The Lawai Bay study area (transects 0 – 21) is located on the south coast of Kauai. The area is bounded by Lawai Bay to the west and Lae Kiki to the east. The shoreline is characterized by small pocket beaches interspersed among basaltic headlands. Overall, the area is eroding at an average rate of -1.2 ft/yr. There are three pocket beaches within the study area. Lawai Bay (transects 0 – 12) is located to the west of Lae O Kauai. This section of the study area is experiencing erosion at an average rate of -1.9 ft/yr. The next beach (transects 13 – 14) to the east of Spouting Horn Park has experienced erosion at an average rate of -0.9 ft/yr. The beach (transects 15 – 21) by Kukuiula Landing Park has experienced no net trend over the period of study. Previous studies 1 did not analyze the Lawai Bay study area shoreline.

SHORELINE CHANGE RATES

Historical shoreline positions are measured every 66 ft along the shoreline. Three sites are denoted by yellow shore-perpendicular transects. Changes in the position of the shorelines through time are used to calculate shoreline change rates (ft/yr) at each transect location. Annual shoreline change rates are shown on the shore-parallel graph. Red bars on the graph indicate a trend of beach erosion, while blue bars indicate a trend of beach accretion. The rate of shoreline change is calculated by measuring length of bars on the graph. Each rate measured is at the end of each transect, and the bar is numbered. Where necessary, transects have been purposely deleted to maintain consistent alongshore spacing. As a result, transect numbering is not consecutive everywhere. The rates are smoothed alongshore using a 1-3-5-3-1 technique to normalize rate differences on adjacent transects.

HISTORICAL SHORELINES

Historical beach positions, color coded by year, are determined using orthorectified and georeferenced aerial photographs and National Ocean Survey (NOS) topographic survey charts. The low water mark is used as the historical shoreline, or shoreline change reference feature (SCRF). Movement of the SCRF along shore-normal transects (spaced every 66 ft) is used to calculate erosion rates.

AREA DESCRIPTION

The Lawai Bay study area (transects 0 – 21) is located on the south coast of Kauai. The area is bounded by Lawai Bay to the west and Lae O Kauai to the east. The shoreline is characterized by small pocket beaches interspersed among basaltic headlands. Overall, the area is eroding at an average rate of -1.2 ft/yr. There are three pocket beaches within the study area. Lawai Bay (transects 0 – 12) is located to the west of Lae O Kauai. This section of the study area is experiencing erosion at an average rate of -1.9 ft/yr. The next beach (transects 13 – 14) to the east of Spouting Horn Park has experienced erosion at an average rate of -0.9 ft/yr. The beach (transects 15 – 21) by Kukuiula Landing Park has experienced no net trend over the period of study. Previous studies 1 did not analyze the Lawai Bay study area shoreline.