The Benthic Infaunal Community of San Diego Bay

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Abstract- Benthic infauna and sediment samples were collected at 46 stations in San Diego Bay, California as part of the coastal ecology component of the Southern California Bight 1998 Regional Monitoring Survey (Bight'98). All stations were randomly selected using the USEPA probability-based EMAP design and ranged in depth from about 3 to 16 m. Infaunal community structure was summarized for each station and then compared to various environmental and sediment parameters (e.g., depth, % fines, total organic carbon, nitrogen, and several contaminants of concern). Ordination and classification analyses were also performed to examine the overall similarity of different benthic assemblages in the bay. A total of 38,187 macrobenthic organisms representing 341 taxa were identified. More than 27% of these taxa were rare or unidentifiable taxa represented by a single animal. Two species of polychaete worms, the capitellid *Mediomastus* sp (likely a species complex) and the spionid *Prionospio (Prionospio) heterobranchiata*, were collected at all stations. *Mediomastus* sp was also the numerically dominant, organism in the bay comprising 13% of all animals collected (n = 4,978 individuals). A non-indigenous species, the bivalve *Musculista senhousia*, was second in abundance (n = 3,931 individuals), followed by the sabellid polychaete *Euchone limnicola* (n = 3,894 individuals). Preliminary analyses suggest that tidal flushing may be the primary factor influencing the distribution of benthic assemblages or sub-assemblages throughout the bay. This survey provides valuable baseline data against which future changes in the ecology of the benthos of San Diego Bay may be assessed.

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