



Improving Water Quality in Sam Rayburn Reservoir Evaluating Water Quality for Aquatic Life

Water Quality in Sam Rayburn Reservoir

The state of Texas requires that water quality in Sam Rayburn Reservoir be suitable for swimming, wading, fishing, a healthy aquatic ecosystem, and use as a public drinking water supply. However, in 2000, assessment of water quality data indicated that conditions were not optimal for aquatic life in six areas of the reservoir (brown dots on map) because of low dissolved oxygen concentrations. One area of the reservoir (purple dot) had aluminum concentrations that were sometimes too high to provide healthy conditions for aquatic life. And in one area of the reservoir (green dot), the pH was occasionally too high or too low.

In response to these conditions, the Texas Commission on Environmental Quality (TCEQ) initiated a project to determine the extent of the impairment and to determine whether TMDLs should be developed for the affected segments (Sam Rayburn Reservoir, Segment 0610, and Angelina River/Sam Rayburn Reservoir, Segment 0615).

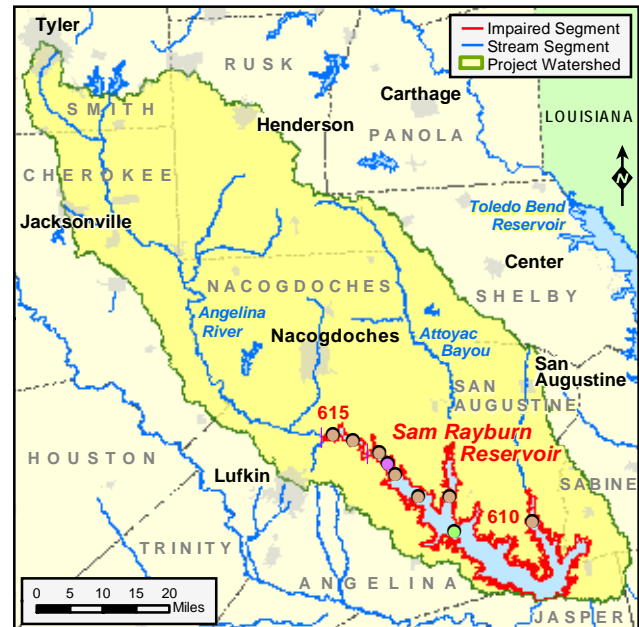
Learn more about water quality standards and monitoring by reading *Clean Water for Texas: Working Together for Water Quality*, available on the Web at www.tceq.org/goto/tmdl/.

Description of Sam Rayburn Reservoir Watershed

Sam Rayburn Reservoir consists of two classified segments: Sam Rayburn Reservoir (0610) and Angelina River/Sam Rayburn Reservoir (0615).

Segment 0610 stretches from Sam Rayburn Dam in Jasper County to a point 5.6 kilometers (3.5 miles) upstream of Marion's Ferry on the Angelina River Arm in Angelina/Nacogdoches Counties and to a point 3.9 kilometers (2.4 miles) downstream of Curry Creek on the Attoyac Bayou Arm in Nacogdoches/San Augustine Counties, up to the normal pool elevation of 164 feet (except on the Angelina River Arm) (impounds Angelina River and Attoyac Bayou).

Segment 0615 was formerly part of Segment 610; it is the riverine portion of Sam Rayburn Reservoir from a point 5.6 kilometers (3.5 miles) upstream of Marion's Ferry to the aqueduct crossing 1.0 kilometers (0.6 miles) upstream of the confluence of Paper Mill Creek.



Sam Rayburn Reservoir was created in 1965 to control floods, generate hydroelectric power, and conserve water for municipal, industrial, agricultural, and recreational uses. The lake is located in the eastern part of the state and was created by impounding the Angelina River. It holds 114,500 acres of water and has 560 miles of shoreline. Its maximum depth is 90 feet and its average depth is 12 feet. The reservoir's watershed drains approximately 1,385 square miles.

The watershed includes portions of the following political jurisdictions:

Counties: Angelina, Cherokee, Jasper, Newton, Nacogdoches, Sabine, San Augustine, Smith, Rusk

Cities: Appleby, Broaddus, Bronson, Browndell, Chireno, Garrison, Huntington, Jacksonville, Lufkin, Nacogdoches, Pineland, San Augustine, Tyler, Zavalla

Project Development

The TCEQ contracted with TetraTech to assist in project activities for Sam Rayburn Reservoir. TetraTech was chosen through a competitive process in which companies responded to an open request for proposals.

The project was initiated in July, 2002. It began with an evaluation of all existing sampling data, including the draft 2002 303(d) list. Based on this evaluation, there are no impairments that currently require a TMDL. The conditions that caused initiation if this project will be addressed in the following ways.

- Data indicate that the current aluminum standard for the reservoir may be inappropriate. The Water Quality Standards Program will conduct a water effects ratio study to determine whether the standard should be revised.
- The Regional Office will conduct additional 24-hour monitoring for dissolved oxygen over the next two years to assess conditions for the aquatic life use.
- The most current five years of data indicate that the pH standard is being met.
- The most current five years of data indicate that the pH standard is being met.

The project is complete. No TMDLs are currently planned for segments 0610 and 0615.

The Angelina-Neches River Authority and the TCEQ will continue routine data collection to assess

compliance with the standards applicable to the reservoir.

Public Participation

TCEQ staff will work with the Angelina-Neches River Authority and the Lower Neches Valley Authority of the Clean Rivers Program to keep the public informed of the status of this project.

For More Information

For more information, visit the TCEQ Web site at <www.tceq.org/goto/tmdl/>, or contact the staff listed on this page.

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Project Development Status

Start Date: Spring 2002

End Date: May 2003

TCEQ Adoption: No TMDLs are planned

TMDL Project Highlights

- Project staff have completed the survey of existing data to produce the draft "Historical Data Review" report. The report is posted on the TMDL Program Web site.
- A public meeting was conducted on May 15, 2003. Please check the TMDL Program Web site at <www.tceq.org/goto/tmdl/> under "TMDL Projects" for summaries of the information presented at the meeting.
- After extensive evaluation, the TMDL Program determined that no TMDLs are needed for the reservoir. The TMDL Program will closely follow the progress of the additional monitoring and review of the standards (see "Project Development" above for more details).

Visit our Web site at: <www.tceq.org/goto/tmdl/>