

## Bacteria and Nutrients

The quality of water in your town's drinking water systems or in the lakes and rivers in your area depends on many factors.

Two sources that can negatively affect your water quality are excessive bacteria and excessive nutrients such as phosphorus and nitrogen.

Bacteria may enter your water from faulty septic tank systems, wastewater treatment systems, and pet, livestock and wildlife manures. Detection of bacteria, specifically *Escherichia coli*, may mean that disease-causing pathogens such as Giardia and cryptosporidium may be present in your water. These two pathogens, occasionally found in public water supplies, cause illnesses in humans.

Nutrients, such as phosphorus and nitrogen, are essential for plant growth. Too much phosphorus and nitrogen, however, can also cause problems in your water. Major sources of these nutrients include fertilizers and manure from farms, urban runoff containing fertilizers from lawns and golf courses, and domestic and industrial wastewater effluent. Excess amounts of these nutrients run off into streams and lakes where they encourage growth of algae and lower levels of dissolved oxygen. During an algal bloom, oxygen levels decrease leading to fish kills. Some algal blooms produce toxins that are lethal to aquatic organisms. Nitrogen in the form of nitrate can also contaminate drinking water supplies drawn from groundwater, making it unsafe to drink.

Standards and guidelines are in place to protect water for designated uses such as drinking, recreation, fish consumption, or protection and maintenance of aquatic life.

What can you do to help reduce bacteria and excessive nutrients from polluting your drinking water systems, or in the lakes and rivers in your area?

- Limit use of fertilizer and pesticides and apply according to label instructions or crop needs. Excess application of fertilizers and pesticides on farms, ranches and homes, can lead to a greater potential of loss through erosion and runoff.
- Control waste of livestock. Keep livestock away from stream banks. Store and apply manure away from water bodies and in accordance with a nutrient management plan.
- Inspect your septic system regularly and pump your tank as necessary. Leaking and poorly maintained septic systems release nutrients and pathogens (bacteria and viruses) that can be picked up by stormwater and discharged into nearby water.

Remember: what you do affects the quality and quantity of the water you drink and use. By using these practices to reduce pollutants from entering your water resources, you are helping protect water now and in the future. Help save Texas water and make every drop count.

