

# Watershed Water Quality

## Water Quality

Water quality in watersheds is generally reflective of two sources: runoff and groundwater seepage. Stream flow is the result of surface water runoff whose chemistry is greatly influenced by land use. Wilderness and recreation areas contribute low amounts of organic and inorganic constituents to a system, whereas urban lands contribute greater amounts. Numerous rivers, streams, and stretches of ocean in the southern California region consistently have poor water quality. Obviously, this area is an issue of health for humans and animals that visit these areas.

In addition, water pollution is the chemical and physical alteration of waters that were once of good quality. Good water quality can be defined as waters that support abundant native aquatic plant and animal species in a balanced ecosystem. In areas where people make contact with the water for recreation, excellent water

quality is needed. Channelized streams such as the Los Angeles River, San Gabriel River, and portions of most streams in urban areas cannot support plants and animals

The purpose of water monitoring is to observe different hydrologic, chemical, and biological parameters to determine pollutants, impacted areas, and possible contamination sources. Historical water quality records for the San Gabriel River and tributaries are unreliable for the reason that some agencies have sampled the river in an inconsistent manner.

The chart below analyzes available water quality records to get a sense of the levels of dissolved solids in the stream flow relative to recommended Maximum Contaminant Levels (MCL's).

## Why Water Quality Testing Is Important

The overall goal of the monitoring program is to improve water quality throughout southern California. Water testing provides us with the onset of data from which further action can be taken. Specifically, the objectives are:

- Collect data necessary for regulatory agencies to establish more protective water quality thresholds.
- Establish current baseline conditions within the various streams, rivers, estuaries, and stretches of ocean in southern California.
- Locate areas that are not meeting the water quality thresholds established by regulatory agencies.



## San Gabriel River Watershed Water Chemistry

Constituent	Minimum Reading (mg/L)	Maximum Reading (mg/L)	Mean Concentration Levels (mg/L)	Maximum Contaminant Level (MCL) (mg/L)	San Gabriel Groundwater Basin Objectives (mg/L) (RWQCB, 05/2002)
Magnesium (Mg)	1.0	880	60.8	-	-
Sodium (Na)	0.4	1,460	70.69	-	-
Calcium (Ca)	0.1	1,530	99.15	-	-
Chloride (CL)	1.0	35,800	879.2	250 <sup>2</sup>	250 <sup>2</sup>
Sulfate (SO <sub>4</sub> )	0.01	4,880	286.2	250 <sup>2</sup>	400 - 500 <sup>2</sup>
Nitrate (NO <sub>3</sub> )	0.04	540	12.9	10 <sup>1</sup>	45.0
Arsenic (As)	0.001	10	1.914	0.01 <sup>1,3</sup>	0.05
Chromium (Cr)	0.003	0.072	0.019	0.1 <sup>1</sup>	0.05
Hardness (as CaCO <sub>3</sub> )	1.0	828	170.7	-	-
Total Dissolved Solids (TDS)	1.0	41,700	2,585	500 <sup>2</sup>	500 <sup>2</sup>
pH	5.8	11.8	7.969	6.5 - 8.5 <sup>2</sup>	6.5 - 8.5 <sup>2</sup>
Temperature	5.29°C (41.52°F)	36.1°C (97°F)	22.8°C (73.2°F)	-	< 5°F change

<sup>1</sup> Primary MCL, <sup>2</sup> Secondary MCL (USEPA), <sup>3</sup> As of 1/23/06