

Carrollton Environmental Services
THE STORMWATER READER

June 2017

Fish Kills in Carrollton Waterways

Fish die as a result of a wide variety of natural and unnatural causes. Fish may die of old age, starvation, bodily injury, stress, suffocation, water pollution, diseases, parasites, predation, toxic algae, severe weather, and other reasons.

A few dead fish floating on the surface of a pond or lake is not necessarily cause for alarm. We expect some fish to die. However, when large numbers of fish are found dead and dying, it is necessary to investigate and determine the cause as soon as possible.

Many, but not all, fish kills in the summer result from low concentrations of dissolved oxygen in the water. Fish, like all other complex life forms, need oxygen to survive. They get theirs in the form of oxygen gas dissolved in the water.

Warm water holds less dissolved oxygen than cold water, so summer is the time when fish can have a hard time getting enough oxygen. Other organisms use oxygen too, including the algae that grow in the summer and bacteria that degrade organic matter. During the day, the algae produce oxygen through photosynthesis, but at night, when photosynthesis stops, they and other organisms keep respiring, using up oxygen.

On warm summer nights when plants and algae are abundant in waterways, the dissolved oxygen concentration sometimes drops too low for the fish, and a die-off can occur. This can occur as a result of purely natural conditions or because of human activity that results in adding nutrients - nitrogen and phosphorous - to waterways. Nutrients come from many

sources: fertilizers, grass clippings, automobiles, sewage, manure, and others. An excess of nutrients tends to speed up the growth of algae and diminish the availability of dissolved oxygen. Low dissolved oxygen can result from other factors, too, such as poor flushing or circulation, dredging, or a sudden rain after a dry spell.

Symptoms of oxygen depletion may include an abnormal distribution of fish gulping at the water surface or at the pond inlet or edges. Large fish may die first, but all sizes of fish are usually affected. The color and clarity of pond water may change and a foul odor may be released. Fish kills from pesticides, chlorine, gasoline, fuel oil, ammonia fertilizer, acids, and other toxic chemicals are not as common in private ponds, but can occur.

Fish kills also can occur as a result of toxic compounds released into a body of water. If you see dead fish in any waterway in Carrollton, please immediately contact Environmental Services or notify your supervisor and they can contact us.

Courtesy USGS



Did You

Know?

**It is illegal
to dump
waste into
streets or
storm
drains?**



May Gardening Tips



A smart look forward to summer gardening

For many people, May is the true beginning of summer gardening. And while achieving a lush green lawn, beautiful flowers, and hearty summer vegetables are understandable gardening goals, some gardening and lawn care practices can have detrimental effects on our local water resources. In keeping with our city's efforts to reduce the effects of stormwater pollution, there are a few gardening tips that will minimize the impact on our creeks:

- Fertilize sparingly. If you must fertilize, September is the best month. And be sure to use slow-release fertilizer.
- If you must fertilize more than once, don't fertilize in the spring until you have mowed the lawn three times.
- Check the weather forecast before fertilizer or pesticide applications, and don't apply lawn chemicals when there is rain predicted. It increases the chances of those chemicals washing right into local waters.
- If any lawn chemicals or yard debris are on the sidewalk or driveway, sweep them back onto the lawn to prevent them from washing into storm drains. Even grass clippings and excess leaves don't belong in our streams and rivers.
- Use native or adapted plants in your landscape! Visit txsmartscape.com for more information.