

Missouri Department of Natural Resources

Total Maximum Daily Load Information Sheet

Higginsville South Lake

Water Body Segment at a Glance:

County: Lafayette
Nearby Cities: Higginsville, Concordia
Area of impairment: None
Pollutant: None
Source: N/A



Note: The long term average Atrazine level in this lake now meets state water quality standards. Therefore, this lake was delisted from the 2002 303(d) List.

TMDL Priority Ranking: Delisted 12/17/03

Designated beneficial uses of Higginsville South Lake:

- Livestock and Wildlife Watering
- Protection of Warm Water Aquatic Life
- Protection of Human Health associated with Fish Consumption
- Boating and Canoeing
- Drinking Water Supply

Use that is impaired

- None

Standards that apply

- Missouri's Water Quality Standards 10 CSR 20-7.031, Table A allows a maximum of three micrograms per liter ($\mu\text{g/L}$) atrazine. Because this number is based on health risk associated with a 70-year exposure period, the three $\mu\text{g/L}$ is interpreted as a long term average.

Background information and water quality data

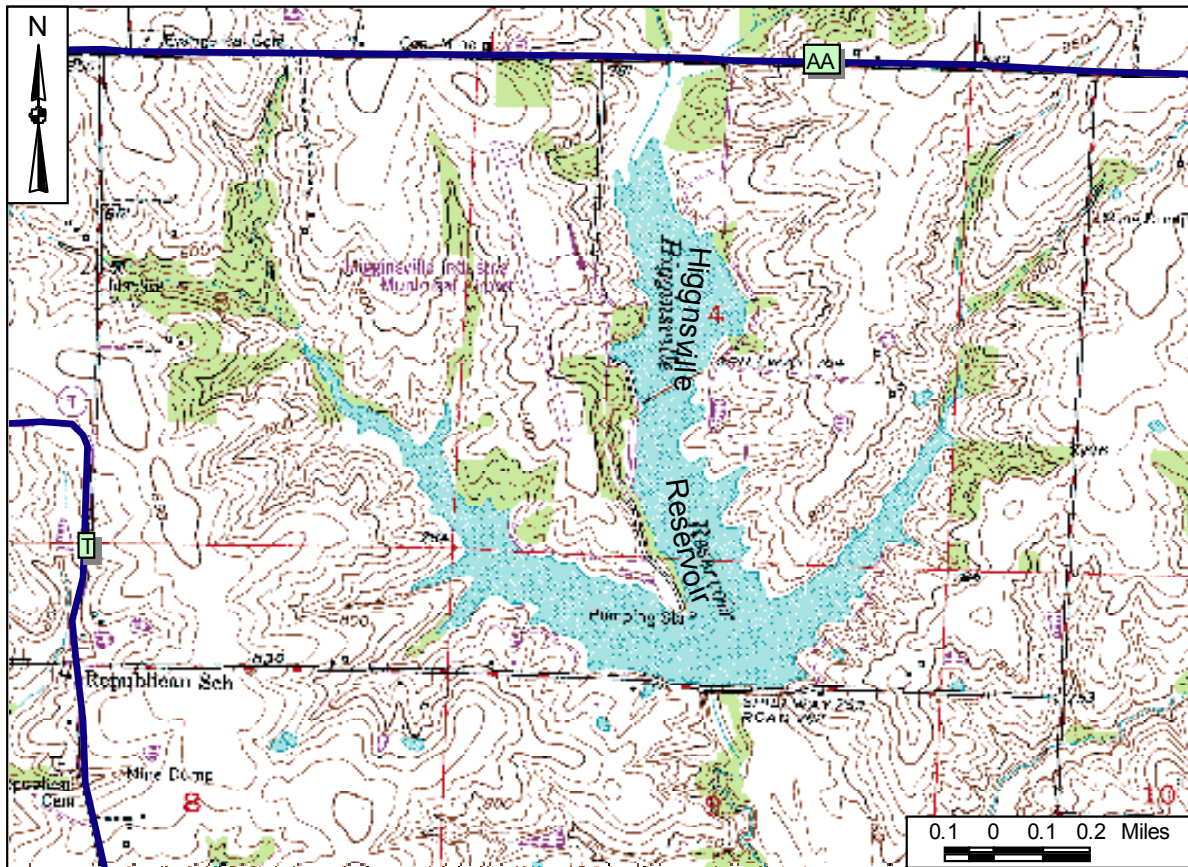
The Higginsville Reservoir system consists of approximately 194 acres of water. The city sells wholesale, treated water from the lake to several nearby towns and to the Lafayette-Johnson-Saline Public Water Supply District #2 for distribution to the rural area, serving approximately 9,300 people. Runoff from residential, golf course and corn and sorghum production areas in the watershed has resulted in measurable amounts of atrazine and other herbicides being detected within the lake.

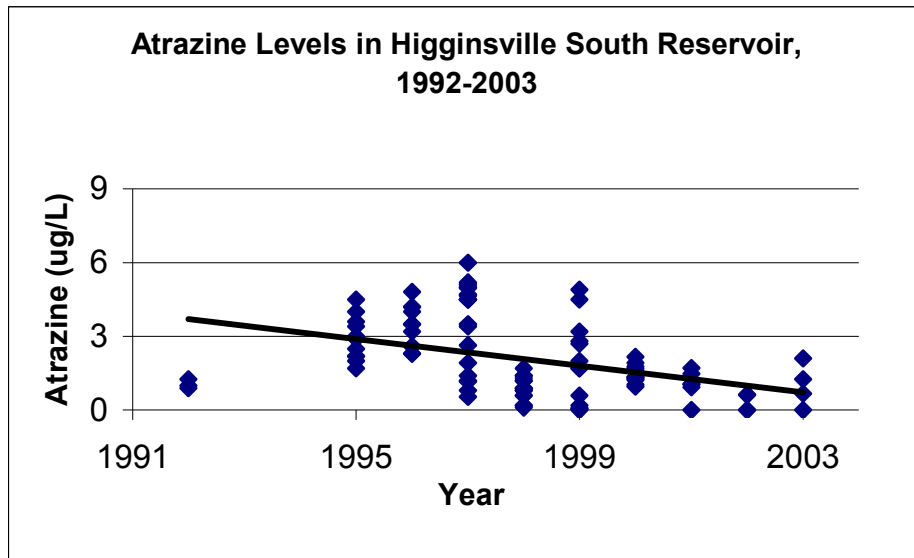
Atrazine is a widely used herbicide for control of broadleaf weeds. It is the most heavily used herbicide applied to corn and sorghum in Missouri. Since 1993, its uses have been greatly restricted. Atrazine is considered a possible human carcinogen, so the state standard is set at three $\mu\text{g/L}$, or parts per billion. Missouri Department of Natural Resources, Monsanto Inc. and Novartis Inc. have taken measurements of atrazine in the lake. Atrazine concentrations in the lake commonly exceed the state limit of three $\mu\text{g/L}$ in past years, but the long term average atrazine level in the lake as of January 2004 was 2.09 $\mu\text{g/L}$. For this reason, the lake was deleted from the 2002 303(d) List.

Higginsville formed a Watershed Steering Committee, which drafted their Higginsville City Lake Watershed Management Plan. This has been instrumental in reducing the atrazine problem in the lake.

Following is a map of the lake area and a graph that summarize the existing data.

Higginsville Lake in Lafayette County, Missouri





Source: Missouri Department of Natural Resources

For more information call or write:

Missouri Department of Natural Resources

Water Protection Program

P.O. Box 176, Jefferson City, MO 65102-0176

1-800-361-4827 or (573) 751-1300 office

(573) 522-9920 fax

Program Home Page: www.dnr.mo.gov/env/wpp/index.html