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Dry-season water quality in the San Gabriel River watershed

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ABSTRACT

Dry-season flow in the San Gabriel River system is comprised mostly of discharges from water reclamation plants (WRPs), imported water, and storm drains. Although the magnitude of dry-season discharge is generally known, the water quality associated with most of these "introduced" discharges has not been characterized, nor has the associated in-stream response, particularly near storm drain discharges. The goal of this study was to characterize the pattern and magnitude of storm drain and WRP inputs to the San Gabriel River system and the associated in-stream response. To accomplish this, two synoptic dry-weather surveys were conducted, one in 2002 and the other in 2003 during which flow, metals, bacteria, and nutrient concentrations were measured from the WRPs, storm drains, and in-stream locations at a single point in time. For bacteria and most metals, storm drains accounted for the majority of mass emissions to the river. In contrast, WRPs were the primary source for nutrients. In-stream water quality concentrations generally reflected the main sources. For example, in-stream ammonia concentrations were highest downstream of WRP discharges. In-stream bacterial concentrations were consistently high and showed no apparent spatial pattern, suggesting that storm drains or other in-stream sources are present throughout the watershed.

Full Text

ftp://ftp.sccwrp.org/pub/download/DOCUMENTS/JournalArticles/477_DrySeasonSGR.pdf