

## Consequences of Poor Water Quality

Whole house water quality problems.

Hardness

Iron

Manganese

Arsenic

Tannin



Bad tastes

Foul odors

Chlorine and harmful chlorine by-products

Turbidity

Acidic water



**Clean Water. Healthy Life.**

### Online Resources

U.S. Environmental Protection Agency

[www.epa.gov](http://www.epa.gov)

U.S. Geological Survey

<http://water.usgs.gov/edu/waterquality.html>

## How To Protect Water Quality

### Get Informed

Find out about the water quality standards in your state, territory or tribe.

### Participate in Public Events

Public hearings are a powerful vehicle through which citizens may make their concerns known and suggest recommendations to public officials.

### Get Involved

Volunteer with programs and activities that help track and clean local lakes, rivers and other waters.

### Continue the Conversation

Reach out to your community through Social Media.

### Prevent Polluted Runoff

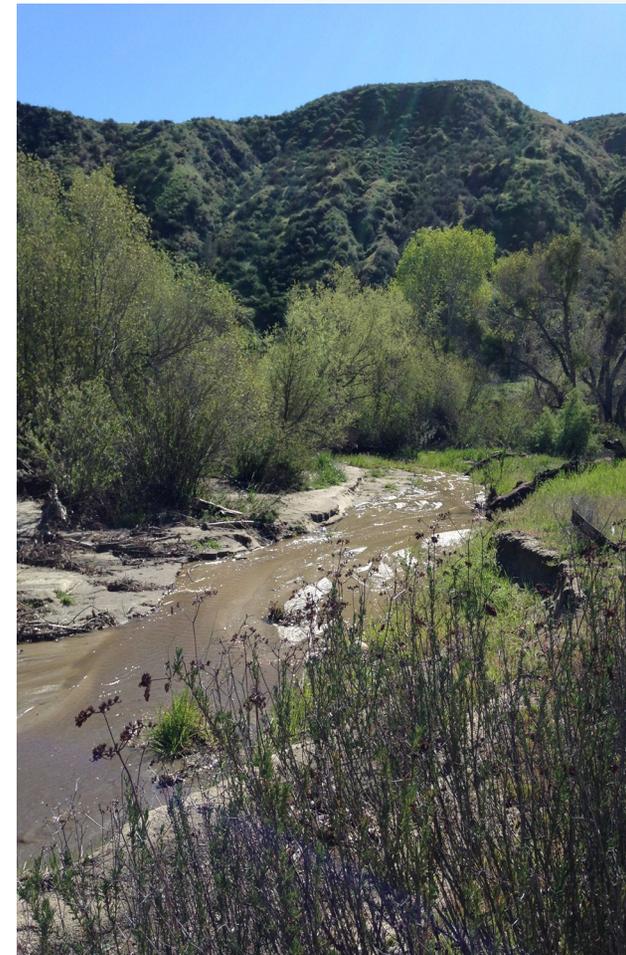
Keep litter, leaves, debris and pet waste away from drains. Properly dispose of chemicals, oils, paint and anti-freeze. Purchase biodegradable, phosphate free, water-based cleaners and detergents.

### WaterSense

Buy WaterSense products for your home, yard and business. These products help save water and protect the environment.



## What You Should Know About Water Quality





## National Water Quality Inventory from the EPA's report

Water quality standards consist of three elements: **Designated uses**, such as drinking, swimming, or fishing assigned to waters.

**Criteria**, such as “Chemical- Specific Thresholds” that should not be exceeded in order to protect the designated uses.

**Anti-Degradation Policy**, intended to keep waters that **do** meet standards deteriorating from their current condition.

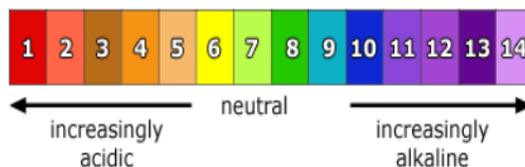
In 2004, “States” reported that about 44% of assessed stream miles, 64% of assessed lake acres, and 30% of assessed bay and estuarine square miles were not clean enough to support uses such as fishing and swimming. Less than 30% of U.S. waters were assessed by the states for this report. Leading causes of impairment included pathogens, mercury, nutrients, and organic Enrichment/low dissolved oxygen. Top sources of impairment included atmospheric deposition, agriculture, hydrologic modifications, and unknown or unspecified sources.

## What Is Measured?

**Temperature:** Determines the kinds of organisms that can survive in a stream. If the temperature gets too hot or too cold for some organisms, they die. Temperature also can affect the chemistry of the water. For example, warm water holds less oxygen than cold water. A healthy cluster of trees and vegetation next to a stream or river helps keep temperatures cool for fish.

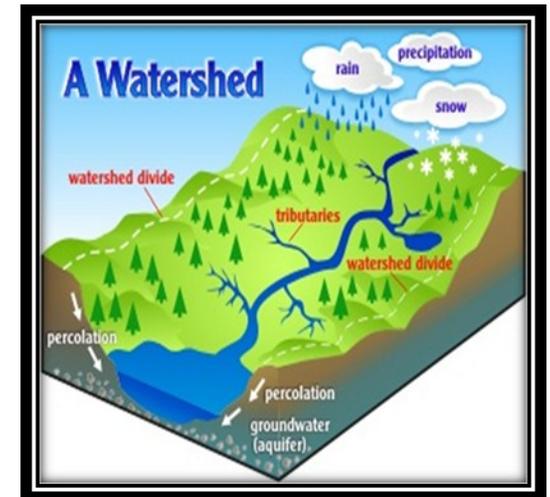
**Dissolved oxygen: (DO)** tells how much oxygen is available in the water for aquatic organisms to breathe. Healthy waters generally have high levels of DO (some areas, like swamps, naturally have low levels of DO). Aquatic life needs oxygen to survive. Several factors can affect how much DO is in the water. These include temperature, the amount/speed of flowing water, the plants and algae that produce and take in oxygen, pollution, and the composition of the stream bottom. (Gravel or rocky bottoms turn and disturb water more than those of mud or silt bottoms, creating bubbles releasing additional oxygen into the water.)

**pH:** Determines the concentration of hydrogen in the water. pH ranges from 0 (very acidic) to 14 (very basic), with 7 being neutral. Most waters range from 6.5 to 8.5. Changes in pH can affect how chemicals dissolve in the water and whether organisms are affected by them. High acidity can be deadly to aquatic organisms.



## Watersheds

Have you ever heard the term “watershed” and wondered what it meant? The following information is from the US Geologic Survey. Natural features, such as topography, define watersheds—land areas that receive rain or snow and drain to specific surface-water bodies, such as streams, rivers, lakes, reservoirs, bays, or oceans. Both natural and human-induced conditions within the watershed are reflected in the quality of the surface water. While many federal and state agencies focus on the larger river systems and associated watersheds, local agencies and citizens usually are concerned with the smaller watersheds within their community that directly affect “THEIR” drinking water quality.



More from the USGS about water can be found at <http://water.usgs.gov/> or EPA's watershed information can be found at <http://water.epa.gov/type/watersheds/>.