



Tennessee
TECH

<https://www.tntech.edu>

<https://www.tntech.edu/engineering/news-events/news/2013-2014-coe-news/ttu-cee-professor-acec-award>

TTU CEE Professor Wins Major ACEC Award

Carroll County, Tenn., located about a 90-minute drive west of Nashville, has long been disadvantaged economically. Those problems got worse when its main industry, a blue jeans plant, relocated to Mexico several years back.

Enter Tennessee Tech Civil and Environmental Engineering instructor Kevin Young. Young comes from a different background than many TTU professors, with a long history in boots-on-the-ground work at a consulting engineering firm J.R. Wauford & Co., rather than academic research. Young and his firm, J.R. Wauford and Co., teamed with Carroll County Watershed Authority Secretary/Treasurer Dale Kelley to construct a plan for a 1,000 acre recreational lake in Carroll County.

That, of course, took a great deal of preliminary work, including wetlands remediation, permits from several state and federal entities, a mitigation plan, eminent-domain purchases of property and many more small details. As part of this effort, the project and firm had to win the approval of the Environmental Protection Agency. As it turned out, the project became a model for the EPA's wetland mitigation strategies.



Kevin Young
Instructor, Civil and
Environmental Engineering

"In about 1910, all but two of the rivers in western Tennessee were channelized by the Corps of Engineers," said Young. "The idea was to straighten these meandering rivers to make them easier to navigate and to make flood control easier. That was the thinking at the time, but the results were the exact opposite."



"We bought 500 acres in an area that was originally meandering stream and floodplain, studied 1950s-era aerial photos that still showed the original stream bed, and put the river back where it went, after much survey and engineering work, of course. When we proposed this to the EPA, it had never been done before in the Southeast, and they were actually really excited to get on board with it."

Funding was lined up, permits were obtained, studies were completed, construction was started, and \$11 million and 14 years later, Carroll County Thousand Acre Recreation Lake is open for business.

While most lakes in Tennessee are rather shallow, Carroll County's lake is 50 feet deep in places, and neatly bisected by a TVA transmission line. On one side of the line, the lake's deepest parts

are 20 feet and boats are restricted to trolling speed to not disrupt fishing. The lake's other section is wide-open for skiing, jet skis and other water sports activities. The lake is stocked with bream, catfish, largemouth bass and crappie, as well as grass carp for control of aquatic weeds.

"TWRA was very careful," noted Young. "There were several ponds in the area that was flooded by the lake, and they actually went in and shocked those fish to harvest them, so if there were any rough-fish species like carp and buffalo they wouldn't contaminate the fish population."

Young's firm took on the entire planning process for the lake, from start to finish, culminating in the Grand Award for water resources from the American Consulting Engineers Companies of Tennessee. Young served as project manager and principal-in-charge of the planning and construction, including numerous engineering challenges tied in to the mile-long, 62-foot-high earthen dam.

"I had a lot of interesting experiences working on this project for 14 years," said Young. "I have never worked on a project that, first, took 14 years, nor had as many components, from textbook watershed planning to these exotic geotechnical problems...the first time after the lake filled up, I got a call saying, 'hey, the spillway's overflowing, you gotta come see it,' and when I got there and looked over the lake for the first time, I said, 'Dang. Well, this is what it's all about.' It made the hair on the back of my neck stand up."



*Last edited **2015.03.19** by **unknown**.*