

Lake Lawtonka Angler Mapping Project

Bathymetry and Sidescan Sonar Mosaic via Humminbird998c GPS Fishing System and ReefMaster 2.0 Processing Software



Smallmouth Bass

This image shows an example of the underwater terrain which attracts certain fish during different stages of their lives.



Largemouth Bass



Striped Hybrid Bass



White Bass



Walleye



Sauygeye



Black Crappie



White Crappie



Flathead Catfish



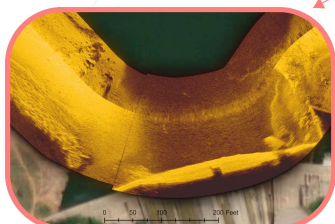
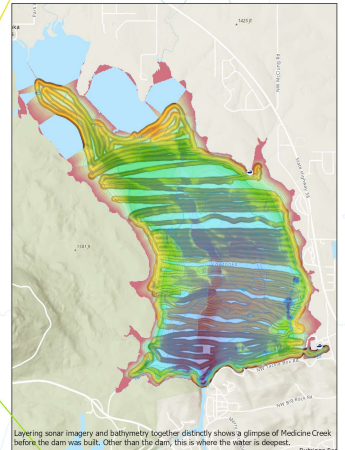
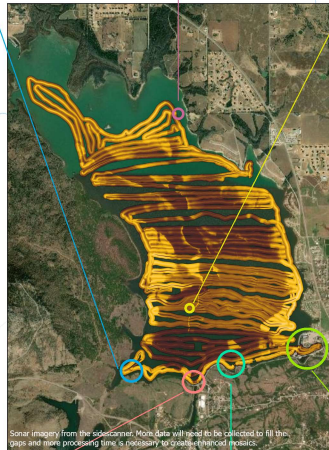
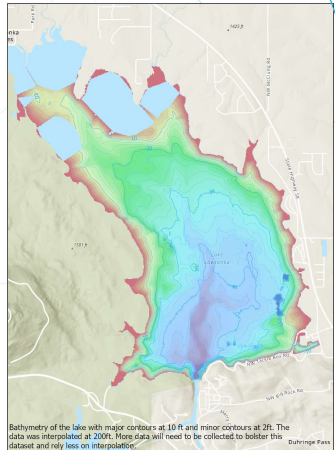
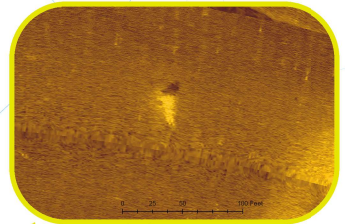
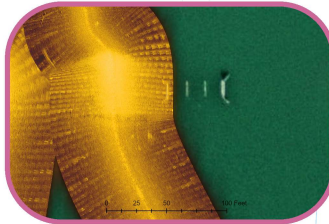
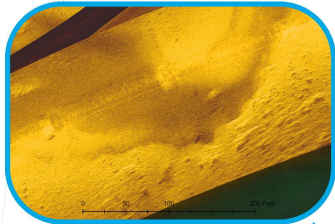
Blue Catfish



Channel Catfish

Lake Lawtonka is a manmade lake created after the construction of the dam on Medicine Creek just north of Medicine Park. Since the northern part of the lake is shallower, remnants of the land are still visible. In fact, there are two small islands. An old bridge is visible in this image and the sidescan picked up a portion of it.

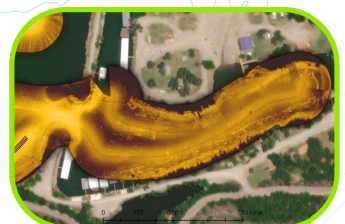
This image shows an example of debris or a structure at the bottom of the lake that fish can use as natural cover and as a hunting/foraging ground. Fish tend to find structures in open water as they do in shallower water.



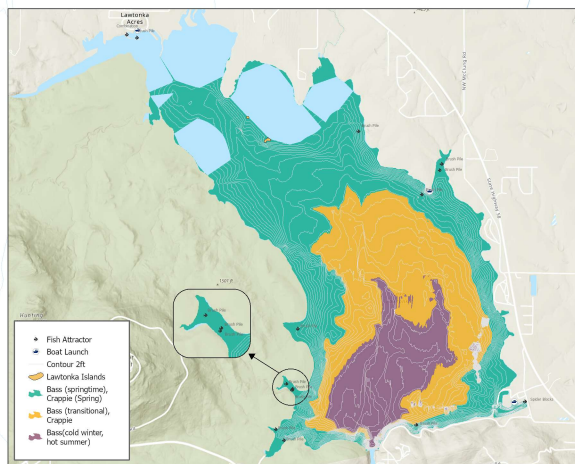
Underwater perspective of Lake Lawtonka Dam. The original dam structure was constructed in 1907. Over the years it was periodically raised to meet the resource needs of Lawton. In 1954, eight spillway gates were added and the dam was complete. The total storage capacity is 63,000ac-ft with a surface elevation of 1,345.55ft. Normal surface elevation is typically around 1,345.55ft.



Submerged on the southern end of the lake, east of the dam, is a Volkswagen car, a trailer, and a boat which makes for a suitable habitat for fish to forage and use as cover.



At Schoolhouse Slough, there is a boat launch, boat houses, and house boats. This image shows an underwater perspective of boat houses, a fish attractor, and the spit.



Located north of Lawton, OK, Lake Lawtonka is a man-made lake owned by the city of Lawton. Its unique history has influenced the people and towns in the region, especially as a recreational resource and as a water source. Therefore, it is crucial to implement conservation strategies. Periodically, tests and studies are performed to assess the lake, but there have been few endeavors to collect sonar data as a way to show the lake floor and viable fish habitats. Known fish attractors are located near the shoreline but there seem to be no fish attractors in deeper water. Sonar imagery would be helpful in showing anglers where structures and debris are located, especially in deeper water. For this project, sonar and bathymetric data were collected using a Humminbird998c GPS fishing system and was processed using ReefMaster 2.0.

The raster dataset of the bathymetry and the sonar images will be used to create a complete Angler map application using Experience Builder for public use in the near future. Supplemental transects will need to be collected to rely less on interpolation and to fill the gaps in the sonar mosaic dataset.

The intent of this map project is to showcase the bathymetry of the lake, sonar images, and to inform the public on fish species and potential habitats.



Lawton Fishing computer and tablet app



Mobile Angler Map app

This project was funded by the Oklahoma Department of Wildlife Conservation. Other sources include the Hydrological Survey of Lake Lawtonka (Oklahoma Water Resources Board) and Lake Lawtonka 3 Year Fisheries Management Plan. Special acknowledgment to the Lawtonka Watershed Lake Health and Use Team for their contribution to this project. Produced by Keith Starnes, City of Lawton (2023) (01/2023)