

## **Final Report for PLP 25-0838: Survey of the Fox River at Oshkosh**

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### **Overview and Goals**

The Wisconsin Underwater Archeology Association performed a high resolution acoustical survey of the Fox River on Saturday, April 12, 2025 in conjunction with the Wisconsin Historical Society's Maritime Archeology Program. The Principal Investigator and sidescan operator was Brendon Baillod of the WUAA. Brendon's survey boat was utilized and piloted by Bob Jaeck of WUAA. Kendra Kennedy and Jordan Ciesielczyk – Gibson of the WHS Maritime Archeology Program crewed and provided interpretation and guidance during the survey, which took about five hours to complete.

This survey was suggested by Dr. Amy Rosebrough due to some past small area surveys that had been done on this stretch of the Fox River between the Hwy 21 Bascule Bridge at Sawyer Creek and the railroad bridge where the Fox empties into lake Winnebago. This encompasses a stretch of the river approximately 2.5 miles in length.

Two different sites had been surveyed in the river and an additional report existed of a large, early style anchor recovered by "magnet fishermen." There is also a well-established historical report of the loss of the steamer Berlin City in this stretch of the river.

The goal of this survey was to map the entire 2.5 mile extent of the Fox River in this area in high resolution to map all potential cultural remains and to record detailed GPS coordinates for all mapped objects.

We also hoped to relocate the objects mapped in the previous surveys and, if possible, identify them. The previous surveys were small, localized surveys as follows:

In October 2016, Kevin Cullen and Brian Abbott utilized a sector scanning sonar to survey a piece of vessel wreckage in the upper extent of the river, approximately .3 miles SE of the Hwy 21 bridge on the SW shore of the river. (See Fig 1.)

In 2017, Jerry Guyer was contracted to survey the lower section of the Fox River between the Hwy 45 bridge and the Oshkosh Train Bridge at the mouth of the Fox. This survey was done due to construction work related to the Train Bridge. (See Fig 1.)

Within the last several years, a fairly large, early style anchor was reported recovered by magnet fishermen near a site shown on maps of the area as having been a shipyard. The site of the anchor recovery was on the NE shore of the river between the Hwy 45 Bridge and the Jackson St. Bridge. (See Fig 1.)



Figure 1. Initial survey goals and potential objects.

## Methodology

The survey was conducted using the WUAA's new DeepVision sonar system, which provides specific advantages over previous sonar systems used in the area:

1. The sonar provides wider range of imaging options, allowing us to cover the entire 500 ft. width of the river in a single pass or to image an object at extremely high resolution in order to see fine details as small as several inches.
2. The sonar provides a higher data sampling rate and higher resolution pixel mapping of the data to create extremely sharp 3D rendering of the bottom.
3. The sonar's dual frequency capability (340 khz and 680 khz) provided the ability to see much greater feature textures.
4. The sonar provided track mosaic capabilities and real-time GPS gridding, allowing us to confirm our coverage areas, to see the location of objects relative to shore features and to have accurate GPS locations for every object mapped.

The team decided to begin in the SE corner of the search area, at the Railroad Bridge and work up river. The areas of the river that had been identified as having a high probability of holding cultural remains (from the Railroad Bridge to the Jackson St. Bridge) were scanned



in three passes of 150 ft. per channel with substantial overlap. The longer section of the River from Railroad Bridge to the Hwy 21 Bridge was scanned at 300 ft. per channel in a single pass.

Acoustical “seeing” was exceptional due to low air temperatures the night before (29 degrees F) as well as low turbulence and turbidity in the water. We did have a large number of recreational fishing vessels for which we had to maintain vigilance and sometimes adjust our course, but this generally didn’t impact our tracklines.

We also had two Remote Operated Vehicles available in the event that the water proved clear enough for photographic imaging. Unfortunately, it was very cloudy with estimated visibility under one foot. As such, we did not attempt to launch the ROVs.



Figure 2. Mosaic of track line coverage for survey

## **Findings**

We were able to successfully map the entire 2.5 mile section of the river in high resolution, collecting 44 separate sonar tracks. GPS mapped images file data for all survey track lines will be uploaded to the WHS file sharing system and will also be maintained by the WUAA and will be publicly available.

It should first be noted that this section of the Fox River has a significant amount of salient debris on the riverbed. Much of this debris is naturally occurring, such as large trees, ancient logs from lumber rafts, stumps and even large rocks. There is also a large amount of manmade material. We imaged multiple objects that were likely sections of boat docks that had washed down the river as well as large abandoned crushed rock caissons from early railroad bridges and at least 2 small watercraft, probably fishing boats.

This report will include imagery of the more interesting objects, but it is recommended that future investigators revisit the actual sidescan track files due to the large number of possible targets. The inventory of track lines along with the content and key features of each can be found in the Track Lines Appendix.

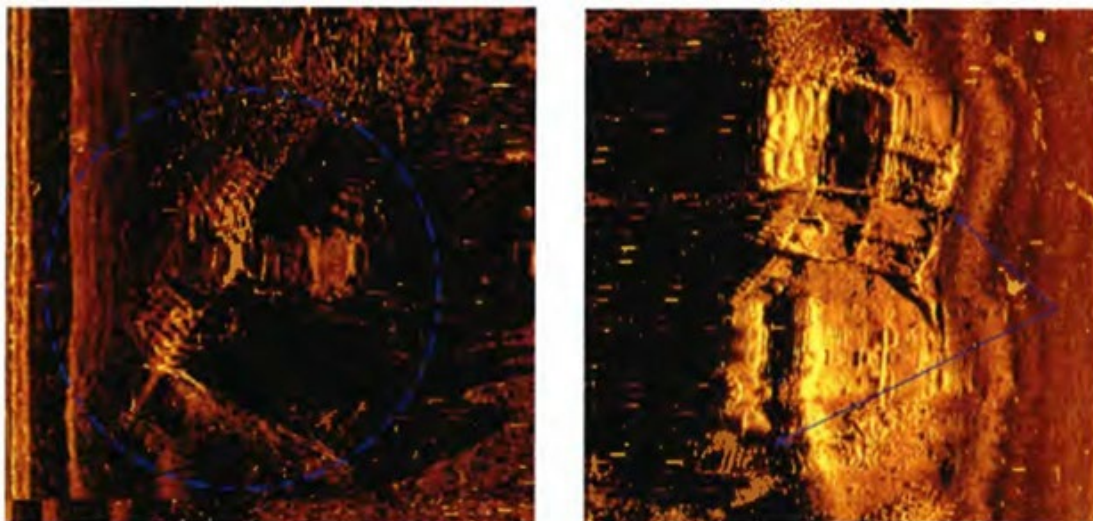
The following are the key findings:

### **Hwy 45 Bridge Object**

We were able to re-acquire the large target imaged by Jerry Guyer in 2017, just SE of the Hwy 45 Bridge. We collected multiple high-resolution images of this object, which is shown in figures 3 and 4 from Jerry Guyer's 2017 sidescan. This object sits on the edge of a channel in the river bed and is roughly square at 51 ft. long and 45 ft. wide. See Figs. 5, 6 and 7. We imaged this object in several passes and different resolutions and collected a great deal of morphological data for it. Tracks for two of the most revealing images are shown below.



Figure 3. The object labeled “Potential Shipwreck” was relocated and the same position shown here.



Side-Scan Sonar Images of Possible Wreck Site Outside APE for Direct Effects

Figure 4. The object had approximately the same appearance

The object has features that rise nearly 9 ft. into the water column. This object is difficult to assess due to its differing appearance when imaged from different angles. It seem that it could be a section of an older bridge structure. However, there is also a possibility that this



could be the bow section of the early paddle steamer *Menasha* (see <https://www.wisconsinshipwrecks.org/Vessel/Details/431>). Her forward half was reportedly scuttled in the immediate area of this target.

“The *Menasha* was split into two barges in 1860. The stern half was fitted with a new bow and used on the Mississippi River in the wheat trade between Prairie du Chien and points upriver.. The bow half was never used much and abandoned in 1861. ***She "lies covered up in the mud near the south end of Main Street bridge in Oshkosh."*** Steamboating In Early Days, Lawson p.590.”

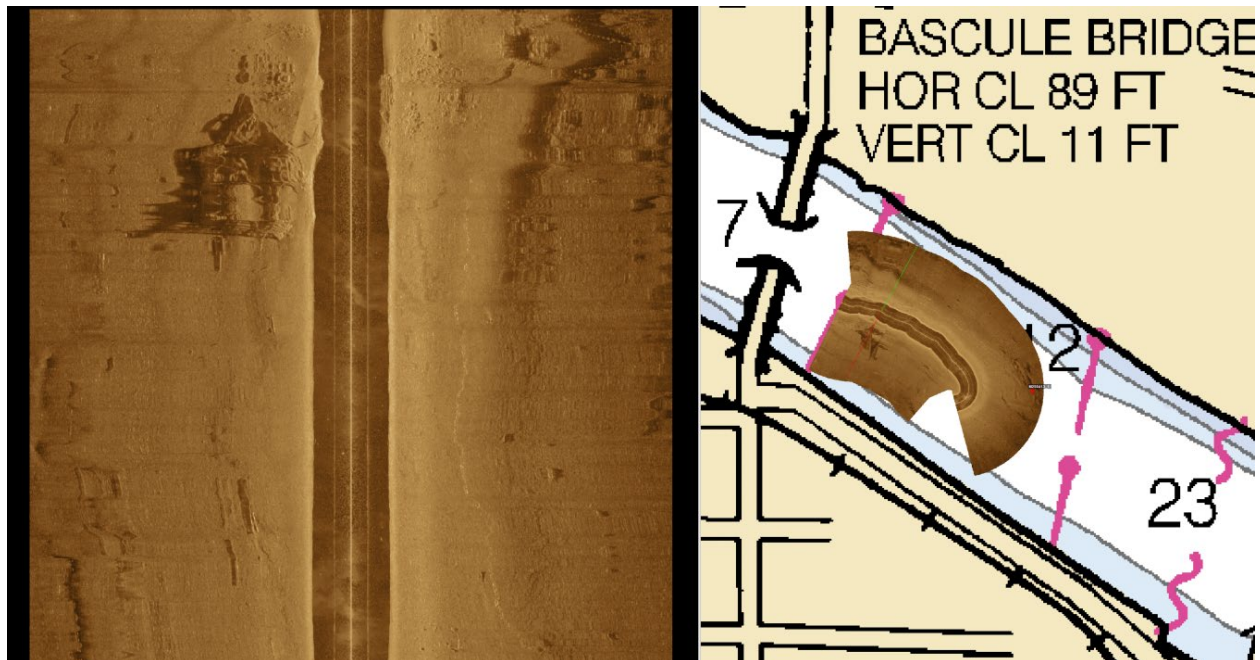


Figure 5. Sonar image with mosaic

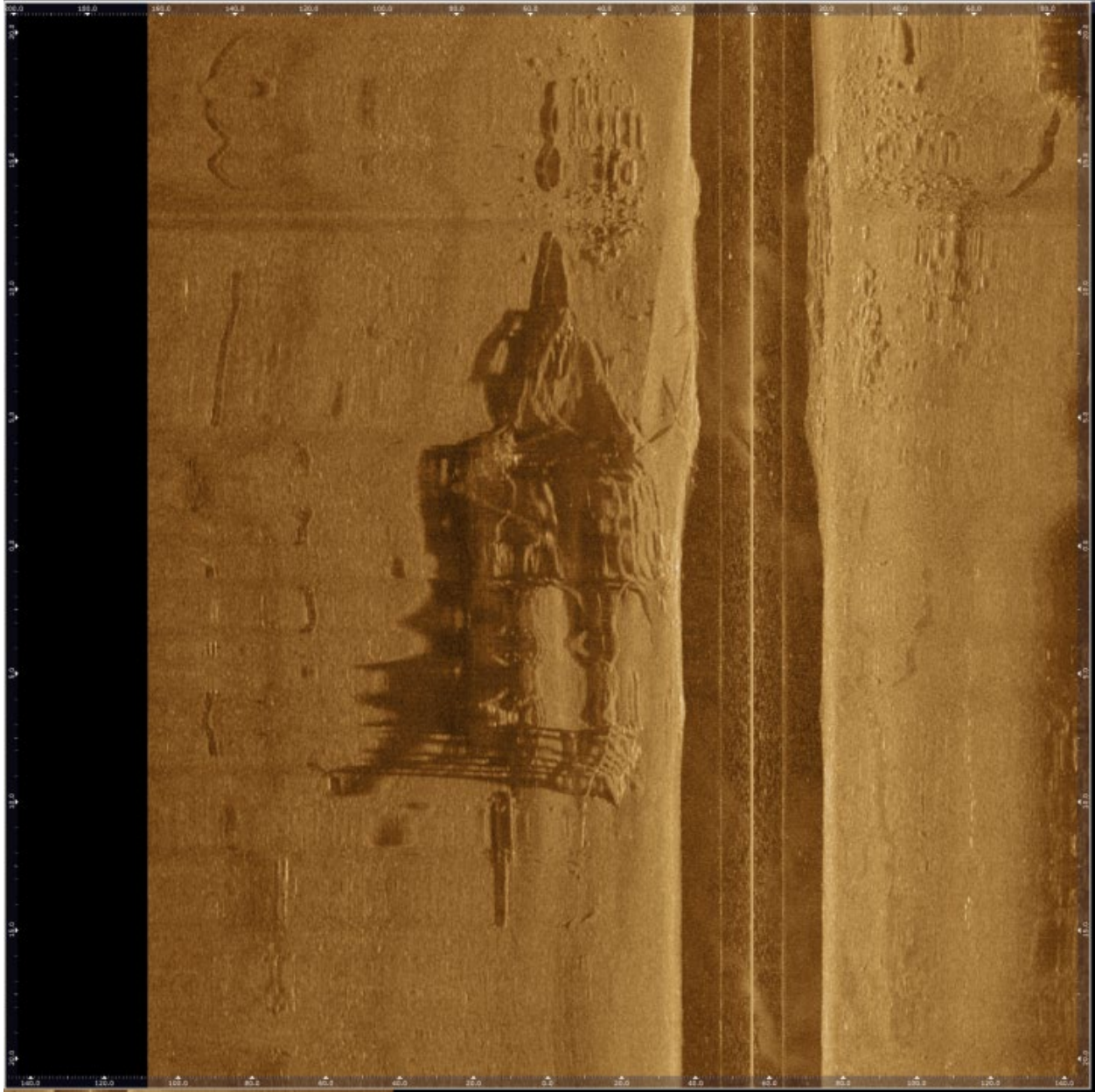


Figure 6. Overall morphology detail.





Figure 7. Bisecting view showing relief

### **Historic Shipyard / Anchor Location**

We imaged the section of the river between Hwy 45 and the Jackson Street Bridge off Park Plaza in three passes, collecting detailed imagery of the bottom off the area reported as an historic shipyard. This area is also reportedly where an anchor was recovered by magnet fishermen. This area is imaged in tracks S250412\_16 and S250412\_17. There are notable deposits of logs and possible manmade debris on the river bottom off this area but none



are larger than about 25 ft. We were able to safely conclude that no historic vessel remains of significant size remain in this area.

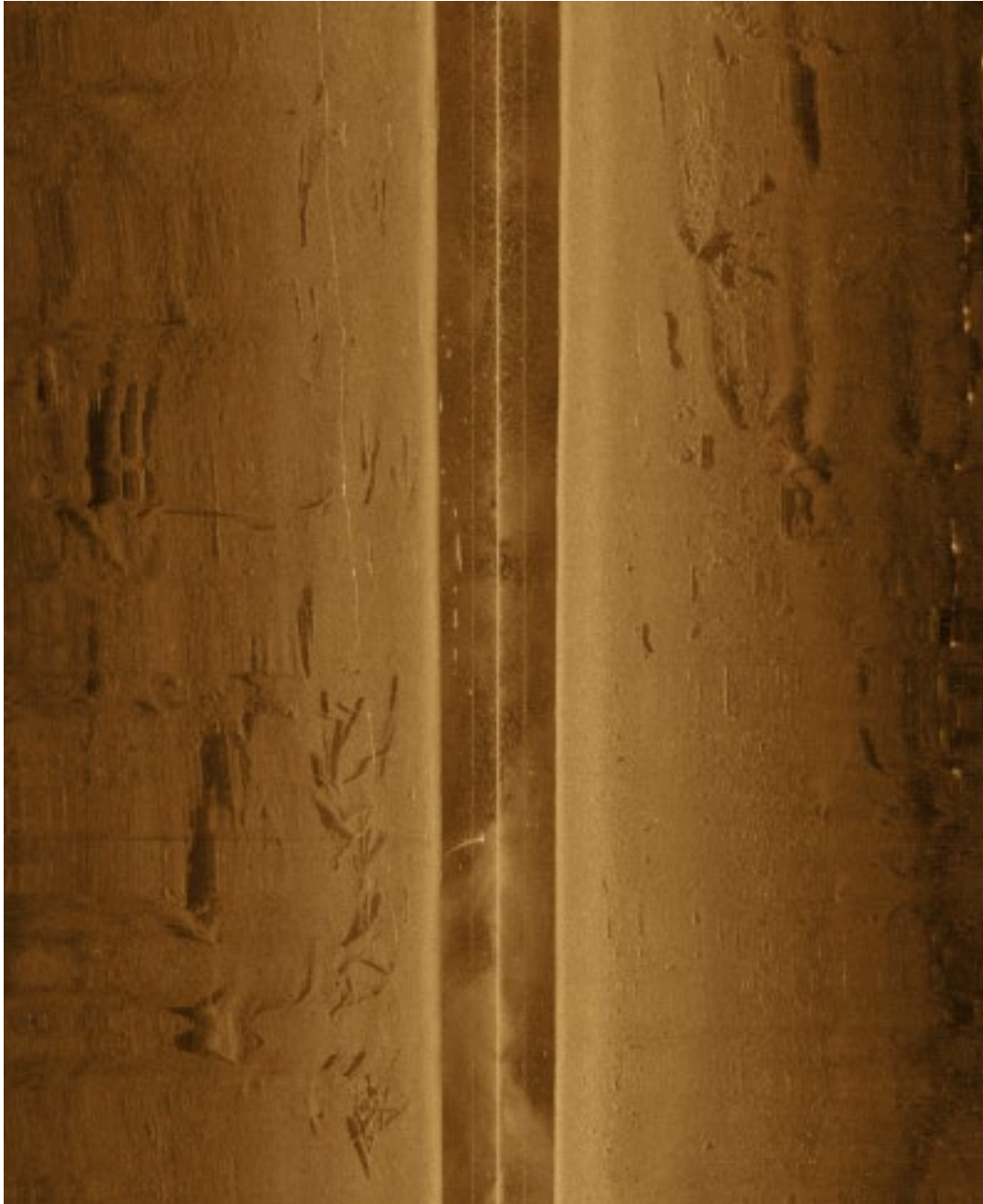


Figure 8. Debris scatter in the historic shipyard area

## Possible L.W. Crane / Berlin City Wreckage

Although not originally targeted for detailed mapping in the initial search plan, we decided to map the entire extent of the river from the Jackson St. Bridge to the Hwy 44 Bridge and thence to the Hwy 21 Bridge.

While imaging the section between the Jackson St. Bridge and the Hwy 44 Bridge, we acquired a target that was clearly a vessel hull of significant size. The target acquisition can be seen in track **S250412\_20** with a good detailed view in **S250412\_22**.

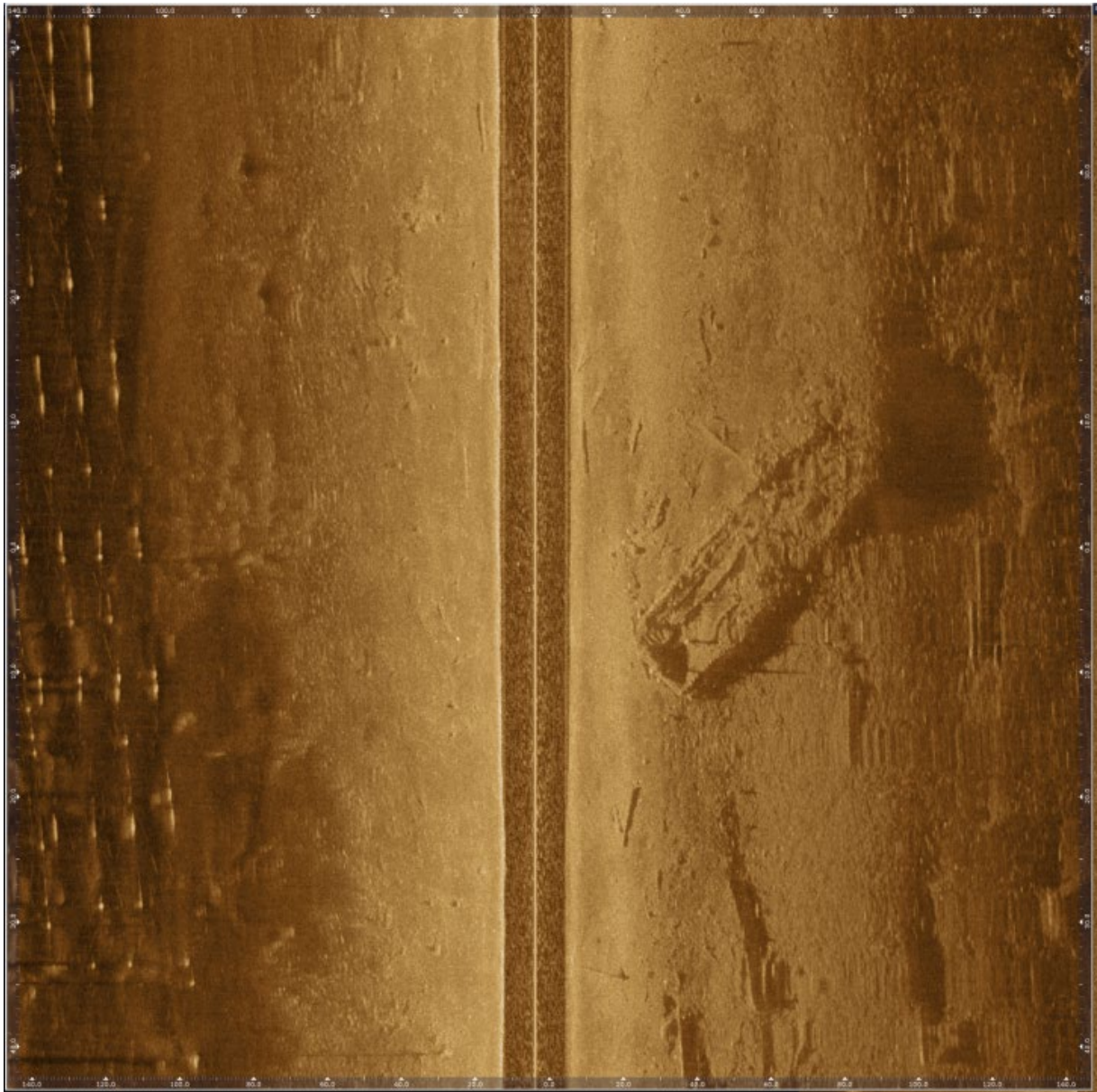


Figure 9. Possible L.W. Crane Wreckage



Acoustical measurement indicates that this hull is approximately 90 ft. long and 25 ft. wide. It appears to have a bow reminiscent of a scow schooner. With square features, but a clear center point. The wreck is partially buried and appears best on sonar when imaged from the north side. It is difficult to establish its size with great accuracy because the stern portion seems to be partially buried. The size and morphology is not entirely consistent with that of the Berlin City, which was reportedly 100 x 18 ft. However, the remains are fairly close in size to the paddle wheel steamer L.W. Crane of 100 x 20 ft., which burned in the immediate area in 1880. (See: <https://www.wisconsinshipwrecks.org/Vessel/Details/351>.) “The *L.W. Crane* burned to the water's edge at the St. Paul R.R. slip in Oshkosh during the summer of 1880.” A review of historical map data indicates that the St. Paul R.R. slip was almost immediately across the river from the location of this wreck, making the L.W. Crane a good candidate. Indeed, the large crushed rock caissons from the old St. Paul R.R. Bridge can be seen just over 100 yards NW of this wreck.

### **Kevin's Wreck**

We were able to locate and image the remains investigated by Kevin Cullen and Brian Abbott in 2016. These remains are in very shallow water on the West side of the Fox River just outside the present-day Fox Harbor Marina. What appears to be the stern of the vessel points away from the shore with the length of the visible remains being about 50 ft. This vessel appears to have been pulled up on shore and gradually reduced by ice. The detail we obtained was not as good as that obtained in the 2016 survey as we were limited by shallow depth. The radial sector scan sonar used by Cullen and Abbott was ideal for surveying this site. Our findings were generally consistent with those of the 2016 survey, although the measured extent of the wreckage we could see was around 50 ft. as opposed to the 68 ft. measured by Cullen and Abbott. It is noteworthy that the mast feature identified in the 2016 survey is no longer present. Based on the large number of logs we noted in the area, it is probable that this feature was a transient log that has since moved down the river. Due to its shallow depth, this wreck is rather fragmentary and difficult to assess. It is clearly a vessel but its location is inconsistent with the historical location of the Berlin City, which reportedly drifted down stream.

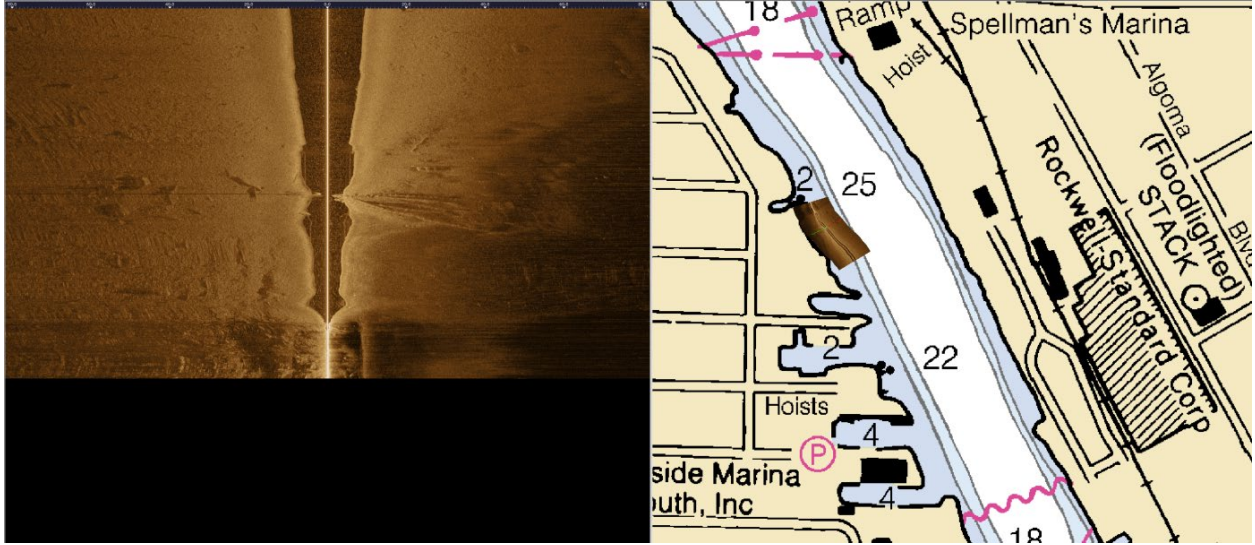


Figure 10. Relative location of Kevin's Wreck.



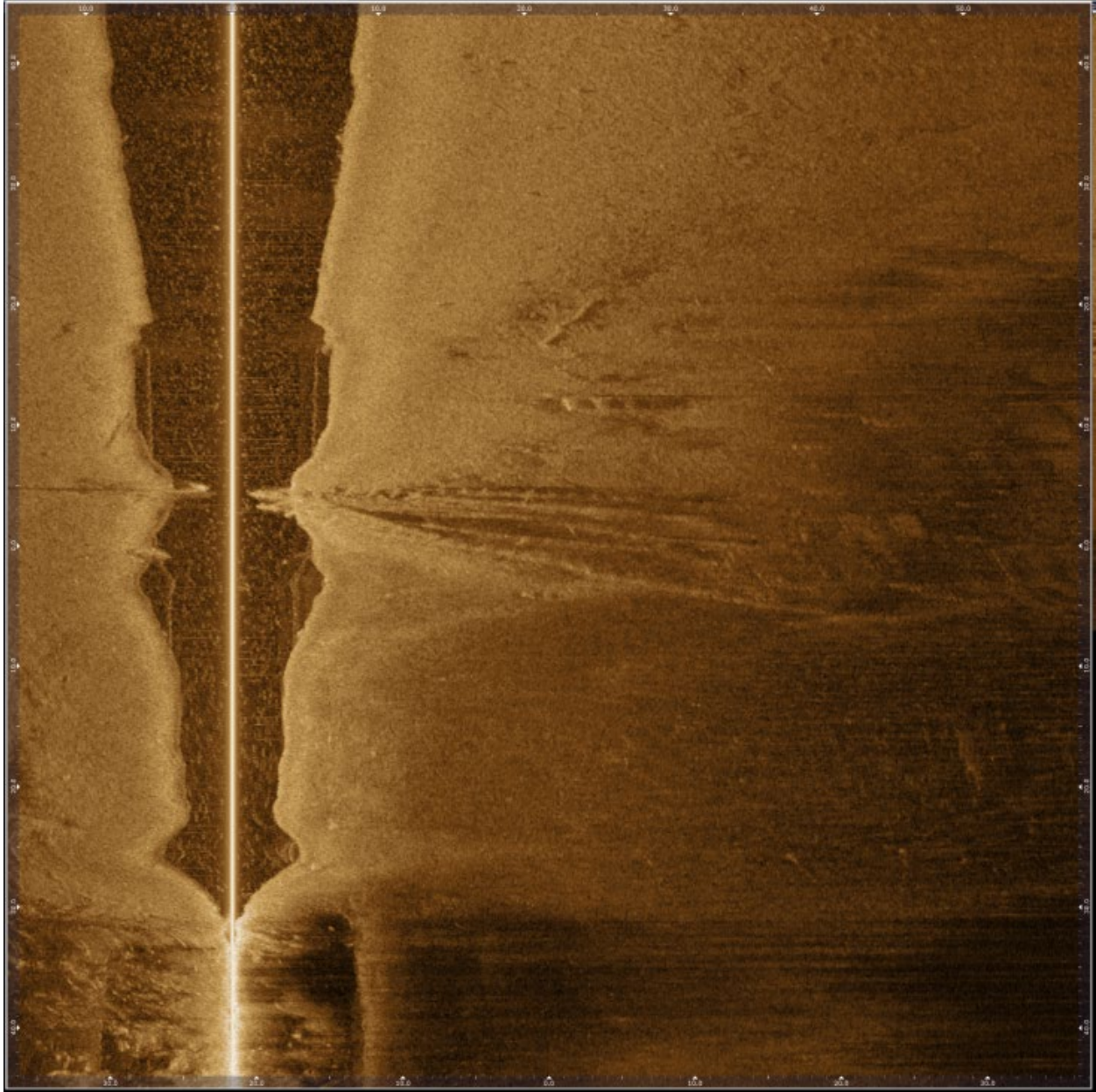


Figure 11. Detail of Kevin's Wreck

## Summary

Unfortunately, this survey does not solve the question of the final location of the Berlin City. If anything, it presents more possibilities. The survey's chief contribution is probably providing a detailed landscape map of the bottom of the Fox River with archeological detail. Every object of any significant size was mapped with GPS locations. The survey did locate a previously unknown vessel hull. This hull is most likely the L.W. Crane but could

also be the Berlin City. Further examination would be helpful, but visibility in the river probably limits this to sonar survey work. The other key findings are the absence of significant vessel remains in the area of the historic shipyard / anchor recovery, the confirmation of the site surveyed by Cullen and Abbott (2016) and a much more detailed survey and analysis of the large object imaged by Guyer (2017,) which is thought to be the remains of the forward section of the Menasha or a bridge remnant.

The bottom of the Fox is laden with debris and, including many large logs, probable dock sections, abandoned bridge caissons and likely small watercraft. A review of the main long survey tracks in bold below would yield additional findings, particularly for small vessels under 20 ft. in length and we saw several good candidates. The track line files include 11 markers that I have placed over objects I considered interesting but are not discussed in detail in the text of this report.

### **Track line Inventory**

The spatial location of these tracks is best viewed using the DeepView software mosaic/map view. **Tracks in bold are the main long survey/mapping tracks.** All other tracks are detail capture views.

**S250412\_2 – Railroad Bridge to Hwy 45 Bridge**

**S250412\_3 – Railroad Bridge to Hwy 45 Bridge**

**S250412\_4 – Railroad Bridge to Hwy 45 Bridge**

S250412\_5 – Railroad Bridge to Hwy 45 Bridge

**S250412\_6 – Railroad Bridge to Hwy 45 Bridge**

S250412\_7 – Bridge Remnant Detail

S250412\_8 – Bridge Remnant Detail

S250412\_9 – Bridge Remnant Detail - good

S250412\_10 – Bridge Remnant Detail - bisect

S250412\_11 – Bridge Remnant Detail - partial

S250412\_12 – Bridge Remnant Detail

S250412\_13 – Bridge Remnant Detail - good

S250412\_14 – Bridge Remnant Detail - best

**S250412\_15 – Hwy 45 Bridge to Jackson St. Bridge**

**S250412\_16 – Hwy 45 Bridge to Jackson St. Bridge**

**S250412\_17 – Hwy 45 Bridge to Jackson St. Bridge**

S250412\_18 – Jackson St. Bridge Caisson detail



S250412\_19 – Empty - discard

**S250412\_20 – Jackson St. Bridge to Hwy 44 Bridge**

S250412\_21 – Empty - discard

**S250412\_22 – Jackson St. Bridge to Hwy 44 Bridge – Wreck Acquisition – Rock Caissons**

S250412\_23 – Random turn data - discard

S250412\_24 – Wreck detail - good

S250412\_25 – Wreck detail - good

S250412\_26 – Empty - discard

S250412\_27 – Wreck detail

S250412\_28 – Wreck detail - bisect

S250412\_29 – Wreck detail

S250412\_30 – Wreck detail

S250412\_31 – Wreck detail - good

S250412\_32 – Wreck detail – long range

S250412\_33 – Random turn data - discard

S250412\_34 – Wreck detail - distorted

S250412\_35 – Wreck detail – overview - good

S250412\_36 – Wreck detail - good

**S250412\_38 – Scan track – Hwy 44 Bridge to Hwy 21 Bridge**

**S250412\_39 – Scan Track – West section Hwy 44 Bridge to Hwy 21 Bridge**

S250412\_40 – Kevin's Wreck detail

S250412\_41 – Kevin's Wreck detail - good

S250412\_42 – Kevin's Wreck detail

S250412\_43 – Kevin's Wreck detail - good

S250412\_44 – Kevin's Wreck detail

S250412\_45 – Kevin's Wreck detail - good