



CITY of CALABASAS

# PART ONE



# COMPREHENSIVE STUDY







## EXECUTIVE SUMMARY

The City of Calabasas (City) has three main creeks that flow through its boundaries: Las Virgenes Creek in the Malibu Creek watershed, and Dry Canyon and McCoy Creeks in the Los Angeles River watershed. These three creeks serve to convey storm water flows to the lower watershed during the wet season. Smaller flows associated with rare summer storm runoff, irrigation runoff, industrial/commercial runoff, and natural seeps and springs, pass through the creeks on the way to Malibu Creek and the Los Angeles River. The results of local water quality monitoring indicate that Las Virgenes Creek has elevated levels of nutrients, selenium, coliform, scum, and trash, while Dry Canyon Creek and McCoy Creek have elevated levels of nutrients, coliform, and trash. It should also be noted that two other creeks, Cold and Stokes Creeks, lie within the City's boundaries. These creeks comprise such a minor portion of the City's watercourses that they were not addressed in this study. Although not specifically addressed, these two creeks may benefit from some of the general recommendations made in this report.

In order to address these water quality concerns, the City applied for, and received a 205(j) grant from the State Water Resources Control Board (SWRCB). The overall objectives of the grant study were to: establish baseline environmental conditions; evaluate historical changes in the watershed; define opportunities and constraints for improving water quality (related both to Total Maximum Daily Loads and aquatic habitat); assess opportunities and constraints to restore creek and riparian habitat; and identify recreational and educational facilities and opportunities.

In order to accomplish the stated objectives, a combination of field evaluation and computer modeling were employed. The field evaluation revealed that all three creeks are exhibiting the signs of an urbanizing watershed; increased flow velocity, down cutting of the creek channel, and increased dry season flow. However there are opportunities for both aquatic and riparian habitat improvement throughout the study area. The computer modeling revealed that there was insufficient water quality monitoring data to run a calibrated Better Assessment Science Integrating Point and Nonpoint Sources (BASINS) model; however, there was sufficient data available to utilize a non-calibrated model. Therefore a non-calibrated BASINS model was used to evaluate the implementation of a series of source control measures and Best Management Practices (BMPs) to reduce the nutrients reaching the creeks.

The modeling results conclude that source control measures were more effective at reducing nitrate loading than removing ammonia and phosphate from runoff within this watershed.



Structural BMPs were more effective at reducing ammonia and phosphate loading than were source control measures.

A survey for native fish habitat for the City's three creeks was also conducted. This survey recommended that arroyo chub be the first species to be re-introduced because it is the most resilient of the seven native species that have the potential to survive in the study area. Other recommendations include educating residents about not introducing unwanted aquarium and bait fish, removing barriers (such as those in the Calabasas Golf and County Club), and conducting further water quality and water quantity studies to determine which sites are suitable for re-introduction of other native fish.

Based on the field evaluation and information provided by the City Planning Department, there are opportunities to improve educational and recreational opportunities within the City. These opportunities include: implementing the Trails Master Plan for the City (currently under consideration), adding watershed specific signage throughout the City, constructing monument/signage at creek sites that are adjacent to and accessible to two local schools, and contacting specific landowners (particularly livestock owners) to inform them of the storm water requirements.