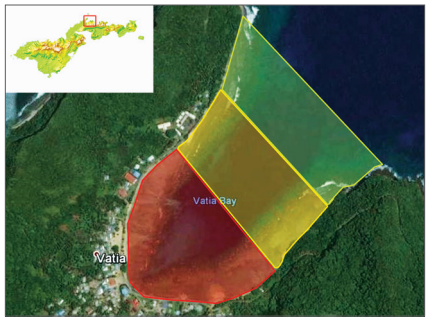
doi:10.7289/V5BZ6417

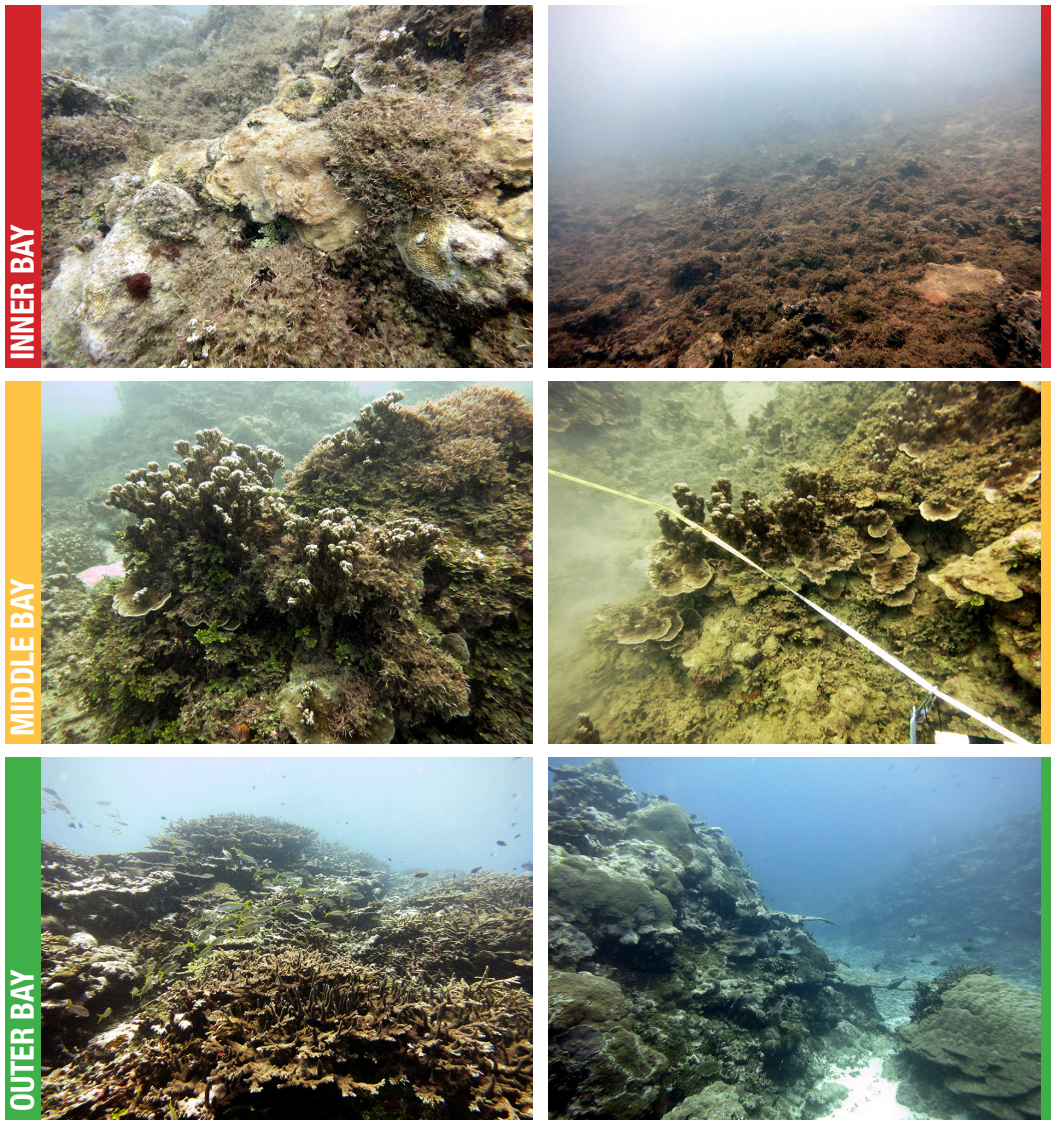
Land-based pollution impacting coral reefs in Vatia Bay



NOAA CORAL REEF CONSERVATION PROGRAM

VATIA BAY

The coral reef in Vatia Bay, American Samoa, is in peril. Recently, staff from NOAA's Coral Reef Ecosystem Program conducted underwater surveys to document the status of coral communities by measuring percent coral cover and coral demographics at 18 sites throughout the bay. The survey data reveals the impacts of land-based sources of pollution (runoff, sedimentation, and nutrient loading) on coral reefs in Vatia Bay. This information also provides a baseline to assess the effectiveness of management actions aimed at reducing land-based stressors in the area. These photographs illustrate the appearance of the reef at three locations: inner, middle, and outer bay.



Land-based pollution causes the most damage to coral reefs in the inner bay (4-6 m deep) where sediments accumulate, settle, reduce available light and kill coral.

INNER BAY (4-6 m)

ALERT: very poor reef condition with severe damage. Coral community dominated by fleshy macroalgae; very low coral cover with occasional, small remnants of coral colonies.

MIDDLE BAY (10 m)

CONCERN: poor to fair condition, considerable to moderate damage. Community dominated by plating-branching coral (*Porites rus*) intermingled with patches of sediment and calcifying macroalgae (*Halimeda*).

OUTER BAY (12-15 m)

LOW CONCERN: fair to good condition, minor damage. Robust coral reef development; community characterized by a diverse assemblage of corals with reduced levels of macroalgae.

References: Vargas-Angel B, Schumacher B. (forthcoming), Baseline assessment of coral reef community structure and demographics in Vatia Bay, Faga'alu Bay, and the Fagamalo Village no-take marine protected area, American Samoa. NOAA Fisheries Pacific Islands Fisheries Science Center, PIFSC, Data Report.

This document may be referenced as: PIFSC. 2016. Land-based pollution impacting coral reefs in Vatia Bay. NOAA Fisheries Pacific Islands Fisheries Science Center, PIFSC, Special Publication, SP-16-001. doi:10.7289/V5BZ6417