

Project Report, October 1, 2019 – January 1, 2020

Project Name: Grand Lake Bathymetry

Begin Date: February 1st, 2019

End Date: June 30th, 2020

Project Number: SH00MEZ

Project Chief: Jason Lewis, Shelby Hunter, Kevin Smith

Cooperator: Grand River Dam Authority

Principal Cooperator Contact: Darrell Townsend, Grand River Dam Authority, Vinita, OK

Objectives:

Bathymetric survey and area capacity table of Grand Lake O' the Cherokees:

- 1) Conduct a bathymetric survey,
- 2) Construct a detailed bathymetry map of the lake,
- 3) Using the gathered data, develop Elevation-Area-Volume tables for Grand Lake, and
- 4) Compare differences between this study and any previous studies done on the lake,
- 5) Publish a USGS scientific investigations Map report.

Scope: The proposed project area includes all of Grand Lake O' the Cherokees (Grand Lake). Grand Lake covers approximately 41,779 acres with approximately 667 miles of shoreline and has beneficial uses of public and private water supply, hydropower, and recreation. Multibeam bathymetric data will be collected throughout the lake area and include an overlap at both the Twin Bridges area as well as the Elk River area bathymetric studies completed by the USGS in 2017.

Progress:

- Since October 1, 2019 the support data such as GPS as well as Sound Velocity have been merged with the bathymetry data.
- The merged data has then been edited to remove outliers and rogue points from the point cloud.

Plans for Next Quarter:

- Complete the data editing process of the collected point cloud data of the lake.
- Begin to construct the contour map of Grand Lake.
- Start the text of the report comparing the previous studies with the current study.



This is a photo of a home foundation located very close to Bernice, Oklahoma