

## **APPENDIX B**

Aliso Creek Watershed Beneficial Uses and  
Water Quality Objectives for Recreation

## ALISO CREEK WATERSHED BENEFICIAL USES AND WATER QUALITY OBJECTIVES FOR RECREATION

The federal Clean Water Act and the California Porter-Cologne Water Quality Control Act require the Regional Board to adopt a Water Quality Control Plan to coordinate the management of water quality in its region. The Water Quality Control Plan for the San Diego Region (Basin Plan)<sup>1</sup> lists English Canyon, Sulphur Creek, and Wood Canyon tributaries to Aliso Creek as receiving waters. The Basin Plan also designates beneficial uses for inland and coastal waters, sets narrative and numerical water quality objectives that must be attained or maintained to protect the designated beneficial uses, and describes implementation programs to protect beneficial uses. The designated beneficial uses in the Aliso Creek Watershed are shown in **Table B.1** below.

**Table B.1: Designated Beneficial Uses - Aliso Creek**

Inland Surface Water	AGR	REC-1	REC-2	WARM	WILD
Aliso Creek	●	○	●	●	●
English Creek	●	○	●	●	●
Sulphur Creek	●	○	●	●	●
Wood Canyon	●	○	●	●	●
Aliso Creek Mouth		○	●	●	●

Existing - ●      Potential - ○

Agricultural Supply (AGR) - Includes uses of water for farming, horticulture or ranching.

Contact Water Recreation (REC-1) - Includes uses of water for recreational activities involving body contact where ingestion of water is reasonably possible.

Non-Contact Water Recreation (REC-2) - Includes uses of water for recreational activities involving proximity to water.

Warm Freshwater Habitat (WARM) - Includes uses of water that support warm water ecosystems.

Wildlife Habitat (WILD) - Includes uses of water that support terrestrial ecosystems.

Source: [http://www.swrcb.ca.gov/rwqcb9/water\\_issues/programs/basin\\_plan/index.shtml](http://www.swrcb.ca.gov/rwqcb9/water_issues/programs/basin_plan/index.shtml)

### Bacterial Indicator Water Quality Objectives

The cause-effect relationship between fecal-associated microbes and disease transmission has been understood since the late 19<sup>th</sup> Century. Waterborne pathogens include a broad range of bacteria, viruses, and protozoa, many of which are difficult to identify and isolate. Thus, certain bacteria are used as indicator organisms. Indicator organisms are easier to measure, present in larger numbers, and relate to the presence of pathogens. Indicator bacteria include total

<sup>1</sup> The San Diego Region Water Quality Control Plan (Basin Plan) is available online at: [http://www.swrcb.ca.gov/sandiego/water\\_issues/programs/basin\\_plan/](http://www.swrcb.ca.gov/sandiego/water_issues/programs/basin_plan/)

coliforms, fecal coliforms, and enterococci. High densities of indicator bacteria indicate the likely presence of pathogenic organisms. Thus, the number of indicator bacteria present can be used as a measure of the degree of health risk associated with the beneficial use of the water, such as swimming or shellfish harvesting.

Sources of indicator bacteria may be:

- Environmental - soils, decaying vegetation, regrowth.
- Animal wastes - birds, dogs, cats, rabbits etc.
- Humans - sewage, children with diapers, shedding from bathers
- Stormwater or urban runoff.

Water quality objectives for fecal indicator bacteria applicable in the San Diego Region are contained in the State Board's Ocean Plan and in the Basin Plan. The Ocean Plan contains water contact recreation (REC-1) objectives for the near coastal zone and other ocean water areas that may be used for water contact sports and all kelp beds. The Basin Plan contains water contact (REC-1) and non-contact water recreation (REC-2) objectives for inland surface waters, enclosed bays and estuaries, and coastal lagoons. Current objectives for the Ocean Plan and Basin Plan are provided below.

REC-1  
Ocean Plan Objectives

Near shore ocean waters and other areas used for water contact recreation and kelp beds

Single Sample Standards

- Total coliforms: 10,000 organisms/100ml
- Fecal coliforms: 400 organisms/100ml
- Enterococci: 104 organisms/100ml
- Total Coliform : <1,000 if fecal: total coliform ratio exceeds 0.1

30 Day Geometric Mean Standards for five or more samples

- Total Coliforms: 1,000 organisms/100ml
- Fecal Coliforms: 200 organisms/100ml
- Enterococci: 35 organisms/100ml

REC-1  
Basin Plan Objectives  
Inland Surface Waters, Enclosed Bays and Estuaries and Coastal Lagoons

Fecal Coliform / Fresh or Marine Waters: Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 per 100 ml, nor shall more than 10 percent of total samples during any 30-day period exceed 400 per 100 ml.

Total Coliform / Bays and Estuaries only: Coliform organisms shall be less than 1,000 per 100 ml (10 per ml); provided that not more than 20 percent of the samples at any station, in any 30-day period, may exceed 1,000 per 100 ml (10 per ml) and provided further that no single sample when verified by a repeat sample taken within 48 hours shall exceed 10,000 per 100 (100 per ml).

Enterococci / Fresh Waters: In fresh water, the geometric mean of enterococci shall not exceed 33 colonies per 100 ml. The single sample maximum allowable density in designated beach areas is 61 colonies per 100 ml, in moderately or lightly used areas is 108 colonies per 100 ml, in infrequently used areas is 151 colonies per 100 ml.

Enterococci / Marine Waters: In marine waters, the geometric mean of enterococci shall not exceed 35 colonies per 100 ml. The single sample maximum allowable density in designated beach areas is 104 colonies per 100 ml, in moderately or lightly used areas is 276 colonies per 100 ml, in infrequently used areas is 500 colonies per 100 ml.

*E. coli* / Fresh Waters: In fresh water, the geometric mean of *E. coli* shall not exceed 126 colonies per 100 ml. The single sample maximum allowable density in designated beach areas is 235 colonies per 100 ml, in moderately or lightly used areas is 406 colonies per 100 ml, in infrequently used areas is 576 colonies per 100 ml.

REC-2  
Basin Plan Objectives  
Inland Surface Waters, Enclosed Bays and Estuaries and Coastal Lagoons

Fecal Coliform / Fresh or Marine Waters: In waters designated for non-contact recreation (REC-2) and not designed for contact recreation (REC-1), the average fecal coliform concentrations for any 30-day period, shall not exceed 2,000 per 100 ml, nor shall more than 10 percent of total samples collected during any 30-day period exceed 4,000 per 100 ml.