

# 1. Introduction

Excess sedimentation of waterbodies is problematic and prevalent worldwide. While natural geomorphic processes generate sediment, land uses including urbanization, agriculture, and grazing significantly enhance the amount produced. Elevated levels threaten fish and amphibious species populations, reduce overall water quality, and can even alter the morphology of a stream.

Select California watersheds are among the highest worldwide in levels of sediment production (Mount 1995). In San Pedro Creek Watershed (SPCW) mass wasting and surface erosion processes act on these sources to dislodge large materials and entrain finer sediments. Aware of these geomorphic processes acting on SPCW, the search for specific sources of sediment through a detailed analysis of the watershed was conducted. A comprehensive assessment of past, current, and potential future sediment sources was conducted with analyses of the subwatersheds. This highly localized breakdown was designed to reveal site-specific problems that could be modified in order to decrease delivery of sediment to San Pedro Creek.

## 1.1 Purpose and Objectives

The primary purpose of this research is to identify spatial and temporal variations of hillslope sediment sources occurring from natural processes and enhanced by changes in land use. Upon completion the following objectives will be met:

1. Qualitatively and where possible quantitatively identify natural and anthropogenic hillslope sources delivering sediment to San Pedro Creek;
2. Prioritize anthropogenic source areas for management and;
3. Propose management recommendations for mitigating sediment from anthropogenic sources.

## 1.2 Project Overview

This study begins with a general overview of the study area. The following sections identify sediment-generating processes occurring in SPCW and review methods used for similar studies as well as those used for this study. The general patterns and site-specific prioritizations resulting from the various methods are then analyzed in the Results section. Finally management recommendations to abate sediment delivery to San Pedro Creek are proposed in the Conclusions section.