SCCWRP #0200

# Benthic Macrofaunal Assemblages of Slope Habitats in the Southern California Borderland

Bruce E. Thompson and Gilbert F. Jones

*[1]Department of Biological Sciences and Allan Hancock Foundation University of Southern California University Park Los Angeles, CA*

**ABSTRACT**

The southern California borderland is composed of sea floor ridges and basins such that 63% of the region is situated on slopes. Four general basin slope habitats are distinguished. Within each habitat the macrofaunal assemblages of each basin slope may be slightly different. The nearshore basin upper slopes (161-632 m) are inhabited by assemblages dominated by polychaetes. Most upper slope species are also found in mainland shelf assemblages. The nearshore basin lower slopes (480-851 m) are inhabited mainly by small molluscans and crustaceans that are mostly restricted to the lower slope habitat. The offshore basin upper slope assemblages represent extensions of the island shelf, ridge, and bank top assemblages, down to about 500 m. The offshore basin lower slope assemblages (541 – 1768 m) are inhabited mainly by ophiuroids and amphipods. These assemblages contain species common in both the shallower ridge-bank fauna and offshore basin fauna. Differences in the species composition of the basin slope assemblages are related to proximity to land, depositional regime and gradients of sediment grain-size, organic material, and dissolved oxygen. Although the slope assemblages differ in species composition, all slopes show a similar trend of decreasing diversity and biomass with increasing depth. The macrofauna of the slopes are mostly burrowing species but feed mostly at the sediment surface on detrital aggregates.

**Due to distribution restrictions, the full-text version of this article is available by request only.**
Please contact pubrequest@sccwrp.org to request a copy