

Los Peñasquitos Lagoon Restoration: Restoring Natural Processes to Address Multiple Objectives of Water Quality, Water Resource, Restoration and Flood Management

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Background/Objectives. The Los Peñasquitos Lagoon Restoration project (Project) is in the City of San Diego, San Diego County, California within a portion of Los Peñasquitos Lagoon (Lagoon) and the upstream riparian corridor. Urbanization of the watershed has increased sedimentation causing conversion of tidal and non-tidal salt marsh to brackish or freshwater marsh. Channelization of the canyon creeks has impacted natural floodplain processes that provided sediment deposition to occur further upstream. Development adjacent to the channels experience periodic inundation during larger storm events due to accumulation of sediment, and when flows exceed the design capacity of these channels.

Approach/Activities. The presentation provides how waterway infrastructure projects need to integrate with the watershed management to reduce sediment loading from hydromodification of natural channels. Downstream sediment management includes restoring floodplain processes to upstream deposition. Expansion of floodplains and channel address flood management issues. Watershed management includes reducing dry weather freshwater flows through reductions and diversions in irrigation use and beneficial use of these flows upstream of the Lagoon.

Results/Lessons Learned. The approach and lessons learned through this design and environmental review can be applied to other integrated multi-benefit waterway infrastructure and restoration projects that are becoming part of MS4 Permit compliance programs.