

Historical changes in land use in relation to land erosion and sedimentation on the reefs of South Molokai.

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Erosion and sediment deposition shaped the landforms of Molokai long before human settlement. Early human habitation (circa 1200-1500 C.E.) was concentrated on the rich alluvial soils produced by delivery of sediments to the narrow south coastal plain. Such areas were ideal for growing crops and were close to fresh water sources. Rates of natural erosion were probably accelerated by burning of vegetation in preparation for planting of dry-land crops such as yams, and by the introduction of pigs which root in the forest areas. The early Polynesian colonists developed the feudal ahupuaa system of watershed and reef resource utilization, based on systems found throughout Polynesia. Boundaries were set so that each community had access to the full spectrum of resources from the mountaintop to the sea. After initial colonization, a period of more intense development saw the construction of some 50 shoreline fishponds. Land use changes accelerated following the first contact with Westerners. Grazing animals were introduced in the late 18th century as property of the king and used in trade with passing ships. Herds of cattle, goats, sheep and later introduced deer increased rapidly in size and decimated the native plants. Sandalwood trade with the orient led to devastation of native sandalwood forests. The Mahele (great land division) of 1848-1854, instituted individual land ownership. Ranching and plantation style cultivation of sugar cane expanded in the late 1800s and early 1900's. An attempt to reverse the environmental and economic damage due to poor land management led to the establishment of the Molokai Forest Reserve in 1912, followed in 1921 by the Hawaiian Homesteads program. Cessation of sugar growing and decline in the profitability of cattle ranching are currently causing a shift in land use to diversified agriculture. Present concern centers on overgrazing by feral goats and deer.

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