WATER SURFACE ELEVATION OF KAWAINUI MARSH SOURCE WATER





WATER SURFACE ELEVATION OF KAWAINUI STREAM SHOWING STREAM MOUTH OPENING PERIODS





WATER SURFACE ELEVATION OF KAWAINUI STREAM WAS ABOVE FLOOD THREAT LEVEL ON THREE OCCASIONS





WATER SURFACE ELEVATION OF KAWAINUI MARSH SOURCE WATER





WATER SURFACE ELEVATION OF KAWAINUI MARSH SOURCE WATER



~ 3M cu ft Water Transferred Each Month





















FRESH WATER INFLOW SPREADS RAPIDLY ALONG THE SURFACE OF KAWAINUI STREAM AND DOWNSTREAM TOWARDS THE BEACH.

VERTICAL MIXING OCCURS MORE SLOWLY MAINTAINING STRATIFICATION THROUGHOUT THE MONTH.

FRESH WATER INFLOW APPEARS TO FLOW RAPIDLY ALONG THE SURFACE AND EITHER EVAPORATE OR SLOWLY MIX WITH LOWER WATER LAYERS AND MAINTAINING STRATIFICATION

Salinity





SYPHON INFLOW RESULTED IN GREATER STRATIFICATION OF THE ENTIRE STREAM





DISSOLVED OXYGEN REMAINED WELL BELOW 20% SATURATION IN THE KAWAINUI STREAM THROUGHOUT THE PERIOD OF INFLOW.

D.O. WAS NOT DISTINGUISHABLE FROM CONTROL (NO SYPHON FLOW) CONDITIONS

ABUNDANT MANGROVE ALONG THIS STREAM REACH ARE LIKELY RESPONSIBLE FOR THE LOW D.O.



MANGROVE **STANDS** LINE THE **CHANNEL WHERE** DISSOLVED **OXYGEN LEVELS ARE** LOW

ABUNDANT MANGROVE ALONG THIS STREAM REACH ARE LIKELY RESPONSIBLE FOR THE LOW D.O.





QUESTIONS ?





TRACE-CONTAMINANT STUDY BY USGS

41 SAMPLE SITES WITHIN ESTUARY

71 POLLUTANT TRACERS

CAFFEINE FOUND AT 3 SITES



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