

## Malibu Creek Watershed Monitoring Program: One year after

The Malibu Creek Watershed Monitoring Program completed analysis of its first year water quality results in April. Data shows notable exceedances of United States Environmental Protection Agency (EPA) and Los Angeles Regional Water Quality Control Board Basin Plan (Basin Plan) water quality objectives. Of particular concern are the bacterial and nutrient loads to the watershed from anthropogenic sources.

Total coliform, fecal coliform, *Escherichia coli* (*E.coli*) and enterococcus are indicator bacteria, or microorganisms that **indicate** the presence of other types of harmful bacteria, viruses and parasites which may be present in water through contact with human or animal fecal matter. Potential health risks, including fever and other intestinal diseases, are associated with these bacterial indicators. High levels of bacteria may be the result of malfunctioning septic tanks, broken sewer lines or pet waste.

Nutrients like nitrogen and phosphorus are necessary for healthy water bodies, but high levels of nutrients cause a number of problems like algal blooms that can suffocate aquatic life, impairing the overall health of the watershed. Sources of excess nutrients include chemical fertilizers, leaking septic systems, animal waste, sewage, industrial discharge and wastewater treatment plants.

The following is a table outlining the water quality objective exceedances for the Malibu Creek watershed for ten parameters monitored from February 2005 through February 2006 (approximately 286 samples).

Parameter	Description of Indication	Exceedance
Dissolved Oxygen	Aquatic organisms need oxygen and plants produce it, indicating the health of a creek ecosystem.	5 %
pH	Determines acidity of water and ability of plants and wildlife to function and live.	7 %
Temperature	Affects biological and chemical processes and presence of certain fish and bugs.	1 %
Ammonia	Forms from nitrogen present in low dissolved oxygen, is extremely toxic to aquatic life.	0 %
E.coli	Common bacterium from lower intestinal tracts of warm blooded animals.	36 %
Enterococcus	Common bacterium from the intestinal tracts of humans.	40 %
Fecal Coliform	Family of bacteria that include E.coli and come from the intestinal tracts of warm blooded animals.	37 %
Total Nitrogen	NO <sub>3</sub> and NO <sub>2</sub> , nutrients can have an adverse impact on water quality, promotes plant and algae growth.	8 %
Orthophosphate	Nutrient that can have an adverse impact on water quality, promotes plant and algae growth.	21 %
Total Coliform	Large group of bacteria that indicate environmental bacteria usually not from human sources.	39 %

Though some exceedances are permitted by the Basin Plan and EPA to account for natural environmental fluctuations, the percentage exceedances found for bacteria and nutrients suggest human contributions to the watershed at potentially damaging levels. The second year of the watershed monitoring program will focus on determining where these sources of pollution enter the creeks system and on five specific monitoring sites where high levels of pollution have been observed during first year sampling. For more information, please visit us at [www.mcwmp.net](http://www.mcwmp.net)