



## Improving Water Quality in Brandy Branch Reservoir

# Assessing the Safety of Fish Consumption

In 1992, the Texas Department of State Health Services (DSHS) issued an advisory in May, restricting the consumption of fish from Brandy Branch Reservoir (Segment 0505E). Elevated concentrations of selenium in the tissue of fish collected from the reservoir posed a possible health risk for consumers. The DSHS advisory included all species of fish found in Brandy Branch Reservoir and provided specific recommendations for limiting fish consumption.

In response to this condition, the Total Maximum Daily Load (TMDL) Program initiated a project to determine whether the consumption of fish from the reservoir still posed a threat to human health. TCEQ worked with DSHS to collect fish samples, conduct laboratory analyses, and prepare a characterization of the possible risks to consumers from all contaminants found in fish tissue samples.

Selenium is a naturally occurring element that is widely but unevenly distributed in the earth's crust. It is also an essential dietary element that prevents damage to tissues by oxygen. However, when consumed in amounts higher than the recommended daily allowance (RDA), selenium is toxic to humans and animals.

Learn more about water quality standards, monitoring, and TMDLs by reading [Preserving and Improving Water Quality](#)<sup>1</sup>, available on our website and in print.

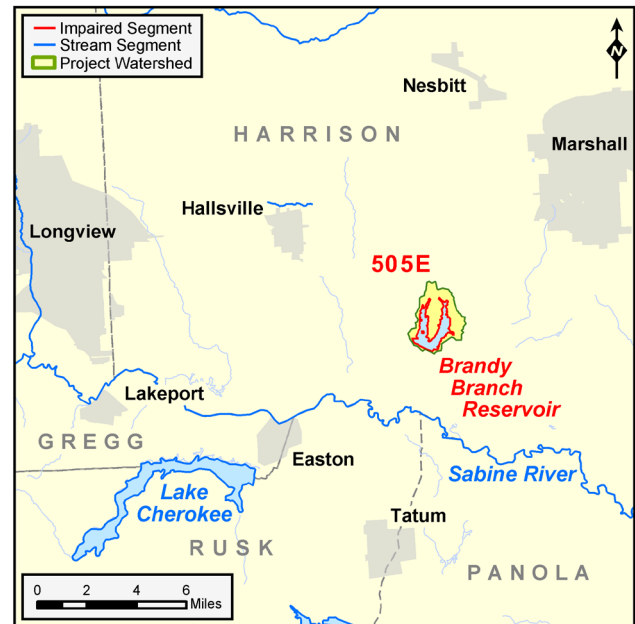
### Fish Are Now Safe to Eat

After assessing all the data collected and characterizing the risks associated with all the contaminants found in fish tissue, DSHS concluded that consumption of fish from Brandy Branch Reservoir does not pose a threat to human health. The fish consumption advisory was rescinded on October 14, 2004.

The impairment "selenium in fish tissue" was removed from the state's 303(d) list of impaired waters in 2004. The schedule of special monitoring and analysis of Brandy Branch Reservoir fish is concluded.

### Brandy Branch Reservoir Watershed

Brandy Branch Reservoir, which is also known as Hallsville or Pirkey Lake, is located southwest of Marshall in Harrison county. The reservoir is an impoundment of Brandy Branch Creek in the Sabine River



Basin. The area vegetation consists of mixed pine and hardwood forests.

The 1,242-acre reservoir was constructed in 1983 to serve as a cooling pond for a steam-electric power plant. Boating and fishing attracts many people to the reservoir each year.

### Public Participation

TCEQ communicated the progress of this project through the Sabine River Basin Steering Committee created by the Texas Clean Rivers Program. The project was a collaborative effort involving TCEQ, DSHS, the Texas Parks and Wildlife Department (TPWD), and the Sabine River Authority (SRA).

### For More Information

Visit the project webpage at:

[www.tceq.texas.gov/waterquality/tmdl/15-brandybranchreservoir.html](http://www.tceq.texas.gov/waterquality/tmdl/15-brandybranchreservoir.html)

Email us at [tmdl@tceq.texas.gov](mailto:tmdl@tceq.texas.gov) or call us at 512-239-6682.

<sup>1</sup> <https://www.tceq.texas.gov/publications/gi/gi-351>

## Project Dates

**Start Date:** January 2002

**End Date:** October 2003

## Project Highlights

- At a meeting held September 2001 with representatives from DSHS, TPWD, and TCEQ, staff decided that the human health risks associated with fish consumption from Brandy Branch Reservoir should be reassessed.
- TCEQ contracted with DSHS in January 2002 to conduct a human health risk assessment. Work consisted of fish sampling and the analysis of fish specimens for volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polychlorinated biphenyls (PCBs), pesticides, and a metals panel including arsenic (As), cadmium (Cd), copper (Cu), lead (Pb), selenium (Se), zinc (Zn), and mercury (Hg). Project staff will prepare conclusions and recommendations based on the analysis.
- The quality assurance project plan was finalized by TCEQ and DSHS and approved by the EPA.
- DSHS completed its risk characterization and concluded that consuming fish from Brandy Branch Reservoir does not pose a threat to human health. The fish consumption advisory was rescinded on October 14, 2004.
- The impairment “selenium in fish tissue” of the reservoir was removed from the state’s list of impaired waters in 2004.

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