

BOG VEGETATION OF ALAKAI SWAMP, KAUAI:  
COMMUNITIES AND SUBSTRATES\*

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Three vegetation communities are recognized in the bogs of northern Alakai Swamp: open bog, hummock/dwarf ohia, and shrub border. These communities are distinguished by the contrasting life forms and structure of major component species. Among environmental gradients across the Swamp, precipitation and drainage appear paramount in their influence on the vegetation.

Substrate characteristics may be the primary determinants of vegetation type. The typical bog soil profile consists of thick layers of saturated, peaty organic material, underlain by a dense gley (leached clay) horizon, and a discontinuous ironstone hardpan, above clayey, weathered bedrock. The gley and hardpan restrict rooting and drainage. They thus help maintain the highly acid and reduced conditions of the organic layers. These factors favor bog vegetation in the forest-bog mosaic.

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\*Abstract