A DESCRIPTIVE STUDY OF THE PHYSICAL OCEANOGRAPHY OF THE ALA WAI CANAL

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ABSTRACT

From March through December 1969 a study of the circulation and temperature-salinity structure of the Ala Wai Canal was made. This man-made channel has an average depth of about 2 meters, and is about 70 meters wide and 3 kilometers long. It was constructed in two straight sections joined by a 45° elbow, and the landward section receives runoff from two major streams at about its midpoint. A circulation pattern typical of partially mixed, moderately stratified estuaries was found, and estimates were made of residence times. Heavy silting has altered the original bathymetry of the Canal into a channel, sill, and basin region. Deep water in the basin is virtually anoxic. Longitudinal sections of dissolved oxygen, phosphates, nitrates, and suspended load were obtained and an analysis was run on surface samples for fecal bacteria.