

## Flow Regime Study

By BY PHIL LATHAM,  
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In an effort to imitate the natural flow regime of Texas lakes, officials have begun a study to systematically release water from the recently rain-swollen Lake O' the Pines into Big Cypress Bayou and Caddo Lake.

"Careful observers of Caddo Lake know that the lake and its wetlands thrive on variation, alternating periods of low water and high water," said Greater Caddo Lake Association board member Jack Canson.



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U.S. Geological Survey aquatic biologist Bruce Moring and hydrologist Chris Braun prepare the housing for the transducer near the boat ramp in Jefferson.



Scott Brunner/News Messenger

U.S. Geological Survey aquatic biologist Bruce Moring stands at the front of the boat as he, John Rosendale, Chris Braun and Jeff Mabe look for a suitable spot near the boat ramp in Jefferson to place a transducer to monitor water flow.



Scott Brunner/News Messenger

U.S. Geological Survey aquatic biologist Bruce Moring uses U-bolts to affix the transducer pipe to a pole on the bank in Jefferson.

"These ongoing flow experiments will help scientists make better recommendations about how to emulate natural variations in water flows to improve the overall health of the lake," Canson added.

Recent flooding of the Lake O' the Pines Reservoir has allowed scientists to study the impact of the water releases on Big Cypress and Caddo Lake vegetation, aquatic life and sediment, according to aquatic biologist Bruce Moring, of the United State Geological Survey.

"You assume that by understanding the natural flow regime...you can mimic that with a full understanding," said Moring, explaining scientists studying the regime have identified a "signature" of the natural flow.

By imitating the flow, it can return the areas to a more natural state and also simply allow researchers to establish some benefits of such a system, Moring said.

Officials began setting up the necessary equipment for the project last week, going out in the water Tuesday through early Friday morning to prepare.

According to a recent press release, the study "which will be ongoing" is a major step in the process of observing environmental flows in Caddo Lake that began in 2004. Although the agencies involved in the "nuts and bolts" of the project include the U.S. Geological Survey, Northeast Texas Water Municipal District, Caddo Lake Institute, The Nature Conservancy and the U.S. Army Corps of Engineers "according to Moring" several universities, federal, state and local government entities participated in the seminars leading up to the study.

Now officials are set to monitor how the water releases impact Big Cypress and Caddo. In collecting that information, officials are also interested in acquiring what Moring called "baseline info" that includes the characterizing of the channel itself, he said.

Benefits of the project could impact a range of water issues.

"We are not seeking just one flow level, but seasonal variation, because some flood levels, some drought conditions and the timing of different flows are important for fish

spawning, cypress tree regeneration, flushing of sediments and nutrients, and management of invasive aquatic plants," said Caddo Lake Institute President Rick Lowerre.

The experiment involves what scientists have discovered about technical aspects biology, hydrology, hydraulics, geomorphology and water quality, according to the release.

"(The study) could influence vegetation, allow more native vegetation to flourish," Moring said, noting that conducting the experiment in such a small area will also allow the experts to closely study the benefits and determine how similar techniques can be useful to improving the water system for wildlife and people.

Moring was pleased about how helpful stakeholders in Caddo Lake have been, especially landowners who allowed engineers to install equipment on their property.

"I was really impressed with the local interest and the number of volunteers who came out," he said. "The landowners have been very cooperative and the local support...people really care about this."

Canson also pointed out that the Caddo Lake Institute, its founder Don Henley, its first President Dwight Shellman, and its current President Rick Lowerre, are the real heroes behind this cutting edge science.

"When others were trying to make Caddo Lake a political football, they kept the focus on science," he said, "and we are seeing tremendous results from their dedication today."

Any stakeholder in Caddo Lake and its surrounding areas can potentially benefit from the study, Canson said.

All who benefit from Caddo Lake and its wetlands, whether economically or recreationally, stand to gain a great deal from these experiments," he continued. "Because they will produce knowledge and practices that are put to work to improve the lake's health and empower us to make better decisions about water policies affecting the lake and its wetlands."

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