

11. DATA GAPS

11.1 SEDIMENT BUDGET

Sections 1 and 2 outline the current knowledge about geomorphological and sedimentary processes in southern Monterey Bay. However, in certain areas the knowledge is incomplete, and assumptions have been made. Two prioritized data gaps are summarized below, which should be filled in order to improve implementation of RSM initiatives.

Regional particle size characteristics and the littoral cell cut-off diameter: Data on regional sediment distribution and character are limited and is considered a critical data gap in this Coastal RSM Plan. Filling this gap is important for several reasons:

- littoral cell cut-off diameters for each sub-cell need to be calculated to better assess beach nourishment needs and compatibility of source sediments.
- sediment particle size distributions of potential offshore source areas need to be established for compatibility with potential receiver sites. Side scan surveys to determine detailed bottom type, composition and depth are planned for Monterey Bay. These surveys will provide better information on offshore sand resources.
- the relationship between the particle size distributions of the dunes, beaches and shoreface should be examined to better quantify the amount of eroded sediment that remains in the littoral zone, and the impact of finer dune sand on beach slope and recession rate

Sediment transport calculations: Sediment transport will be calculated every 200 m as part of the COCMP and CDIP. An additional directional wave buoy was installed in southern Monterey Bay in 2007 to define the influence of sea breeze generated wind waves. This has improved the estimates of nearshore waves within southern Monterey Bay. The continually expanding information will provide better estimates on transport and definition of the south sub-cell between Wharf II and Sand City. This is critical information for the design of a nourishment plan.

11.2 SENSITIVE SPECIES AND HABITAT

The current knowledge of the distribution of critical species and habitat in southern Monterey Bay is incomplete, and several areas need to be investigated further in order to understand the potential significance of sediment management activities. Two prioritized data gaps are summarized below, which should be filled in order to improve implementation of beach nourishment initiatives.

Distributions of kelp forest and eelgrass meadow: The general locations of kelp forest and eelgrass meadow in the southern bight are known from previous surveys undertaken several years

ago. However, these areas could have change over periods of years and new up-to-date subsurface information on distribution of kelp and eelgrass is needed for use in beach nourishment planning. This Coastal RSM Plan recommends new diver field surveys for project planning and assessment of the sensitivity of these habitats to potential beach nourishment.

Species and habitat of potential offshore borrow sites: Synchronous with the investigation of regional particle size identified as a data gap, the extent and types of benthic communities associated with the potential sediment sources (offshore Sand City, Monterey Submarine Canyon) and their relationships to specific substrates is a critical data gap. Without these data it is difficult to assess the impacts on these communities of sediment recovery by dredging in the offshore.