



NEWS RELEASE

U.S. ARMY CORPS OF ENGINEERS

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For Immediate Release:
June 8, 2011
News Release No. 11-34

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New oxygen system to begin operations this summer at Thurmond Lake *System to enhance fish habitat, improve operation of “pump back” turbines at Russell Dam*

SAVANNAH, GEORGIA – The [U.S. Army Corps of Engineers Savannah District](#) will initiate operations this month of a long-awaited oxygen system that will enhance fishing habitat along the lower portion of [J. Strom Thurmond Dam and Lake](#).

Located five miles upstream from the Thurmond Dam near Modoc, S.C., the oxygen system is designed to improve habitat for striped bass, a popular sportfish species that requires cooler temperatures and well-oxygenated water during the hot summer months.

The oxygen system consists of two above-ground, 20,000-gallon liquid oxygen tanks, which supply pure oxygen to a series of nine underwater diffuser tubes. Each tube was strategically placed at depths of 80 to 120 feet below the lake’s surface. The diffusers are suspended by a cable and large anchor system 55 to 80 feet deep. Construction began on the project in the summer of 2009.



“The system will allow us to convert up to 200 tons of liquid oxygen per day into a gaseous state and deliver it through the underwater diffusers into the lake,” said Jamie Sykes, Corps’ fisheries biologist. “It will add oxygen to the lower portion of the lake during hot summer weather—a time when naturally diminishing oxygen levels degrade the fisheries habitat in this area of the lake.”

The system will increase dissolved oxygen levels by up to three to five parts per million along a five-mile path from Modoc downstream to the face of the dam, where oxygen levels can fall to less than one part per million during the warmest summer months, Sykes said.

The Corps will use the diffuser lines as needed throughout the summer and likely extend operations into the later part of the fall.

Bubbles from the diffuser lines will be visible on the surface of the water during operation. Boaters and anglers are strongly encouraged not to anchor in the area of the diffusers. Boat anchors will become entangled and will cause damage to the diffusers and the likely loss of the diffusers’ anchor.

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[A portion of the new oxygenation system is tested near Modoc, S.C. before being submerged in Thurmond Lake.](#)

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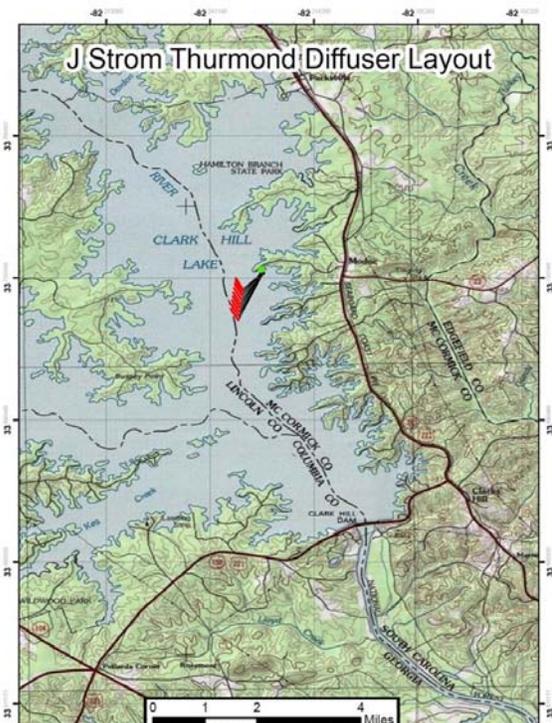
The Corps and the design and construction team will be evaluating and fine-tuning the system this summer by closely monitoring the habitat conditions in the lake from Modoc to the dam. Monitoring will include the towing of water quality data collection equipment at least twice each month in June, July and August.

Researchers from the South Carolina Department of Natural Resources are also conducting a study on the newly-created habitat. Approximately 65 striped bass have been implanted with transmitters that allow biologists to track their movements throughout the lake.

The oxygen system is the last major environmental feature of the Corps' Richard B. Russell Pumped Storage Project, initiated by the Corps nearly a decade ago. Under the pump project, the Corps constructed four reversible turbines in the Russell Dam, located upstream from Thurmond Dam in Elberton, Ga., which have the capability to move water from Thurmond Lake back upstream to Russell Lake.

Currently, no more than two pump back units can be operated during summer months, as environmental studies during testing of the turbines showed that running more than two pump back units would compromise oxygen levels in striped bass habitat below the Russell Dam.

The successful operation of the oxygenation system will allow the Corps to operate all four pump back units year-round. The pump back turbines at Russell Dam normally generate power during daytime peak demand hours, then reverse direction at night to pull water back into Russell Lake for re-use the next day, thus providing power even during drought. When combined with the four conventional units there, Russell Dam will have a capacity of 648 megawatts of clean, renewable energy, making it the largest Corps power plant in the eastern United States.



The new oxygenation system is located on the southern portion of Thurmond Lake near Modoc, S.C.

Other components of the Pumped Storage Project include a newly-paved Gilchrist Ferry Road and vast improvements to the Modoc 7 Boat Ramp, which was upgraded last year.

The Modoc 7 Boat Ramp offers 23 paved parking spots each 40 feet long and extra wide, two deep-water boat ramp lanes, a new courtesy dock, security lighting, and a restroom. The new ramp can be accessed from state highway 28 in Modoc, S.C. by turning onto Gilchrest Ferry Road at the new Modoc Ramp directional sign. Use of the ramp costs \$3 per day payable at the honor vault onsite or through an annual day-use pass purchased from the Corps of Engineers.

For additional information, contact the Russell Project Office toll free at 1-800-944-7207, or the Thurmond Project Office at 1-800-533-3478.

- MORE PHOTOS BELOW -



Crew members install oxygen diffuser lines at Lake Thurmond in August 2010. The Corps awarded contracts to small business firms for all three phases of the construction, totaling \$12.6 million.



Workers use cranes to hoist two 20,000-gallon liquid oxygen tanks, each weighing nearly 21 tons, at the site of the oxygenation project at Thurmond Lake, October 2010.



The contract to install two above-ground oxygen tanks was awarded by the Corps under the American Reinvestment and Recovery Act (ARRA) for \$2.8 million.