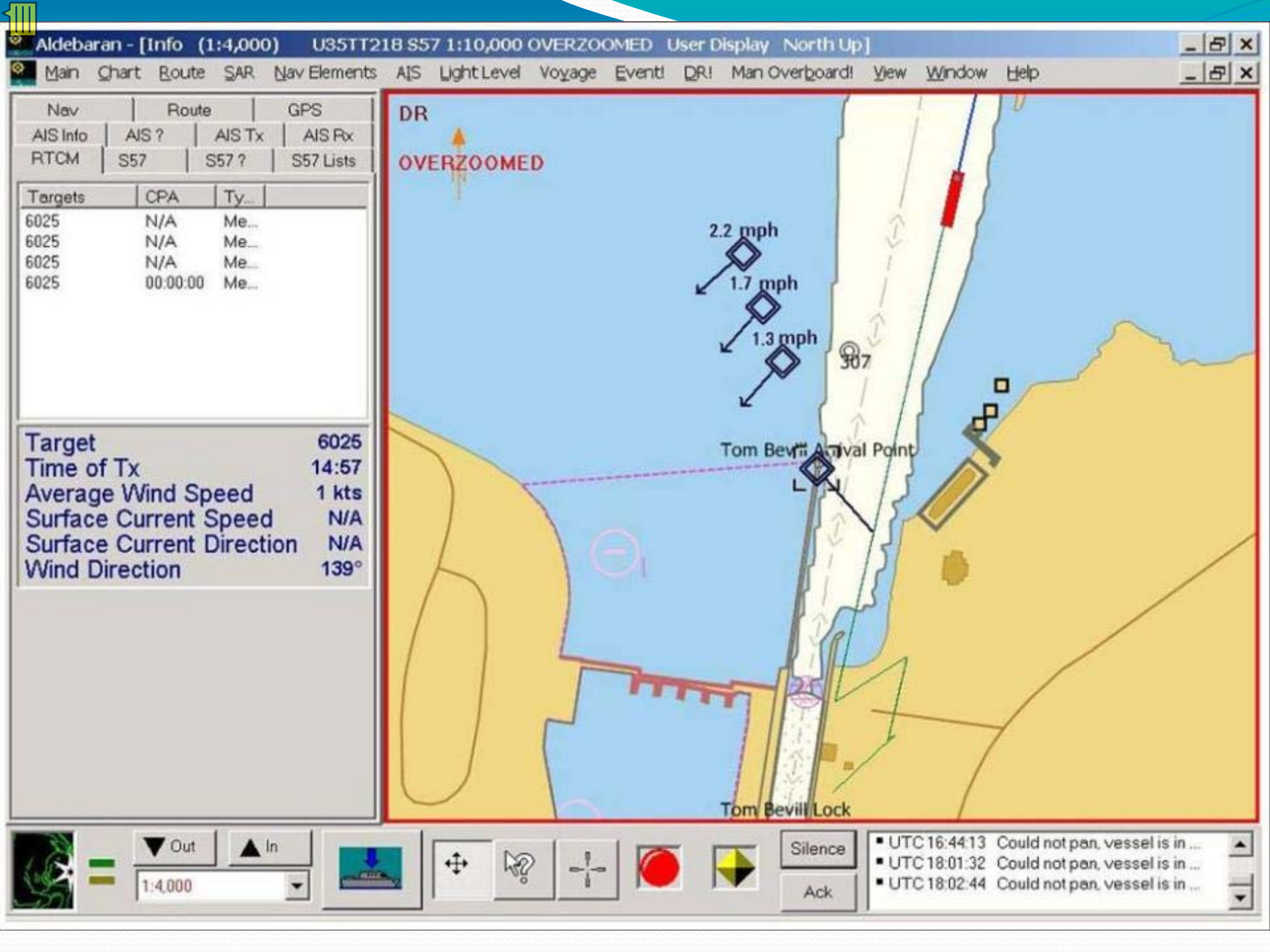

File View Chart Utilities Config Contacts Navigation Set Bookmark Goto Bookmark Help
02
Mcalpine Lower
T(3) 11/21 15:00
Tide 29.5' V
Upper and lower gage readings
367060490
Hornet
Type 31-Towing
SOG 0.9 kt
COG 106.7°T
Age 24
W0001
Type/Brg 12/290
367434580
Kentucky
Type 31-Towing
SOG 2.3 kt
COG 146.8°T
Age 19
Vessels awaiting lockage
003667632-01
01
Mcalpine Upper
T(3) 11/21 15:00
Tide 12.6' V
Base
003667632
11/21 21:07:02
Lat 38°15'18
Lon -85°45'26
Pos GPS
Accur. Low
SCS 0/0/0
RxTm 16:07:22
• Additional information provided as overlay to IENC:
• Weather
• Water levels
• Lock status
38°15.511' -85°44.646'
VTS:Connected 31417
in 29891
1 : 23323

Lock approach current modeling



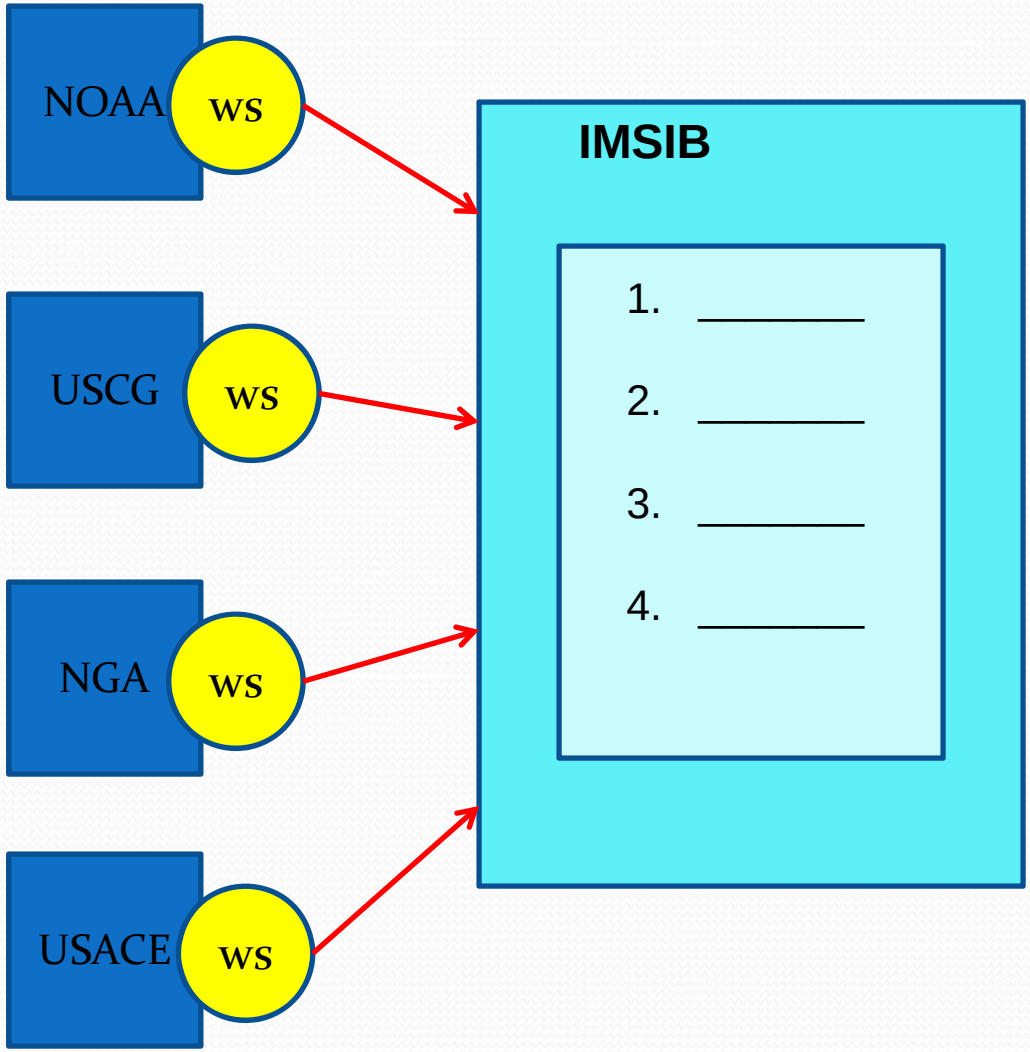
Lock approach current modeling

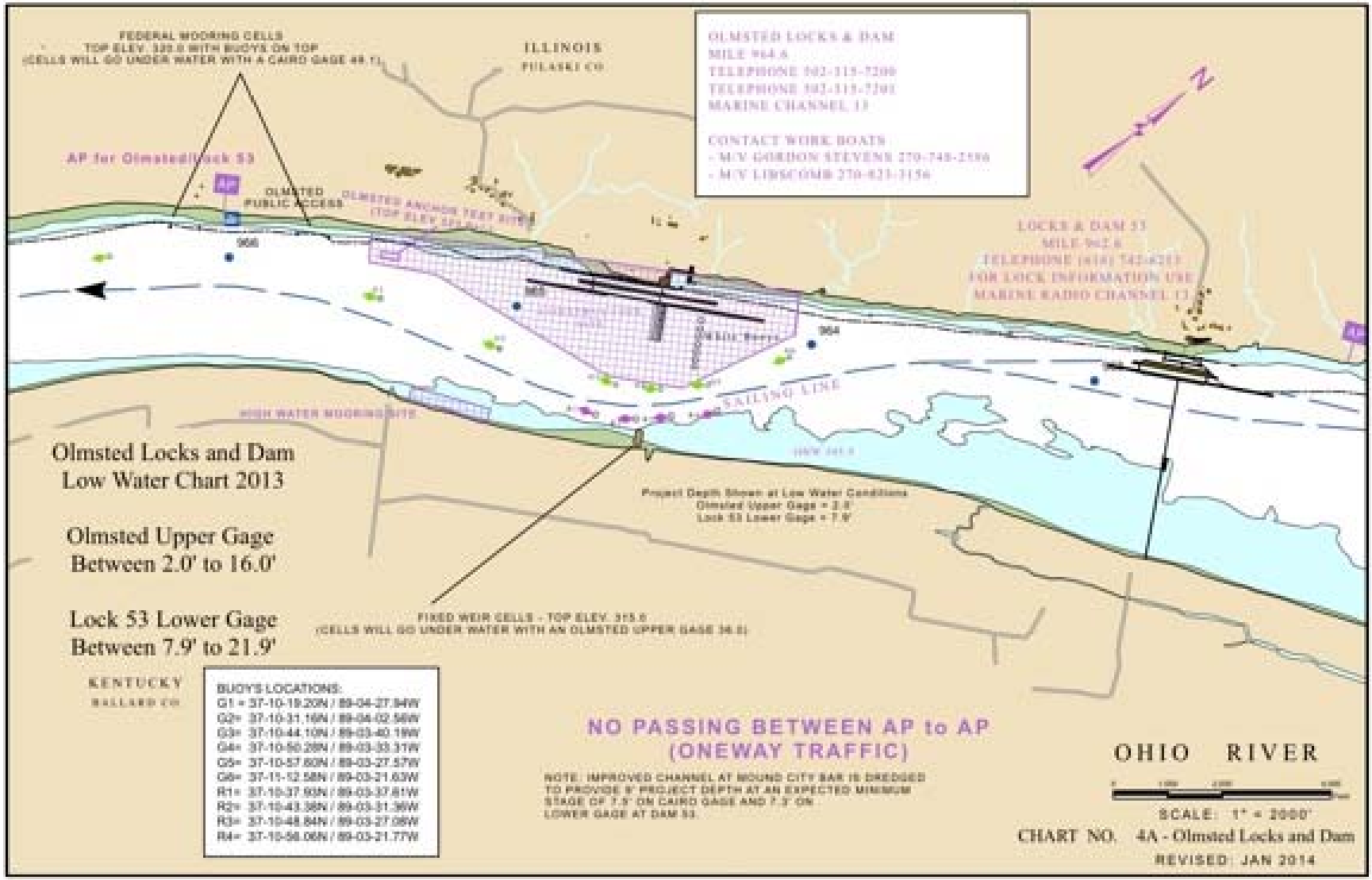



Aldebaran - [Info (1:4,000) U35TT218 S57 1:10,000 OVERZOOMED User Display North Up]
Main Chart Route SAR Nav Elements AIS Light Level Voyage Event! DR! Man Overboard! View Window Help
Nav Route GPS
AIS Info AIS ? AIS Tx AIS Rx
RTCM S57 S57 ? S57 Lists
Targets CPA Ty...
6025 N/A Me...
6025 N/A Me...
6025 N/A Me...
6025 00:00:00 Me...
Target 6025
Time of Tx 14:57
Average Wind Speed 1 kts
Surface Current Speed N/A
Surface Current Direction N/A
Wind Direction 139°
DR
OVERZOOMED
2.2 mph
1.7 mph
1.3 mph
307
Tom Bevill Arrival Point
Tom Bevill Lock
Out
In
1:4,000
Silence
Ack
UTC 16:44:13 Could not pan, vessel is in ...
UTC 18:01:32 Could not pan, vessel is in ...
UTC 18:02:44 Could not pan, vessel is in ...

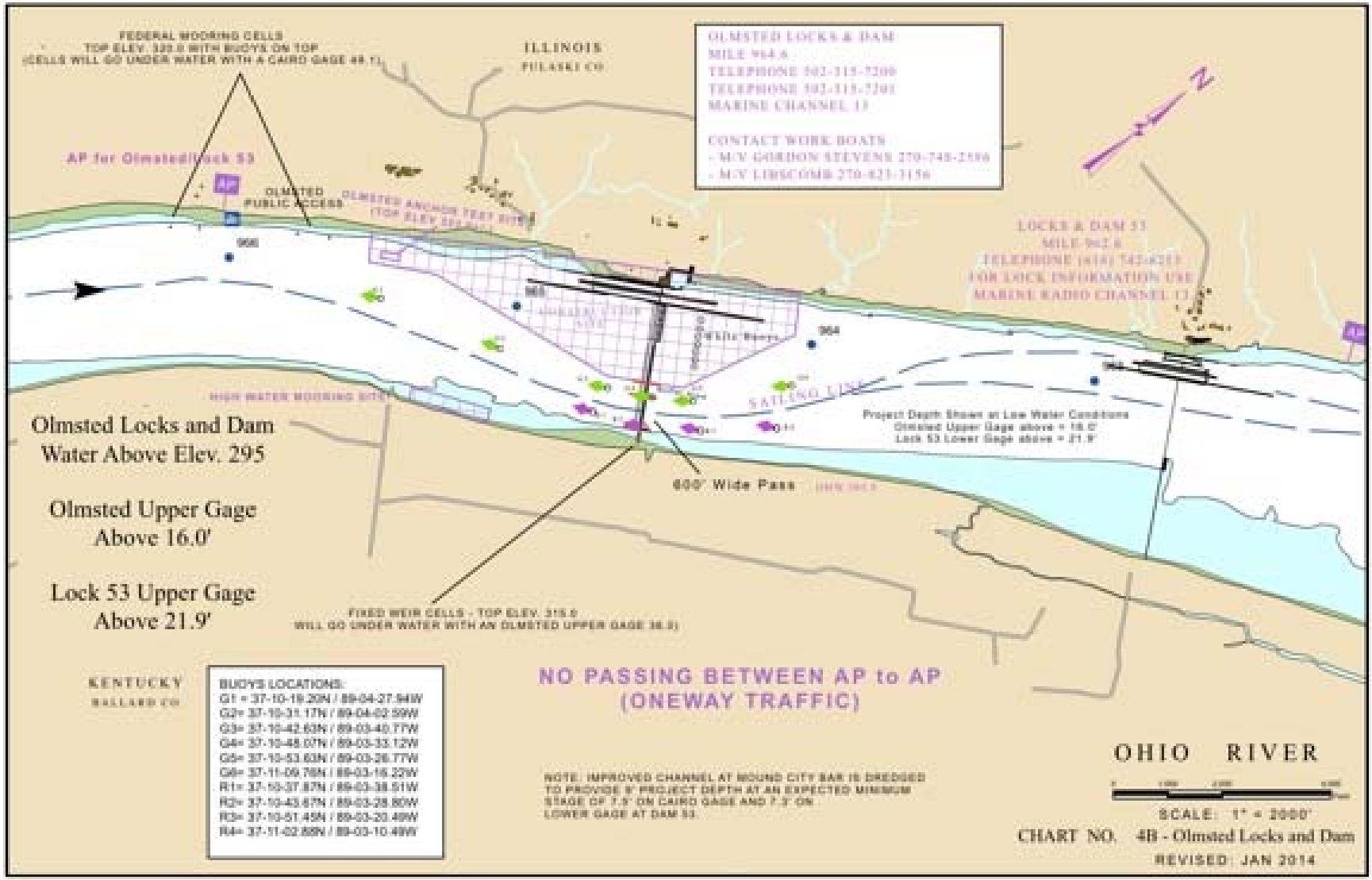
Enhanced Marine Safety Information (eMSI)

- Purpose: Coordinate various government-provided navigation information services:
  - USCG: Notices to Mariners (NTM)
  - USACE Notices to Navigation Interest
  - NOAA: Chart & pub updates
  - NGA: International NTM
- Product: "Integrated MSI bulletin"
  - Accessed and delivered electronically
  - Variety of formats/delivery methods
  - Web services
  - AIS transmission

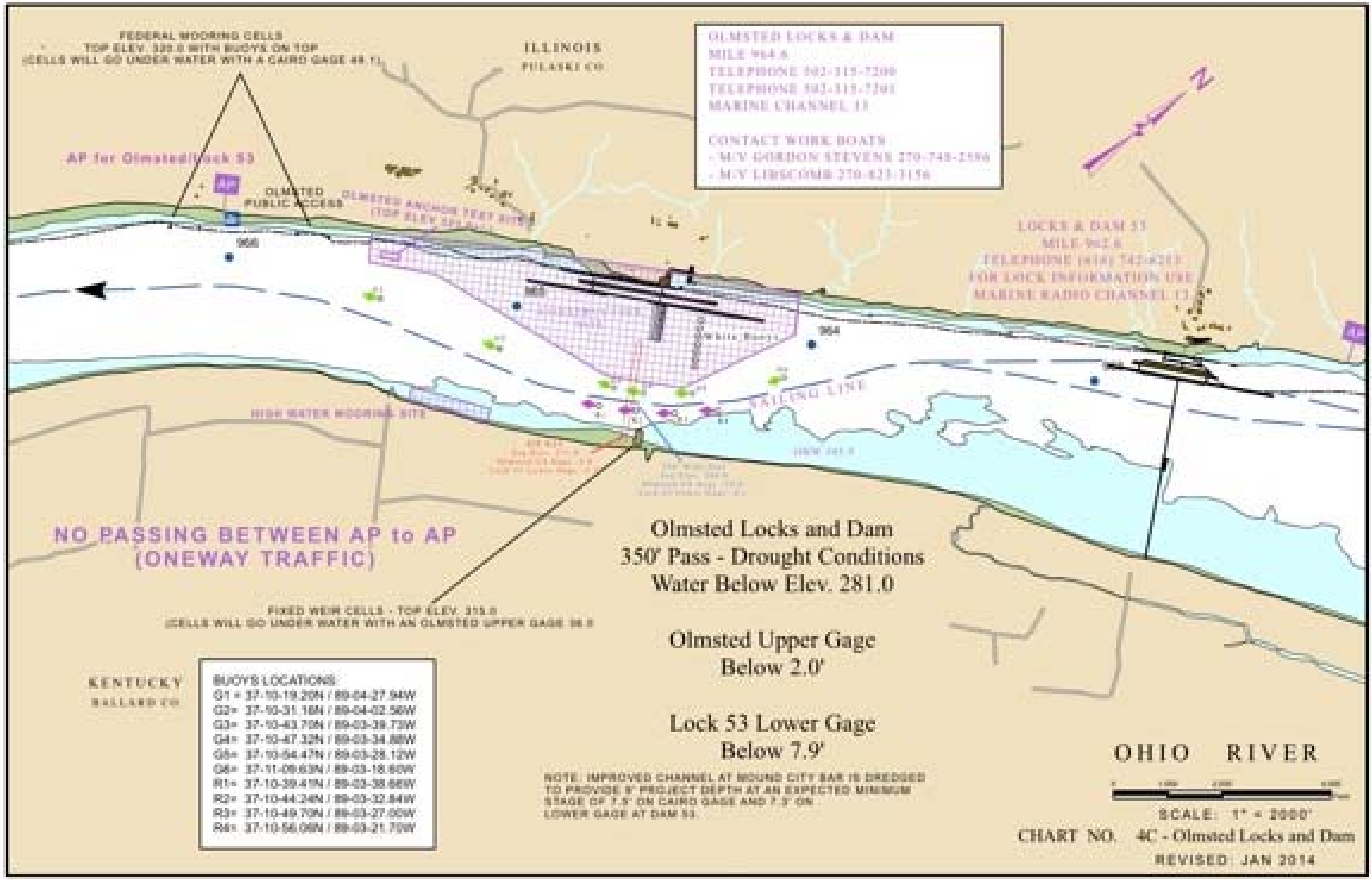




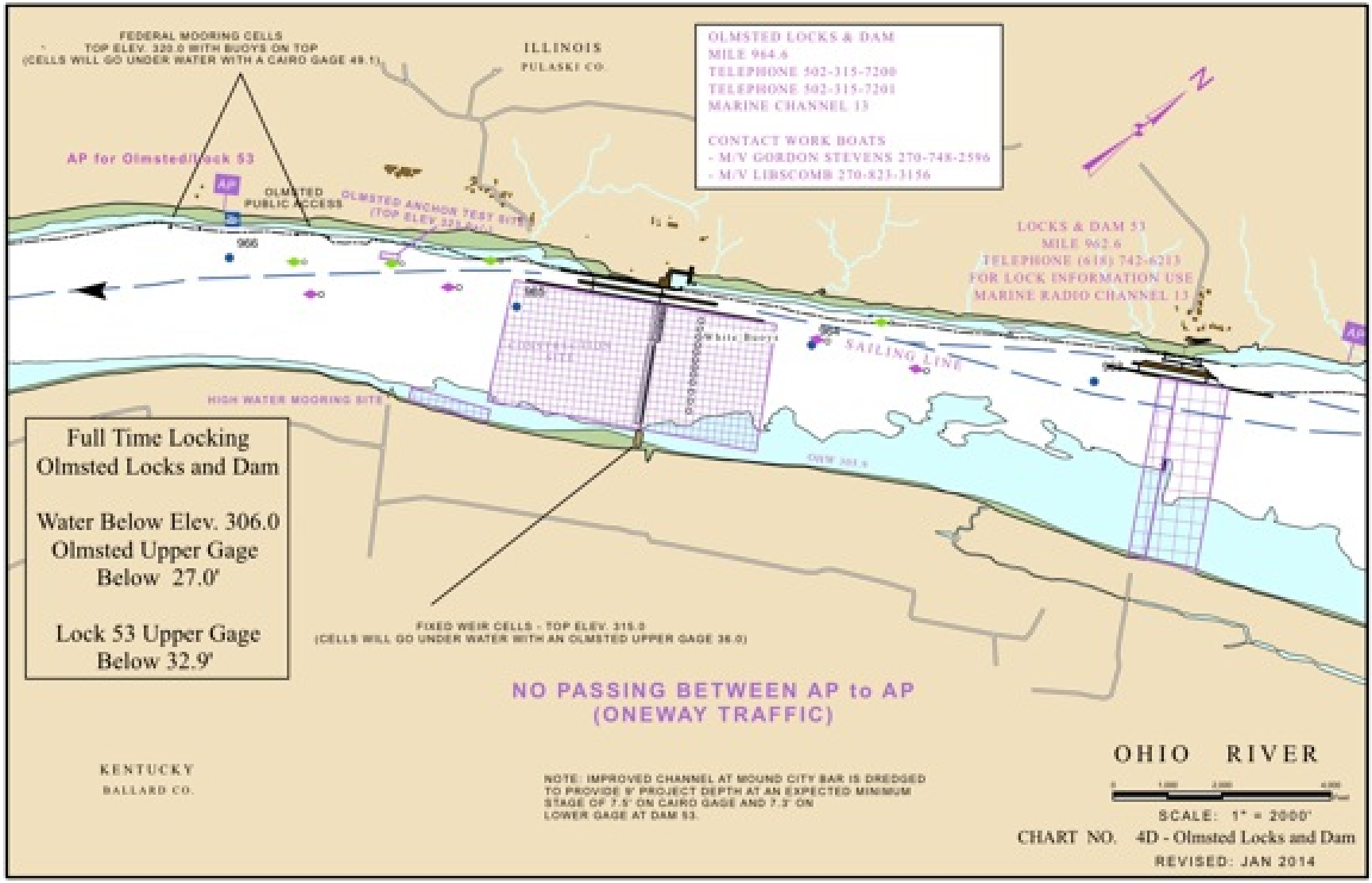
Olmsted Lock and Dam Construction project



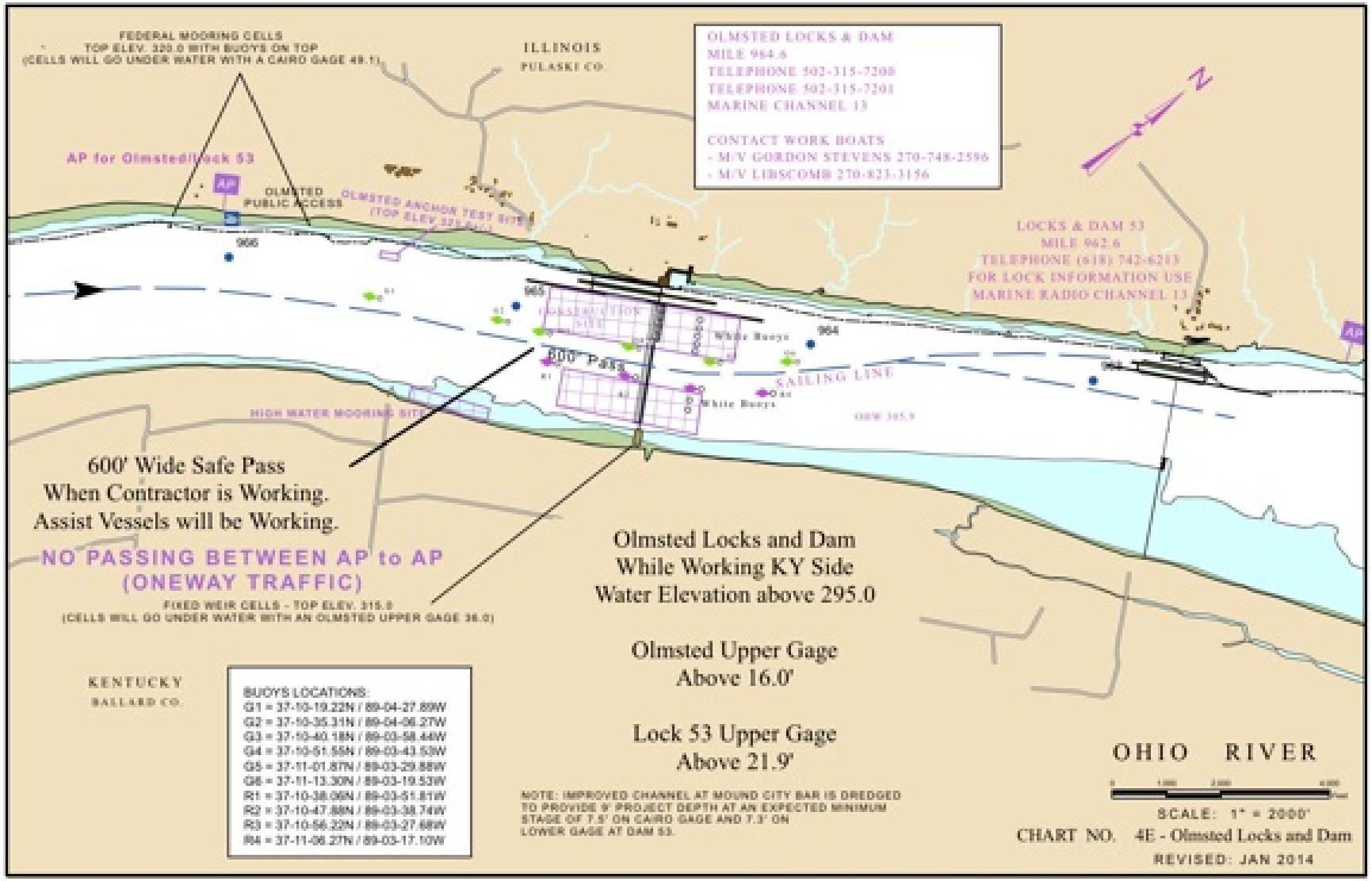
Olmsted Lock and Dam Construction project



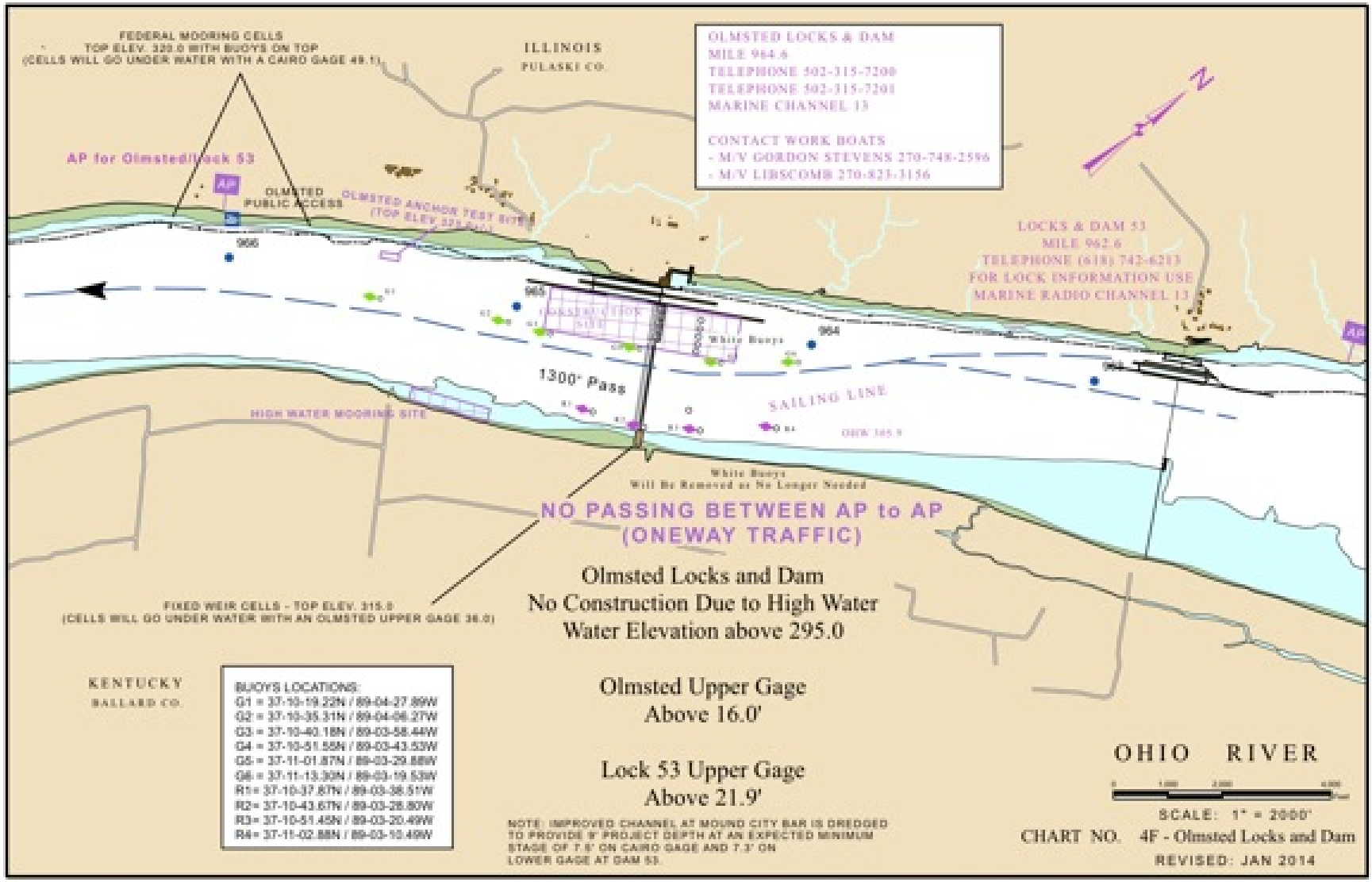
Olmsted Lock and Dam Construction project



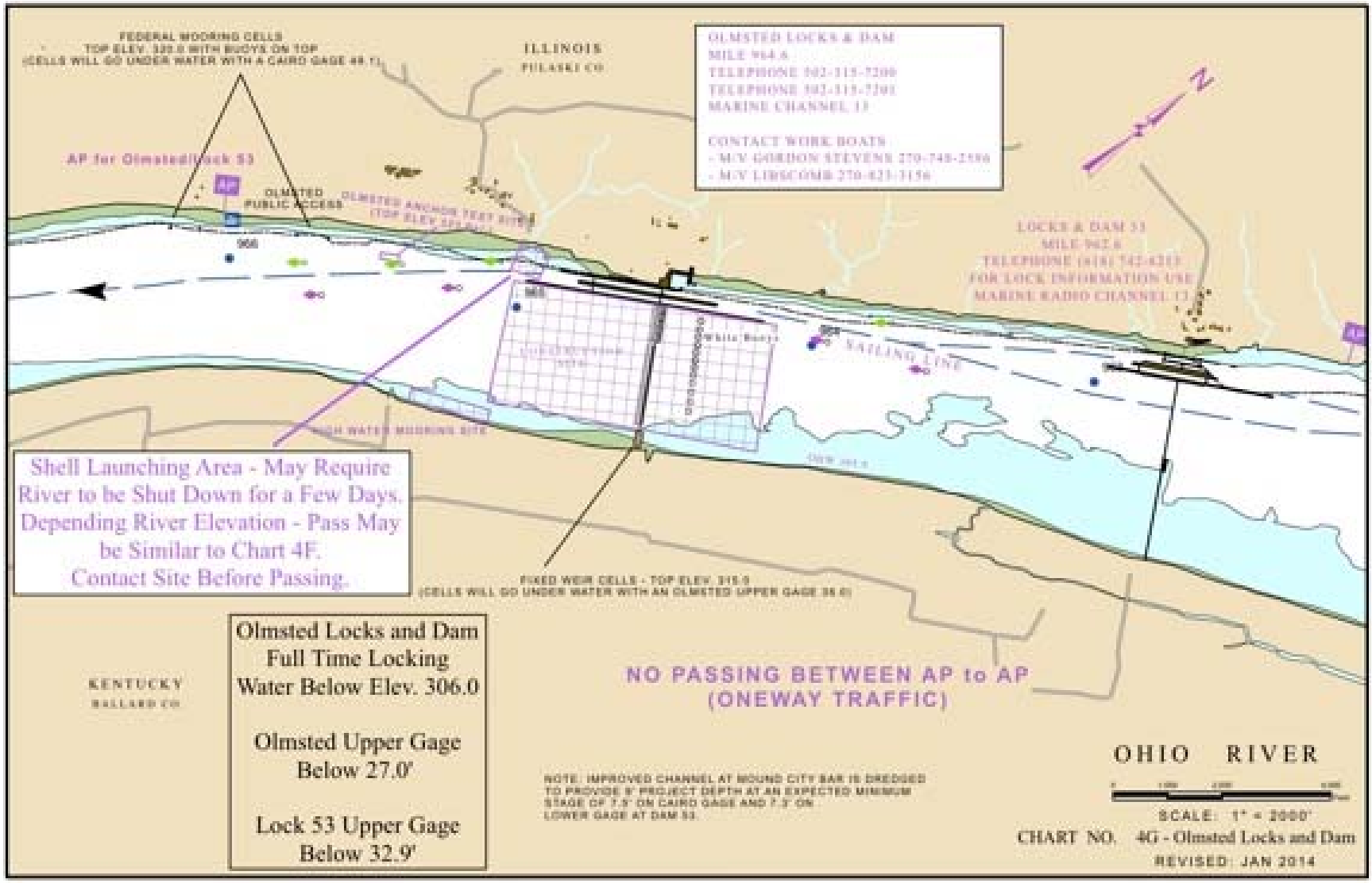
Olmsted Lock and Dam Construction project



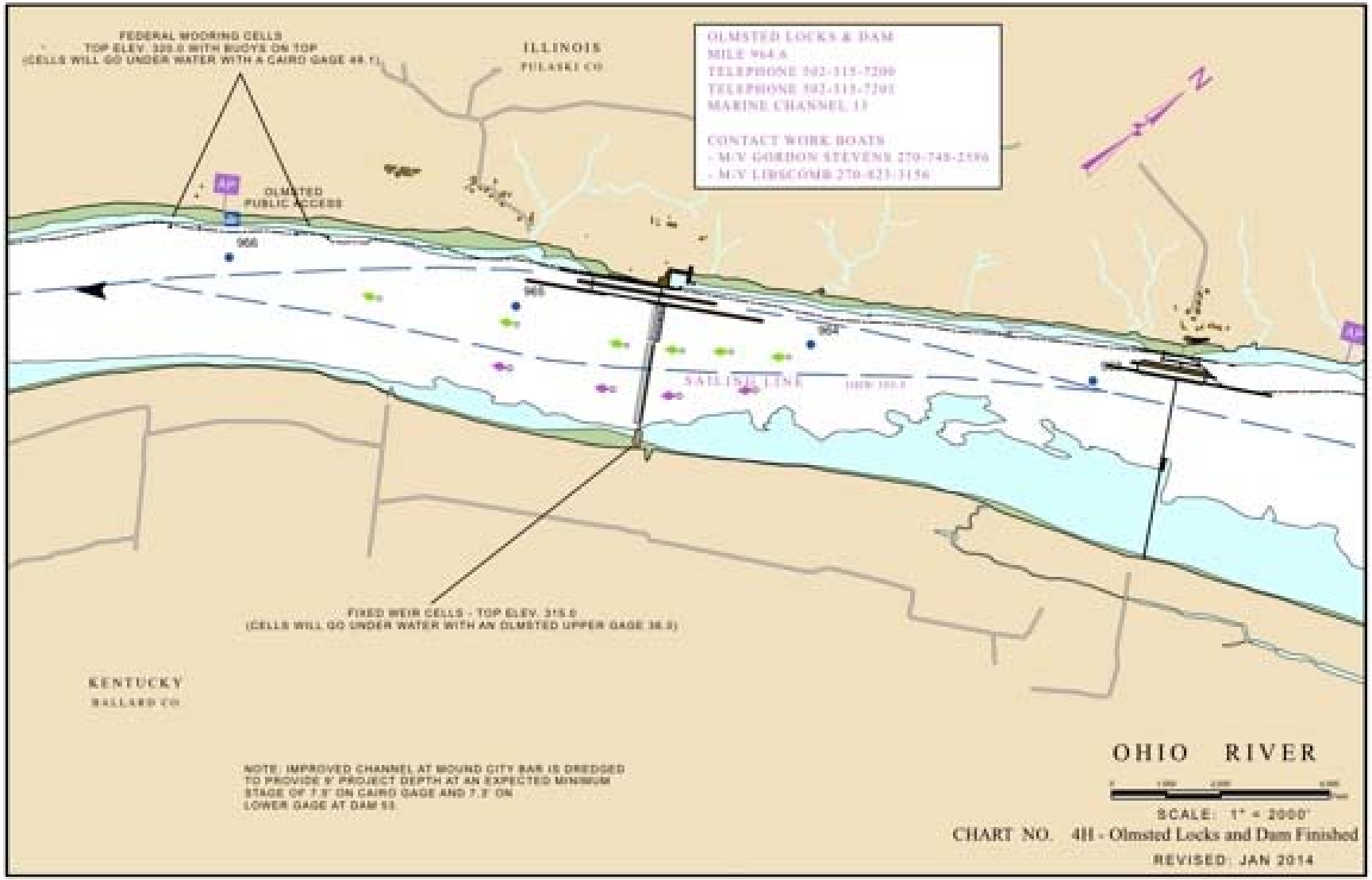
Olmsted Lock and Dam Construction project



Olmsted Lock and Dam Construction project



Olmsted Lock and Dam Construction project



Olmsted Lock and Dam Construction project

Bringing America's Waterways into the 21st Century

Questions?

Putting Information in the Hands of the Users