



# Texas Students Conduct Underwater Archaeology in Lake Huron

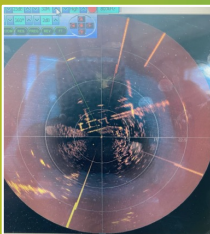


Declan Williams and Ashley Lemke

## Remote Operated Vehicle (ROV)



After making prototype ROV's we practiced maneuvering a complex ROV. To test our abilities, we piloted the ROV over the wreckage of a barge with a crane near Thunder Bay Island. We collected footage and sonar from the ROV.

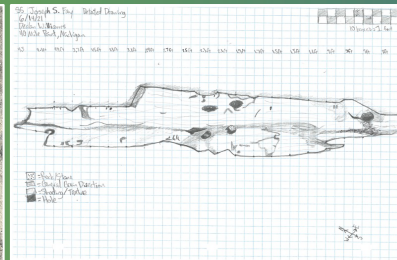


The University of Texas at Arlington (UTA) conducted an archaeological field school in the Thunder Bay National Marine Sanctuary in Lake Huron, Michigan in the summer of 2021. This poster will present the various activities undergraduate students learned as well as highlight the experience of students who participated in archaeological fieldwork for the first time. The cold, fresh waters of the Great Lakes are ideal for archaeological preservation and the Thunder Bay National Marine Sanctuary protects over 200 historical shipwrecks as well as evidence of much older submerged archaeological sites, dating to the early Holocene. UTA students participated in remote operated vehicle construction and piloting, designed side scan sonar surveys, and mapped a historical shipwreck using standard terrestrial methods, e.g. a total data station, and photogrammetry.

## Joseph S. Fay Shipwreck



A few of our days were spent north of Alpena at 40 Mile Point. On the coast lies part of the remains of the Joseph S. Fay. This ship ran aground on October 19<sup>th</sup>, 1905. Using the Total Data Station, we then plotted the corners of each timber that we could visibly see. This was to compare how the environment, mostly waves and sand accumulation, were affecting the wreck over time since the last time it was plotted. We also used photogrammetry to document the wreck.

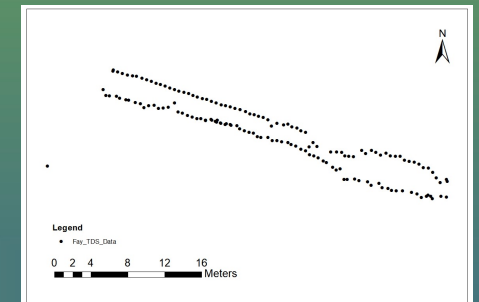


Detailed drawing of a shipwreck timber.

## Location & Environment



The field school was held primarily in Alpena, Michigan. Other locations visited were Rogers City and 40 Mile Point. Regarding preservation, the cold waters of both Lake Huron and its Thunder Bay have rough waves and undercurrents near the coastline that impact shipwrecks. Deeper water in the inner lake has much better conditions for preservation.



Faye shipwreck GIS map created using the total station collected points and photogrammetry.

Photogrammetry is the science of measuring distance accurately using photos.

