

Hawaii Coral Reef Assessment and Monitoring Program Benthic Habitat Classification and Mapping Scheme

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Benthic marine habitat maps are important tools for managing coastal resources. These maps can be used to identify and evaluate hot spots of habitat diversity, inventory coastal resources, develop long-range policy for human use, designate and develop marine protected areas (Marine Life Conservation Districts, Fisheries Management Areas, Fish Replenishment Areas, Natural Area reserves, etc.) and provide the basis for determining where further studies, surveying, and monitoring need to take place. For these maps to be constructed, however, there must be at least a rudimentary classification system for the different natural communities present that includes both physical and biological data. The Hawaii Coral Reef Assessment and Monitoring Program is a long-term State-wide program designed to describe spatial and temporal variation in Hawaiian coral reef communities in relation to natural and anthropogenic forcing functions. One component of this program is natural community classification and subsequent mapping of selected survey sites within the Main Hawaiian Islands. The primary focus of this paper is to develop the framework for a quantitative benthic habitat classification scheme for mapping selected coral reef environments included in the Hawaii Coral Reef Assessment and Monitoring Program. This habitat classification scheme will be based on geomorphology, biotic community composition, and several physical/chemical characteristics of the selected program survey sites. Included will be a critique of other existing habitat maps and classification schemes for coral reef environments around the state.

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