



MĀLAMA I KA ‘ĀINA

2.3.3 Actions

- a. Encourage State legislation to prohibit the use of cesspools as a means for wastewater disposal in areas below 1,000 feet Mean Sea Level, with the objective of protecting both water quality in coastal areas, as well as in the aquifer, particularly the portion underlying State-owned lands in the Maku‘u area, where there is potential to develop the source for community potable water wells and agricultural irrigation purposes.
- b. Seek State Department of Health acceptance of small-footprint septic wastewater treatment designs; for example, those using drip irrigation or low-pressure pipe and double-tank no-leach field designs. Also, seek acceptance of small decentralized treatment systems and clustered septic systems for wastewater treatment in village/town centers, clustered residential development and other special circumstances.
- c. Prepare watershed management plans for the Volcano-to-Mountain View and Hawaiian Acres-to-Orchidland areas to address localized flooding problems.
- d. By agency agreements and control of zoning and building permits, ensure that a corridor of the Puna watershed at least two miles wide between Wao Kele O Puna forest area and the ocean to the northeast is protected from uses that might contaminate groundwater. No wastewater discharge from cesspools, septic systems, or sewage treatment plants would be allowed within this corridor, nor would disposal of surface runoff. All development within the corridor through Maku‘u and Keonepoko (Nui and Iki ahupua‘a) would be required to utilize centralized sewage treatment plants and/or self-contained pumped septic systems in order to preserve the purity of the groundwater.
- e. In areas below 100 feet above Mean Sea Level, require all black wastewater disposal systems to be contained, pumpable units or be connected to a collective treatment facility. Explore the use of Special Management Area regulations to require this as part of permits for new development.

2.4 SHORELINE AREA

Land use development in Puna’s shoreline area is vulnerable to significant physical risk due to a couple of factors:

- The lack of reef protection for most of the Puna shoreline allows significant wave energy to impact its coast and for noticeable shoreline overwash and retreat during storms to be realized, even where the coastline consists of elevated bluffs. Current Shoreline Setback (SLSB) rules and practices do not adequately take into account these natural processes, nor do they protect development, natural resources or public shoreline access.
- The coastal areas of southeast Puna, as particularly evident in Kapoho, are subsiding at varying rates, up to as much as 0.7 inches per year. Extrapolated over a 50-year period – which is a reasonable lifespan for a house – the subsidence would be nearly 3 feet. As evidence of this phenomenon, many of the lots in the Kapoho area are already submerged. Adding to the risk, the continuing subsidence allows periodic storm waves to rush ever greater distances inland, depending on the slope and