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Watershed Loading, Hydrodynamic, and Water Quality Modeling in Support of the Loma Alta Slough Bacteria and Nutrient TMDL

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INTRODUCTION

Loma Alta Slough is a small coastal estuarine wetland located at the mouth of Loma Alta Creek next to Buccaneer Beach Park and is entirely within the City of Oceanside in north San Diego County, California. It has intermittent connection to the Pacific Ocean due to natural closing and opening of the mouth of the Estuary. The Estuary provides refuge, foraging areas, and breeding grounds for coastal marine species, including threatened and endangered species. The watershed also serves as habitat for approximately 100 species of wildlife including migratory birds, raptors, and the federally threatened California gnatcatcher (City of Oceanside 2003). The Estuary receives freshwater inputs from an approximately 25.4 sq. km watershed, of which 95% is within the City of Oceanside, while the remaining 5% is within the City of Vista, the California Department of Transportation (Caltrans), North County Transit District, and the County of San Diego. Loma Alta Slough was placed on the Section 303(d) list of Water Quality Limited Segments in 1996 for eutrophic conditions and indicator bacteria with an estimated affected area affected of 3.3 hectares out of a total of 43.3 hectares. To meet water quality standards, the Slough is subject to the development of a total maximum daily load (TMDL) to restore appropriate beneficial uses (USEPA 2009).

Full Text:
http://ftp.sccwrp.org/pub/download/DOCUMENTS/TechnicalReports/666_LomaAltaTMDL.pdf