Supplemental material

Performance of the Molecular Tests

Reliability and precision of molecular tests is determined by many factors, most importantly by the quality of the standards used and efficiency of the PCR reactions. The standard curve that was used in this study to quantify molecular targets was linear across a range from 5 to $5x10^5$ gene copies per reaction. Typically the efficiency of qPCR reactions calculated based on the standard curve varied from 91-97% and the R^2 was equal or exceeded 0.990. None of the fecal (n=55), wastewater (n=18), freshwater (n=24), coastal (n=26) or sunlight inactivation study samples (n=148) were inhibited based on the Sketa assay. The highest delay of threshold cycles (+2.52 cycles) was detected in the reaction challenged with DNA originating from rat feces, while the majority of samples (95.6%) were delayed <1 PCR cycles

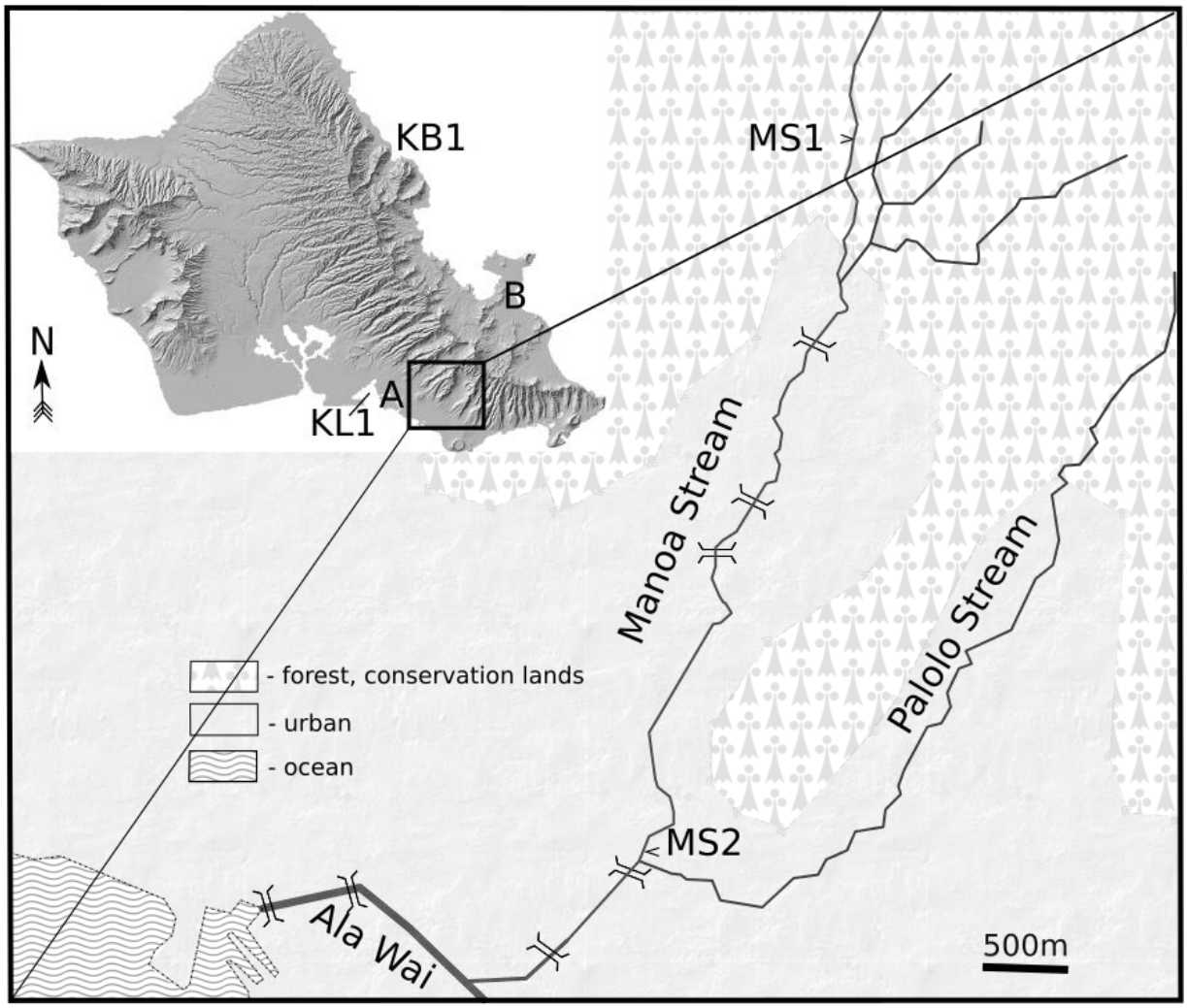

Figure S1. Freshwater samples were collected from the Manoa Stream at sites MS1 and MS2. Marine shoreline samples were collected from the Kahana Bay (KB1) and Keehi Lagoon (KL1). A and B indicate wastewater treatment plants SIWWTP and KWWTP.

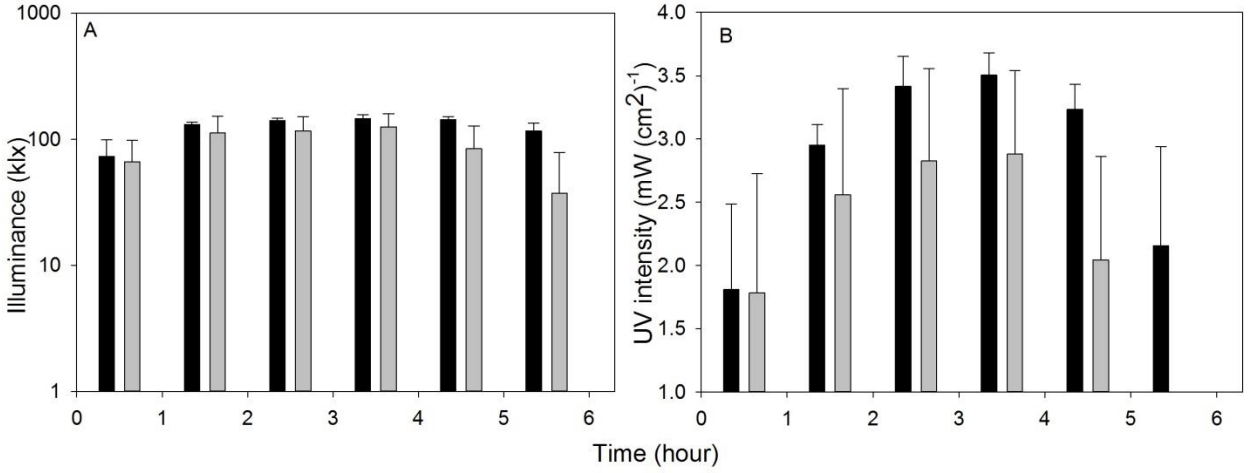

Figure S2. Average illuminance and UV intensities during the study exploring the effect of sunlight on the inactivation of indicator bacteria and decay of molecular markers in freshwater (black columns) and marine water (gray columns).