

To characterize the runoff quality in Los Angeles County, mass emission sites have been selected for monitoring. To evaluate the runoff quality of various subwatersheds, tributary sites were established in the Los Angeles River watershed.

## **2.1 MASS EMISSION SITE SELECTION**

The LACDPW monitored at seven mass emission stations, Ballona Creek, Malibu Creek, Los Angeles River, Coyote Creek, San Gabriel River, Dominguez Channel, and Santa Clara River. Four of the mass emission monitoring stations installed under the original 1990 Permit were retained under the 1996 and the 2001 Municipal Storm Water Permit; specifically Ballona Creek, Malibu Creek, Los Angeles River, and San Gabriel River. The Coyote Creek monitoring station was monitored under the 1990, 1996, and 2001 Municipal Storm Water Permit, though monitoring was not required under the 1996 Municipal Storm Water Permit. Monitoring began at Dominguez Channel mass emission station during the 2001-2002 season. Sampling at the Santa Clara mass emission station began during the 2002-2003 season. The seven mass emission monitoring stations were used to collect water quality data from 2060 square miles.

## **2.2 MASS EMISSION MONITORING LOCATIONS AND DRAINAGE AREAS**

Figure 2-1 is an overview of the study area with all mass emission monitoring sites shown. Table 2-1 also indicates the dominant land use associated with each monitoring site and the total drainage area.

Provided below is a description of the seven mass emission stations, Ballona Creek, Malibu Creek, Los Angeles River, San Gabriel River, Coyote Creek, Dominguez Channel, and Santa Clara River, required by the Municipal Storm Water Permit for the 2002-2003 monitoring period. Figures 2-2 through 2-8 show the location of each monitoring station along with a description of its land use.

### ***Ballona Creek Monitoring Station (S01)***

The Ballona Creek monitoring station is located at the existing stream gage station (Stream Gage No. F38C-R) between Sawtelle Boulevard and Sepulveda Boulevard in the City of Los Angeles. At this location, which was chosen to avoid tidal influences, the upstream tributary watershed of Ballona Creek is 88.8 square miles. The entire Ballona Creek Watershed is 127.1 square miles. At the gauging station, Ballona Creek is a concrete lined trapezoidal channel.

### ***Malibu Creek Monitoring Station (S02)***

The Malibu Creek monitoring station is located at the existing stream gage station (Stream Gage No. F130-9-R) near Malibu Canyon Road, south of Piuma Road. At this location, the tributary watershed to Malibu Creek is 104.9 square miles. The entire Malibu Creek Watershed is 109.9 square miles.

### ***Los Angeles River Monitoring Station (S10)***

The Los Angeles River Monitoring Station is located at the existing stream gage station (Stream Gage No. F319-R) between Willow Street and Wardlow Road in the City of Long Beach. At

this location, which was chosen to avoid tidal influences, the total upstream tributary drainage area for the Los Angeles River is 825 square miles. This river is the largest watershed outlet to the Pacific Ocean in Los Angeles County. At the site, the river is a concrete lined trapezoidal channel.

### ***Coyote Creek Monitoring Station (S13)***

The Coyote Creek Monitoring Station is located at the existing ACOE stream gage station (Stream Gage No. F354-R) below Spring Street in the lower San Gabriel River watershed. The site assists in determining mass loading for the San Gabriel River watershed. At this location, the upstream tributary area is 150 square miles (extending into Orange County). The sampling site was chosen to avoid backwater effects from the San Gabriel River. Coyote Creek, at the gauging station, is a concrete lined trapezoidal channel. The Coyote Creek sampling location has been an active stream gauging station since 1963.

### ***San Gabriel River Monitoring Station (S14)***

The San Gabriel River Monitoring Station is located at an historic stream gage station (Stream Gage No. F263C-R), below San Gabriel River Parkway in Pico Rivera. At this location the upstream tributary area is 450 square miles. The San Gabriel River, at the gauging station, is a grouted rock-concrete stabilizer along the western levee and a natural section on the eastern side. Flow measurement and water sampling are conducted in the grouted rock area along the western levee of the river. The length of the concrete stabilizer is nearly 70 feet. The San Gabriel River sampling location has been an active stream gauging station since 1968.

### ***Dominguez Channel Monitoring Station (S28)***

The Dominguez Channel Monitoring Station is located at Dominguez Channel and Artesia Boulevard in the City of Torrance. At this location, which was chosen to avoid tidal influence, the upstream tributary area is 33 square miles. The portion of the river where the monitoring site is located is a concrete-lined rectangular channel.

### ***Santa Clara River Monitoring Station (S29)***

The Santa Clara monitoring station is located at the Santa Clara River and The Old Road in Santa Clara. The Santa Clara River has a soft bottom for the most part, which makes flow monitoring extremely difficult. This location was chosen because flow monitoring was possible from the existing USGS 11108000 Santa Clara River near Saugus California stream gauging station. The upstream tributary area is 411 square miles.

## **2.3 TRIBUTARY SITE SELECTION**

All six of the tributary monitoring stations, Aliso Creek, Bull Creek, Burbank Western System, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel, were established under the 2001 Municipal Storm Water Permit. Monitoring began during the 2002-2003 season. The six tributary monitoring stations were used to collect water quality data from subwatersheds in the Los Angeles River WMA.

## 2.4 TRIBUTARY MONITORING LOCATIONS AND DRAINAGE AREAS

Figure 2-9 is an overview of the study area showing all the tributary monitoring sites. Figure 2-1 shows the location of the tributary monitoring sites in relation to the mass emission monitoring sites.

Provided below is a description of the six tributary monitoring stations required by the Municipal Storm Water Permit for the 2002-2003 monitoring period. The tributary stations include Aliso Creek, Bull Creek, Burbank Western System Channel, Verdugo Wash, Arroyo Seco Channel, and Rio Hondo Channel. Figures 2-10 through 2-15 show the location of each monitoring station.

### *Aliso Creek Tributary Monitoring Station (TS01)*

Aliso Creek monitoring station is located at the southeast corner of the bridge on Saticoy over Aliso Creek Channel, in Reseda, California. The upstream tributary watershed area of Aliso Creek is approximately 21 square miles.

### *Bull Creek Tributary Monitoring Station (TS02)*

Bull Creek monitoring station is located at the northeast corner of the bridge on Victory Boulevard over Bull Creek Channel, in Lake Balboa, California. The upstream tributary watershed area of Bull Creek is approximately 23 square miles.

### *Burbank Western System Monitoring Station (TS03)*

Burbank Western monitoring station is located at the northwest corner of the bridge on Riverside Drive over the Burbank – Western Channel in Glendale, California. This is the same location as the Department’s stream gaging station (E285-R). The upstream tributary watershed of the Burbank Western Channel is approximately 26 square miles.

### *Verdugo Wash Tributary Monitoring Station (TS04)*

Verdugo Wash monitoring station is located at the south bank of Verdugo Wash, approximately 100 feet west of the bridge on Jackson Street, in the City of Glendale, California. The upstream tributary watershed area of the Verdugo Wash is approximately 30 square miles.

### *Arroyo Seco Channel Tributary Monitoring Station (TS05)*

Arroyo Seco monitoring station is located on the east bank of the Arroyo Seco Channel, approximately ¼ mile south of the bridge on Avenue 52, and around the ramped entrance to the Arroyo Seco Channel at the Ernest Debs Regional Park, in the Montecito Heights area of Los Angeles City. The upstream tributary watershed area of the Arroyo Seco is approximately 47 square miles.

*Rio Hondo Channel Tributary Monitoring Station (TS06)*

Rio Hondo Channel monitoring station is located on Beverly Boulevard, downstream of Whittier Narrows dam, at the USGS – U.S. Army Corps of Engineers (ACOE) Stream gage No. 1102300 or E327-R. The upstream tributary watershed area is approximately 142 square miles.