

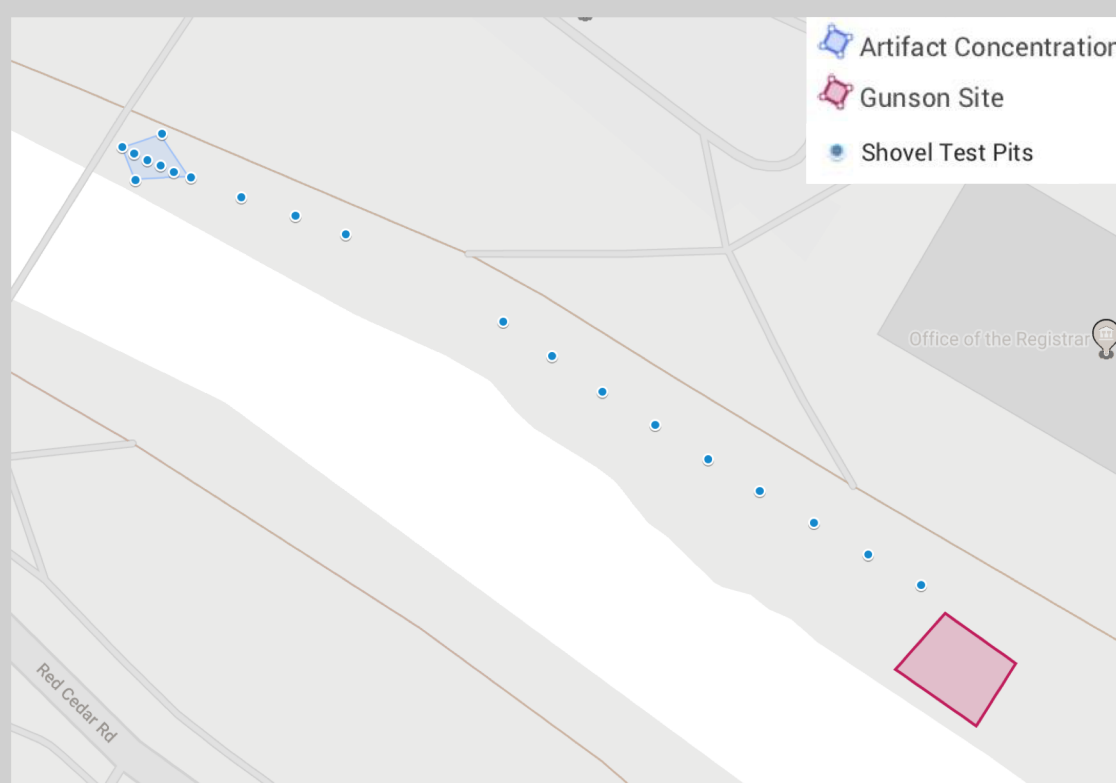
# Archaeology Along the Banks of the Red Cedar: Summary of 2018 Riverbank Survey

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## Project

In the late winter of 2018, Michigan State University's campus was impacted by severe flooding. While mitigating building damage was the primary concern, areas of known archaeological resources were also inundated by flood waters. In order to assess any damage to these sites, former Campus Archaeologist Lisa Bright initiated an informal survey of the northern bank of the Red Cedar River in the spring of 2018. During this survey, erosional damage to one known site and a large scatter of artifacts from an unknown deposit were discovered. In response to this discovery, the Campus Archaeology Program (CAP) field crew re-visited this area during the summer of 2018.

Starting at the location of the Gunson site, a known historic trash deposit adjacent to the river, the crew conducted a pedestrian survey in an area spanning approximately 25 meters wide and 170 meters long. Once this survey was complete, a shovel test survey was completed to better understand the depth, extent, and frequency of any intact archaeological deposits. One transect of shovel test pits was conducted the entire length of the survey area. Six other STPs were opportunistically placed to better understand the extent of one concentration of materials. Finally, to further test a extensive deposit of historic trash, one 1x1 meter test unit was excavated.



Map of survey area along the north bank of the Red Cedar River.

## Pedestrian Survey



During the pedestrian survey, one continuous erosional surface was located. It appears that this erosional surface, created by the spring flood, was the origin point for most of the artifacts located during the survey. In between the erosion line and the river's edge, an artifact scatter was located that continued for the entire length of the survey area. Artifacts found include small historic ceramic sherds, shards of vessel glass, a few fragments of identifiable bottles, brick fragments, slag, and other building debris. Periodically, large scatters of slag were also found. Identifiable objects, such as a partial coke bottle, brown bottle, and a bottle fragment with an applied label, date to the 1930s or 1940s. Images to the left show CAP field crew members surveying the north bank of the Red Cedar River.

## Shovel Test Survey

In total, 20 shovel tests were excavated in the project area. Generally, stratigraphy in the entire area was inconsistent, likely due to years of construction and modification by Michigan State University. In two STPs, a 10-15 cm thick strata of sand mixed with coal and slag was found, further indicating the mixed and artificial nature of the stratigraphy. In terms of artifacts, low amounts of brick fragments, coal, slag, nails, glass, and plain ceramics were found in most of the STPs. A singular railroad tie was also found in one STP. In the westernmost STPs, a much greater quantity and variety of materials were found, including a much higher prevalence of bottle glass, ceramic, and other items of everyday life. A very large amount of artifacts were recovered from STP 1-14, therefore it was decided to place STPs at shorter intervals surrounding it. Overall, it appears that a deep, yet relatively small deposit of historic trash (possibly only 7.5 meters long and one or two meters wide) had been dumped in this location at some point in the past.



Top Image: CAP crew members excavating STP along Red Cedar River. Bottom Image: Artifacts recovered from STP.



Glass bottle finishes, embossed bottle fragments, window glass, milk glass shards, lab glass, a clay pipe bowl and stem, faunal remains, ceramic sherds, square and wire nails, brick frags, slag, and other building debris were recovered from the STPs within this trash deposit. Dates based on these items span from the early 1800s into the early 1900s, with a concentration of dates in the mid- to late-1800s.

## Excavation Unit

To further test this deposit, a 1x1 meter excavation unit was placed between STPs that were near the center of the trash deposit. This unit ended up being nearly 140 cm deep, and contained thousands of artifacts. During excavation, a number of strata were documented and appear to have formed two discrete zones or deposits, separated by a 5-10 cm thick deposit of light sand that was relatively sterile. These deposits likely represent two different episodes of trash disposal, separated by an unknown length of time. Artifacts recovered from this unit are summarized in the table below, and tend to date between the mid- to late-1800s into the early 1900s.



CAP crew excavating the 1x1 meter unit along the Red Cedar River.

There were no major differences between the artifacts recovered in the upper and lower disposal episodes, except that the lower deposit contained far more cultural material. Within the upper deposit, 719 artifacts, totalling 2,910.9g, were recovered, while the lower deposit held 3,303 artifacts that weighed a total of 46,074.8g. Most of this difference is accounted for by the far greater frequency of bricks, mortar, and other building debris within the lower deposit. Between the two episodes, there is also a much greater frequency of square cut nails, melted glass, and other burned artifacts in the lower deposit. Unfortunately, not enough datable material was recovered to tightly date these two deposits, so it is unclear how much time elapsed between the two episodes.

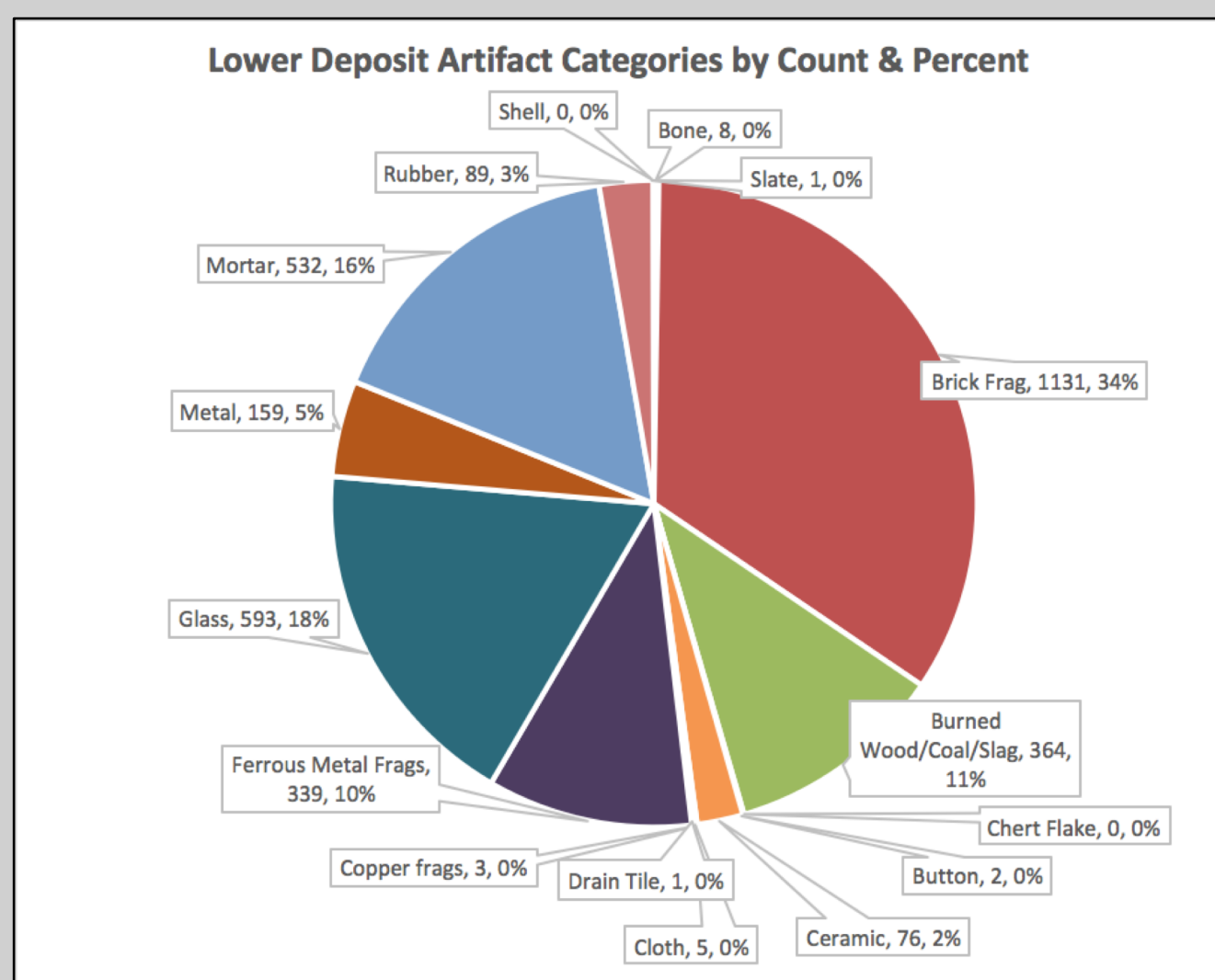
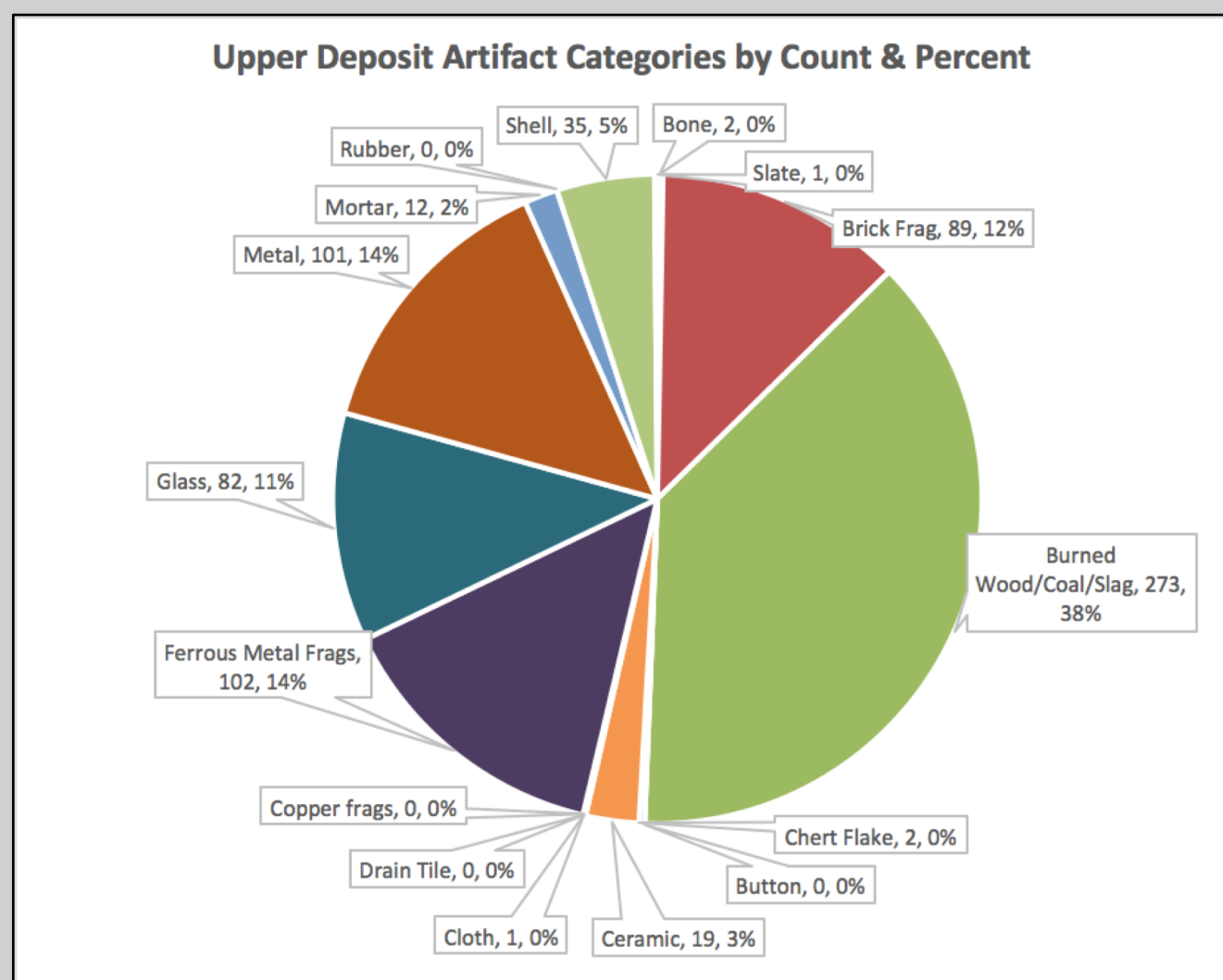


Administration/Library Riverbank Survey, Unit 1, North Wall Profile



CAP crew excavating the 1x1 meter unit along the Red Cedar River.

Table 1. Excavation Unit Artifact Count and Weight		
Artifact	Count	Weight (g)
Bone	10	73.10
Burned Wood/Coal/Slag	676	1241.90
Button	2	1.80
Ceramic	4	44.80
Chert flakes	2	0.30
Cloth	6	8.90
Copper	3	0.4
Drain tile	1	73.60
Ferrous Metal Fragments	450	1854.39
Flat glass	201	383.50
Glass	11	35.30
Improved/vitrified whiteware	3	4.20
Lab glass	61	21.50
Melted glass	11	131.20
Metal artifacts	88	1475.00
Milk glass	32	81.70
Nails	145	566.40
Non-ferrous metal	1	45.60
Pipette	2	9.10
Plastic	1	0.4
Rubber	90	183.60
Shell	47	1.70
Slate	2	18.20
Square Cut Nail	38	278.80
Stoneware	1	37.70
Terracotta ceramic	2	6.60
Vessel glass	367	1320.29
Whiteware	87	400.20
Yellowware	1	7.10
<b>Total</b>	<b>2345</b>	<b>8307.28</b>



## Archival Evidence

Archival documents housed in the MSU Archives and Historical Collections, along with the results of excavations, give some idea as to how this landscape has been used and altered over time. In the early years of the University, no buildings existed in close proximity to the river (Kuhn 1955). By the 1880s, construction began to spread south, and a boiler house (called Old College Power Plant) was constructed just north and east of the survey area (1899 campus map, Lautner 1978). Built in 1884, the boiler house ran on coal, which, starting in 1900, was shipped to the building by a 1 ¼ mile railroad line (1883 Meeting Minutes; M.A.C. Record, August 8, 1899). This railroad crossed the Red Cedar River in the center of the survey area at least until the 1940s (1941 campus map), and may explain the large amount of slag, coal, and the railroad tie that was recovered in STPs in this area.



Students play baseball on a flooded field (1948). Image courtesy of the MSU Archives and Historical Collections

Documentary evidence also indicates that spring floods of the Red Cedar River have been a regular nuisance for MSU. Both major and minor flooding not only affect structures built nearby and across the river, but also destabilize the river banks themselves, causing further issues (1890 and 1902 Meeting Minutes). It is likely that both the trash deposit reported here and the Gunson trash pit, only about 150 meters to the east, were created as a means to dispose of trash and building rubble, as well as shore up and raise parts of the river bank to help with flooding and erosion. This purpose is further suggested by the stratigraphy found in both the 2018 trash pit and the Gunson trash pit.

While still under investigation, archival and archaeological data currently cannot associate the trash dump discussed here with a specific building or organization/department. These remains could be trash and debris accumulated from across campus, or from the destruction and renovation of nearby buildings, such as Professor Gunson's home and greenhouse. The presence of melted glass, burned wood, calcined bone, and burned/fire smoked ceramic sherds in the lower deposit, as well as a large amount of building debris, suggests that this deposit may be rubble from an early building on campus that had burned down, but more research will be needed to elucidate this possibility.

## Conclusions

While it is tempting to think of the banks of the Red Cedar as natural areas, lined with trees, shrubs, and occasional wildlife, they are in many ways man-made constructions similar to the red brick buildings that populate north campus. The river itself has become part of the built environment that is MSU's campus, shaped over the decades by the needs and requirements of a growing university. People have interacted with this part of the river in many ways, from using it as a fishing and swimming hole, to disposing of trash and rubble in order to lessen the dangers of flooding. Archaeologically, the banks of the river continue to provide intriguing data as to the everyday lives of the past students and faculty who called MSU home, as well as document many of the ways the landscape of MSU's campus has changed over time.

## Acknowledgements

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