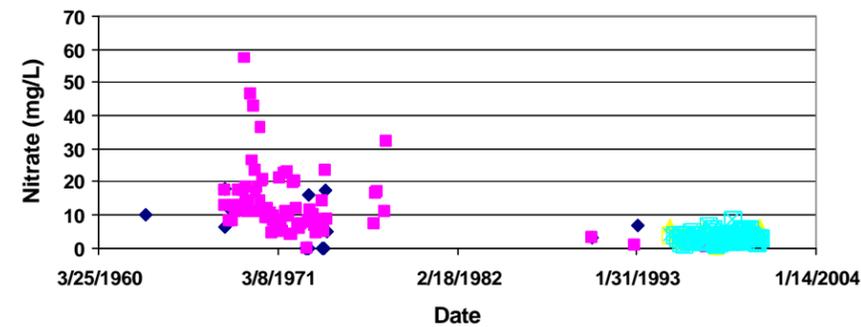
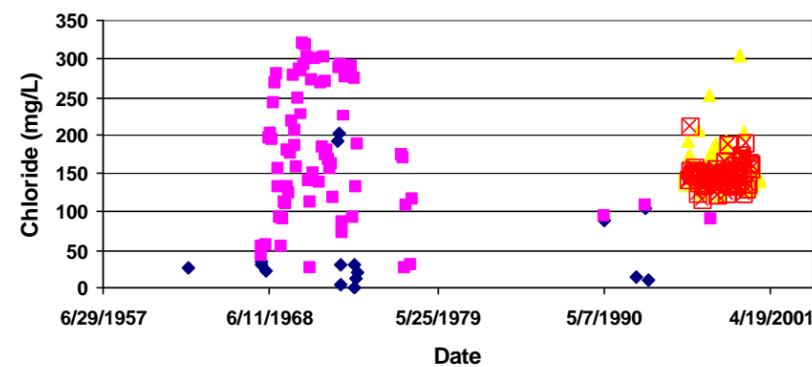


Nitrate - San Gabriel River Watershed



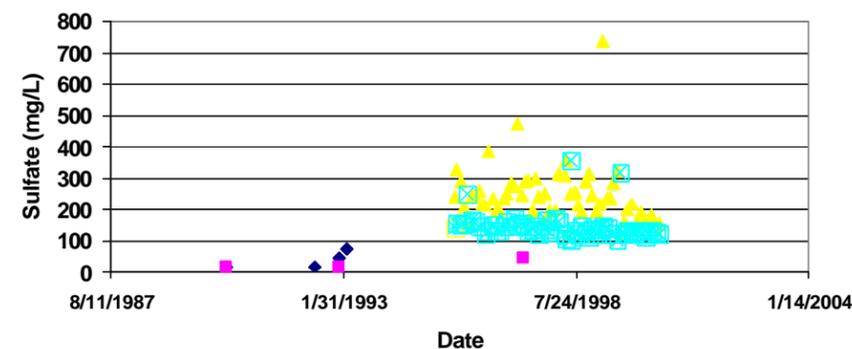
◆ Foothill ■ Beverly ▲ Tidal Prism - East Low Flow ◻ Tidal Prism - West Low Flow

Chloride - San Gabriel River Watershed



◆ Foothill ■ Beverly ▲ Tidal Prism - East Low Flow ◻ Tidal Prism - West Low Flow

Sulfate - San Gabriel River Watershed



◆ Foothill ■ Beverly ▲ Tidal Prism - East Low Flow ◻ Tidal Prism - West Low Flow

Watershed Divisions

The San Gabriel River Watershed is comprised of several smaller watersheds. These smaller watersheds in turn contribute flow to the larger watershed. For the purpose of simplicity, the San Gabriel River Watershed is subdivided into 3 separate regions for analysis; Upper A, Middle B, and Lower C (Figure: Historical Watershed Sampling). The division between these sections was based on common drainage points.

The Upper A portion drains to a single reach of the San Gabriel River. Foothill Boulevard was chosen as the closest and most representative sampling point for this area. The Middle B portion drains to the Whittier Narrow area, where it is dammed by the Whittier Dam. Beverly Boulevard was chosen for analysis as the sampling point most representative of this reach of the watershed. The Lower C portion of the watershed drains to the ocean. The Tidal Prism sampling location was used to represent the lower portion of the watershed. This location was chosen because it resides below the Coyote Creek inlet and at the end of the channelized portions of the San Gabriel River.

Upper A

The upper portions of the watershed reside in relatively natural settings. Data from the Foothill Boulevard sampling site reflect this conclusion. The amount of total dissolved solids in the water is consistently lower than the other locations. Concentrations of ammonia, nitrate, chloride and sulfate are consistently lower in these waters than those of sampling locations further downstream.

Middle B

Beverly Boulevard, which sits below the Whittier Dam outlet for the San Gabriel River was sampled quite extensively during the late 1960's and early 1970's. San Gabriel River data appears to be quite random as compared to the other sampling locations. Primarily, this is due to the sampling interval; data was collected throughout the year. With the variable stream flow for this region it is not surprising to see the data scattered. The nitrate concentrations are higher than the any other reach of the watershed. This is most likely due to land use. This could also point to the lack of denitrification within the wetlands behind Whittier Dam.

Lower C

The Tidal Prism sampling location resides at the end of the lined channel sections of the San Gabriel River. Due to tidal fluctuations, this area of the river is impacted by ocean waters. Mixing of

fresh and ocean waters has a major impact on water quality. This is seen in the low nitrate concentrations and the high total dissolved solids. Sulfate and chloride concentrations are seemingly higher than the other locations in the watershed. This is to be expected due to the tidal flushing and mixing within the Tidal Prism reach.

Overall Trends

Based on the San Gabriel Groundwater Basin Objectives (RWQCB, 2002), the water quality of the basin is generally good. The nitrate levels in the Middle B portion of the watershed have dropped considerably from the early 70's, however more data needs to be collected. The total dissolved solids measurements for the river system remain high throughout the watershed. This can be traced to the urbanization of the watershed system. Other causes of high total dissolved solids in the upper reaches could be attributed to forest fires, roads, and overall uncontrolled runoff from the steeper slopes. The sulfate concentrations at each division remain relatively low as compared to the basin objectives. This is a good sign for the overall health of the system.

