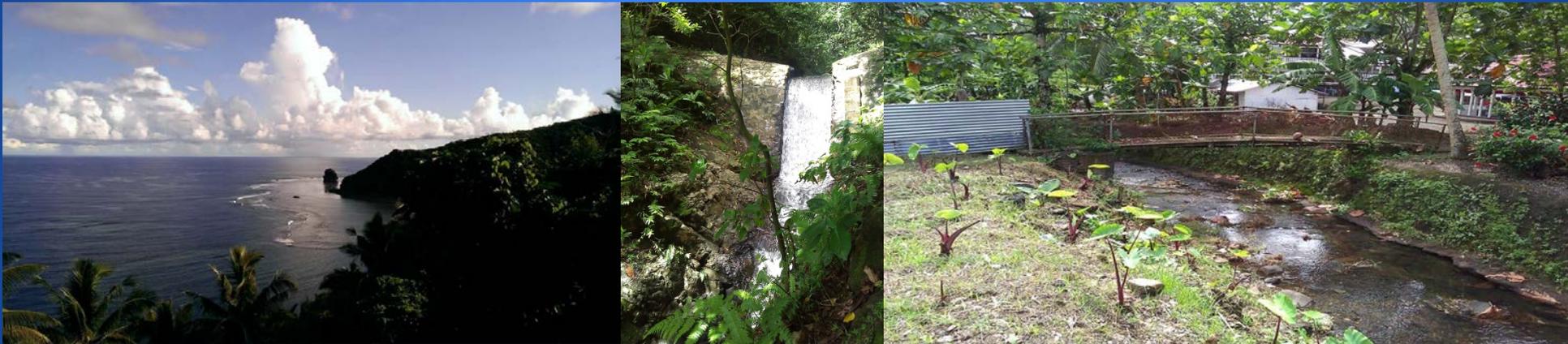


NOAA Coral Reef Conservation Program Ecosystem Science Evaluation



Topical Area: LBSP – Case Study on Faga’alu Bay (American Samoa)

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Introduction

Environmental Assessments/Monitoring are required to assess the efficacy of coastal management solutions (i.e. “before” and “after”).

The Integrated Assessment of Faga’alu Bay/Watershed in American Samoa is a case study that illustrates the approach, including how the results are used by managers.



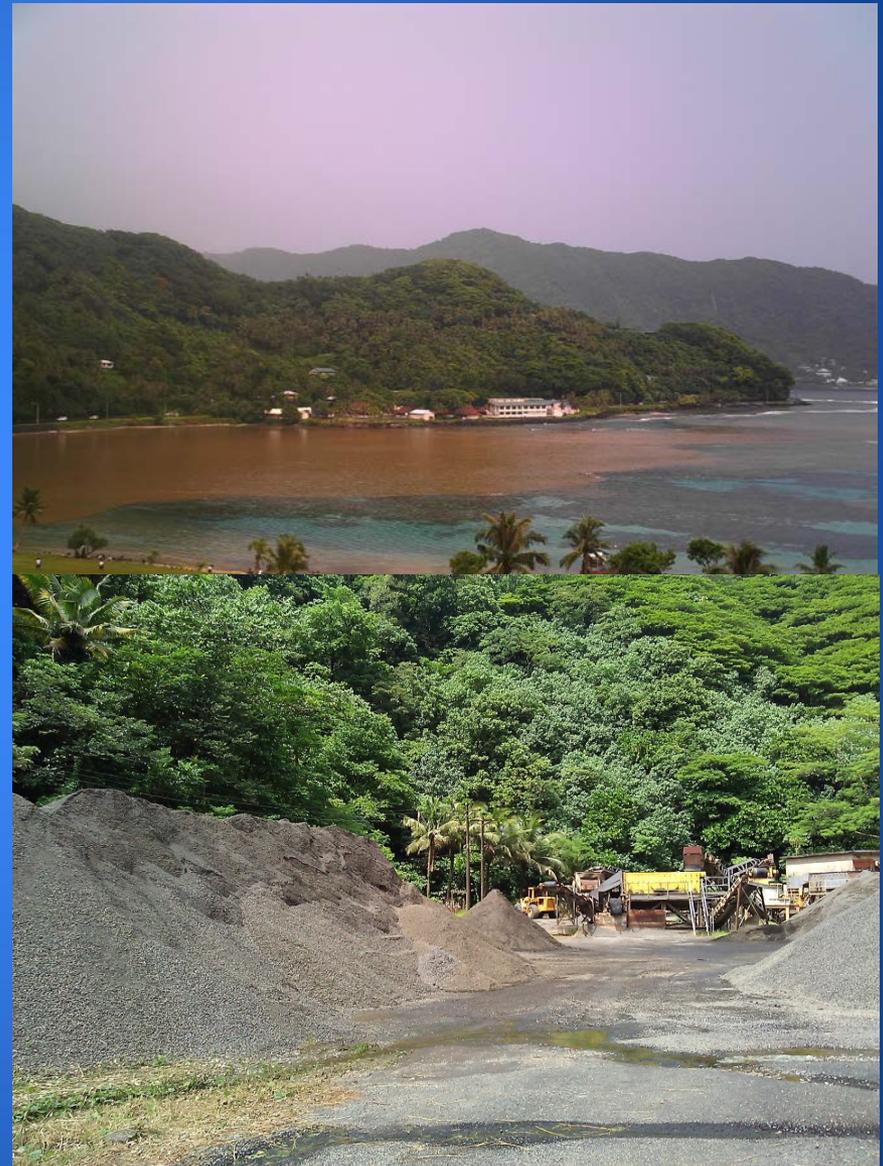
Overview

Faga'alu is a US Coral Reef
Task Force Priority
Watershed

Issues with sedimentation
in the Bay.

Nutrients?

Toxic materials?



Objectives of Work

Characterize the biological status of, and stressors to the Bay

Implement watershed Best Management Practices (BMPs) to reduce stressors

Measure post-BMP changes to system



Funding support (FY11 to 15)

- \$300K (CRCPC through internal RFP)
- \$390K (CRCPC via external RFP)

- \$255K from other sources (NFWF and DOI)
- Plus, leveraging of federal labor and equipment



Key Contributions and Strengths

This project provides an important assessment of the status of both the stressors (sedimentation, nutrients, toxics) and the ecological status of Faga'alu Bay

In addition to being useful in identifying the magnitude and spatial distribution of potential problems, these data can be used as a "before" time point in order to evaluate the efficacy of management activities.

Post BMP monitoring (SDSU) has shown that stream sediment loading curves are shifting towards their natural condition.



How is the information being disseminated?

Technical Memorandum – targeting management community

Publishing in peer reviewed literature (journals) – larger scientific community

Outreach – presentations to local managers, as well as presentations at scientific meetings

How is the information intended to be used?

Who are the intended users of the information?

The intended users of the information are coastal managers, both at the local, state/territory and federal levels.

How will they/could they use this information to make management decisions?

Identifying most relevant management actions

Efficacy of management actions

What are your challenges?

Measuring ecosystem impacts and recovery on useful time scales (i.e. corals are slow to recover)

In general, there a disconnect between science advisory agencies (NOAA/USGS) and those enacting change (local management agencies/EPA)

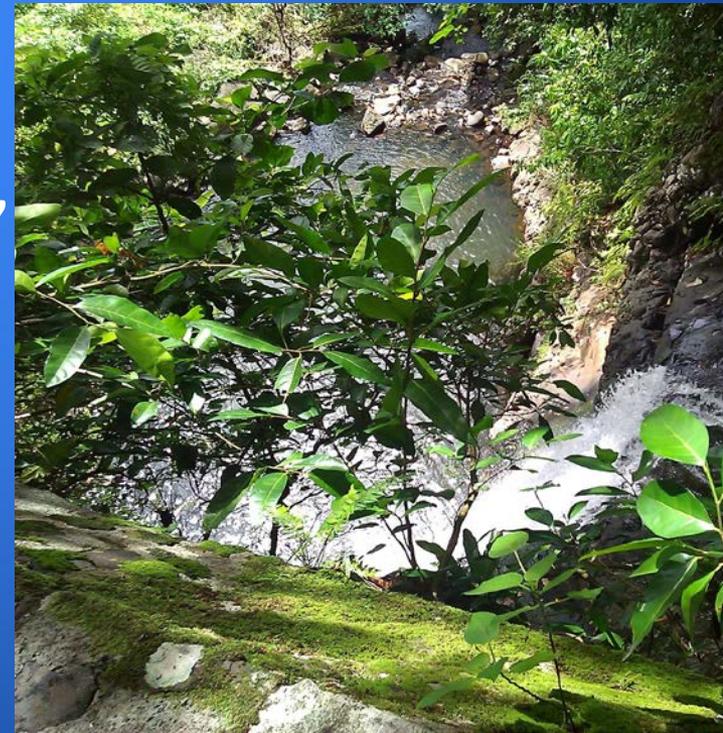


Lessons Learned

Engaging local managers on the front end is critical.

“Simple” systems are easier to manage.

Assessment approaches are transferrable between systems, but each system is unique in terms of the best management approach and how quickly it will respond.



Publications

Holst, S, Messina, A, Biggs T, Vargas-Angel, B, and Whitall, D. 2016. Baseline Assessment of Faga'alu Watershed: A Ridge to Reef Assessment in Support of Sediment Reduction Activities. NOAA Tech Memo. CRCP 23.

Whitall, D. and S. Holst. 2015. Pollution in Surface Sediments in Faga'alu Bay, Tutuila, American Samoa. NOAA Tech Memo NOS/NCCOS 201.

Messina, A. and T. Biggs. 2016. Contributions of human activities to suspended sediment yield during storm events from a small, steep, tropical watershed. *Journal of Hydrology* 538: 726–742.