

Water release from Lake O' the Pines mimics ancient ebb, flow; aids Caddo Lake health

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TEXAS PARKS AND WILDLIFE photo

The U.S. Army Corps of Engineers and partners in the Big Cypress Creek watershed concluded a three-day water release from Lake O' the Pines Thursday, mimicking the natural flow before the reservoir was completed in 1958.

Re-creation of historic ebbs and flows in the basin is designed to accomplish two things while maintaining Lake O' the Pines' prime directive of flood control, Northeast Texas Municipal Water District Manager Walt Sears said.

Those are restoration of the natural interplay between food-producing offshore pools and the main body of Caddo Lake and improving spawning conditions for the vulnerable and ancient North American paddlefish.

"It's a combination of variability in flows," Sears said. "We need to have high flows at certain times, and we need to have low flows at certain times. That's what was natural."

The natural, variable flow of water in the pre-Lake O' the Pines creek leading to Caddo Lake aided fish spawning during the spring and, in the fall, cleared leaves and bottom-bound sediment from the state's largest natural lake.

It also pushed water back and forth from low-lying, off-shore areas called oxbows.

"They provide part of the food chain," Sears said. "It's a two-way street. (Water) goes into those oxbows, and a product of the food chain goes back into the stream."

The twice-annual pulse release of water above the 228½-foot mark, at which Lake O' the Pines is considered full, was halted in the drought of 2011, Sears said.

"The prescribed frequency is two to five times a year," he said. "But, none of it was done in 2013 because of the drought. We were implementing it starting in 2009 but were not able to implement anything because of the drought."

Average to above average rainfall in the past month has boosted Lake O' the Pines above that 228½-foot filled mark, called the flood pool. The water release from Tuesday through Thursday is called a pulse flow because it is discharged in stages.

“Anyone seeing the flow out of the lake would’ve seen an increase in the amount being released (at the dam),” Sears said.

The water district Sears manages controls water rights in Lake O’ the Pines, selling water to Longview plus a handful of smaller area cities including Lone Star and Hughes Springs. The Corps of Engineers, which built and manages the lake, must release waters that are above the flood pool, Sears said.

“It is the fact the lake is above full that the pulse is allowed at this time,” Sears said. “The major reason the reservoir was built was for flood protection. ... When they had water in the flood pool, the dominant thinking is how can we remove that water from the lake without causing any flood damage to the city of Jefferson.”

An important, secondary result is a better habitat for aquatic life, he said.

That includes the locally-rare North American paddlefish, a dinosaur of a fish that for 65 million years has plied the Mississippi and its tributaries including the Red River and Big Cypress Creek feeding it.

Resembling a shark, the paddlefish has its own lake-cleaning function by virtue of its unique diet. Paddlefish are filter feeders, meaning they have mouths lined with gill arches which strain zooplankton from the water.

Paddlefish won’t bite on a worm or other bait used to snag modern fish such as bass or crappie.

“These fish are from a time of the dinosaurs,” Sears said. “In North America, they are one of the oldest species still in existence. The fish in the Mississippi, they may grow to six feet, 150 to 200 pounds and live 25 to 30 years. From Caddo back to Lake O’ the Pines, sightings have been extremely rare in the last 20 years.”

Paddlefish are still active in Lake Texoma, on the Red River. Previous attempts to repopulate them in Big Cypress Creek have not paid off, but Sears said planners hope approximating the natural water movement will nurture the old fish.

“The paddlefish, in the March time frame, is going to have a release event,” he said. “If we get the appropriate (rainy) weather, we may be able to do another pulse flow event in the next few months to help the spawning. ... They need a flowing stream, too. Naturally, they were in Caddo Lake and above Caddo Lake, and as we release adult paddlefish we’re trying to understand their movements.”

Modern-day fish sonar finders provide a tool conservationists lacked when the paddlefish thrived in Big Cypress Creek, he added.