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Officials are trying to clean up the water in Eagle Mountain Lake

By MAX B. BAKER

maxbaker@star-telegram.com

It happens almost every summer at Eagle Mountain Lake.

The water smells funny, and part of it turns phosphorescent green. Dead fish, starved of oxygen, float to the surface belly up. Suddenly, the lake doesn't look so inviting any more.

Welcome to an Eagle Mountain Lake dead zone.

The lake does not have the huge algae blooms that routinely plague the Gulf of Mexico. Often, the lake's dead zone covers only secluded coves or deep pools near the dam and poses no public health threat.

Still, officials are increasingly worried about the amount of contamination flowing into the lake from urban and rural runoff and the impact it may eventually have on one of the region's major water supplies.

"There are blips on the radar screen of problematic water quality," said Darrel Andrews, assistant environmental director for the Tarrant Regional Water District. "This is not something that is fixed in one year."

In meetings last week with business owners, homeowners, ranchers and farmers, Andrews and others preached about being proactive in reducing the noxious substances being dumped into the lake's watershed.

"It is trending badly," said David Waidler, a research associate with Texas AgriLife Research, part of the Texas A&M System.

Waidler said that based on water quality tests and computer modeling, officials worry about the lake's being put on a list of impaired bodies of water, resulting in clean-up measures being imposed by the state and federal government.

Dick Fish, president of Save Eagle Mountain Lake, a private, nonprofit group that acts as a watchdog for conditions at the lake, said that the group is concerned about water quality and that the problem can't be fixed overnight.

"It happened slowly," Fish said. "Over the last 12 to 15 years there has been a degradation of the water quality. It's not that it's polluted. It is still OK. But it's not going in the right direction, and we've got to stop it before we have a problem."

Population growth

The lake's watershed is 860 square miles, from the rolling plains north of Bowie near the Texas-Oklahoma line to the lake's northern shores near Newark.

The Salt, Garrett, Martin Branch and Big Sandy creeks — along with the West Fork of the Trinity River — feed into a watershed that eventually flows into the lake, which the district built about 75 years ago.

The lake is a major water source for the district. The district serves about 1.6 million people over 11 counties and is expected to provide water to about 2.6 million people by 2050.

Rapid population growth, however, is changing land use in the watershed, and the new rooftops, storm water drainage systems and wastewater treatment plants are altering the water quality.

Five years ago, the district and Texas AgriLife initiated a \$2.5 million water quality study. Besides Eagle Mountain, they've looked at conditions at the district's other reservoirs, Richland-Chambers and Cedar Creek.

The study found that the lake has higher levels of nutrients such as phosphates and nitrates from fertilizers, livestock waste and urban development runoff.

The study also found increased sediment from construction, driveways, agricultural and gravel works.

Nutrients promote algae blooms and weed growth, which deplete oxygen in the reservoir and damage the habitat for fish and other aquatic life, researchers said. Sediment clouds the water, altering food supplies for aquatic organisms.

The lake is still safe, officials say. You can still eat the fish, swim and water-ski without fear.

"We're not talking PCBs or chlordane, the Love Canal stuff," said Mark Ernst, an environmental manager for the water district, referring to well-known toxic pesticides. "We're talking sediments and nutrients."

But during the summer, their effect on the lake is obvious, said Hal Sparks, a Tarrant Regional Water Board member. Drinking water will smell like dirt or cucumbers, and small algae blooms will occur.

"It's an obnoxious smell and condition, and it is worrisome to see dead fish floating to the surface where you are boating and fishing," said Sparks, a founding member of Save Eagle Mountain Lake. "It raises legitimate questions about water quality."

Add all that to the natural aging process any reservoir will go through, and conditions at the lake can be difficult, officials said. The Texas Commission on Environmental Quality already says it is "concerned" about the level of contamination.

"All that matter can really pack a wallop," Waidler said.

Reaching out

In an effort to take a proactive approach, officials are still studying the sources of pollution in the watershed with the goal of developing a watershed protection plan.

In the meantime, they are starting a program to teach landowners, businesses and municipalities how they can help clean up the watershed.

"We have to get buy-in from the stakeholders in the watershed," Andrews said.

Working with cities to better monitor discharges from their wastewater and storm water management programs is part of the answer, researchers said. Getting builders to put up mesh silt fences or to put in retention ponds to contain runoff from their construction sites may be another idea.

Among the recommendations to farmers may be to leave a grass buffer near creeks to filter water leaving their fields or asking ranchers to rotate their cattle to keep fields from eroding.

Reaching out to homeowners to talk about how they can cut back on contaminants, such as fertilizer on a lawn, also will be part of the effort, Andrews and others said.

Wise County Commissioner Kevin Burns said it's not a hard sell because it's easy to see that trouble can flow down hill.

"We're not direct beneficiaries [of the watershed protection plans], but we are indirect beneficiaries because we hope the people in the Lake Bridgeport watershed [above Decatur] will do the same thing."

Ernst said the water district is acting now to prolong the life and improve the health of the lake.

"It's not broke. We're trying to keep it from getting broke," he said.

Homeowners can protect the watershed by: Applying the proper amount of fertilizer and pesticides on their lawns.

Using commercial car washes that treat their wastewater or washing the car on the lawn, allowing the water to soak into the ground.

Properly disposing of household hazardous wastes.

Picking up and properly disposing of pet waste.

Purchasing household detergents and cleaners that are low in phosphorus.

Cleaning up spilled brake fluid, oil, grease and antifreeze instead of hosing them into the street.

Farmers and ranchers can decrease pollution by: Maintaining stream bank vegetation and managing their lands to reduce erosion.

Preventing livestock from entering streams to avoid bacterial contamination.

Managing animal waste and irrigation to minimize contamination of surface and groundwater.

Applying fertilizers and pesticides carefully to avoid runoff losses.

MAX B. BAKER, 817-390-7714

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