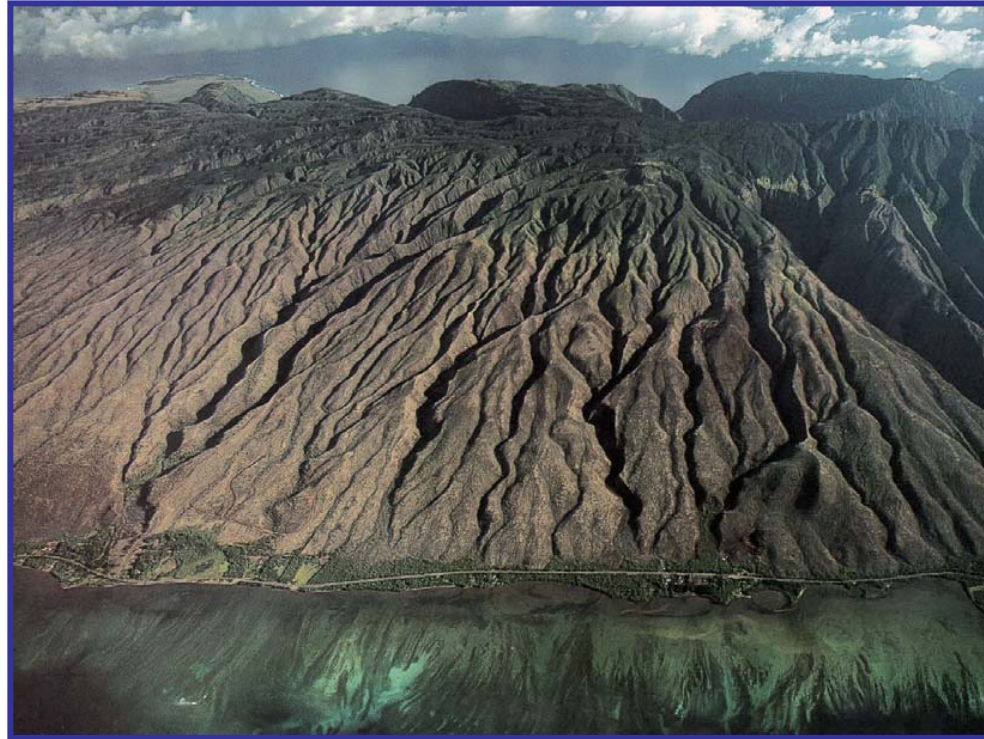


LOCAL ACTION STRATEGY:

Land-based Pollution Threats to Coral Reefs

Hawaii

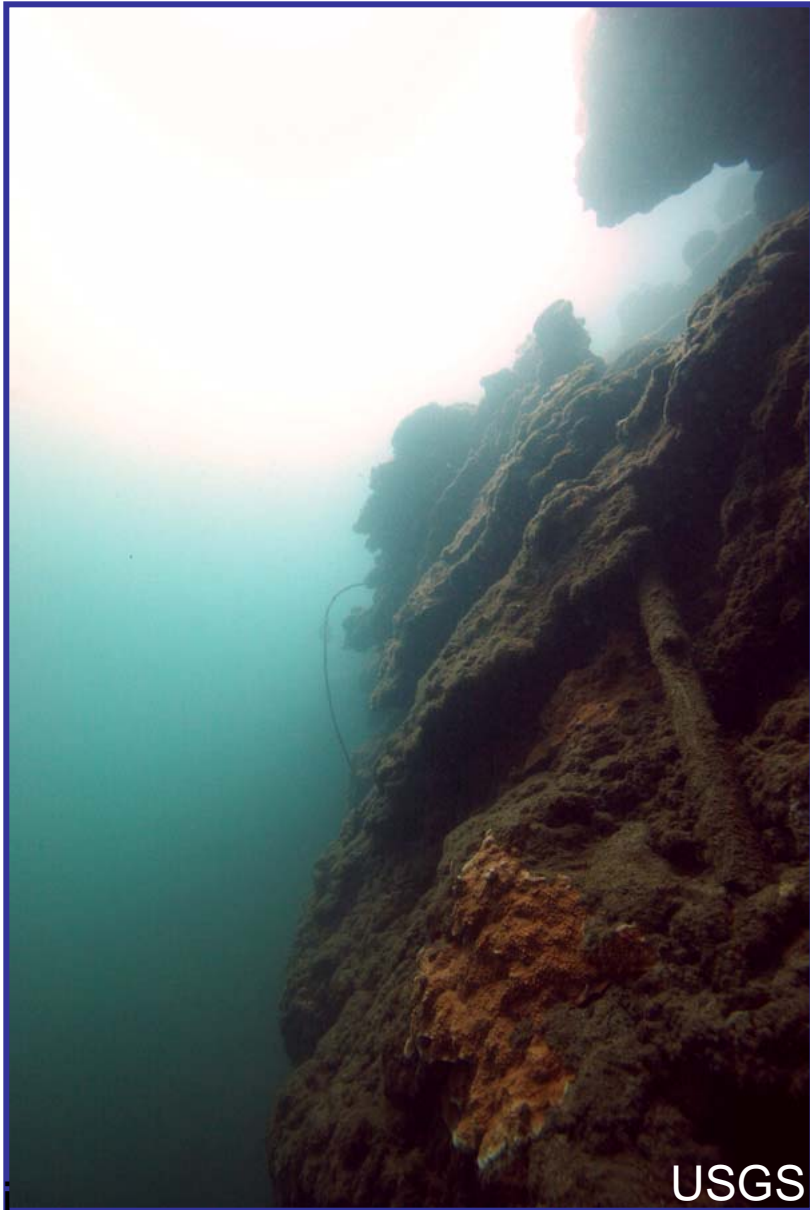


U.S. Coral Reef Task Force Meeting

March 2007

Dr Katherine Chaston

Sediment runoff is the biggest land-based pollution threat to Hawaii's coral reefs

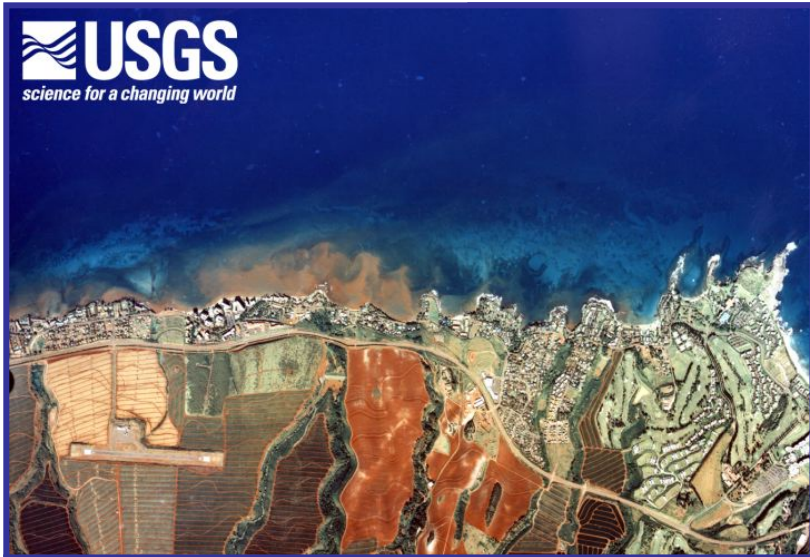


USGS



USGS

Variety of sediment sources



TNC



Hawaii

Sediment runoff has caused:

- **Sediment deposition and accumulation**
- **Sediment resuspension and high turbidity**
- **Reduced coral reproduction & recruitment**
- **Reduced coral cover**

LAS developed using a collaborative multi-agency and community approach



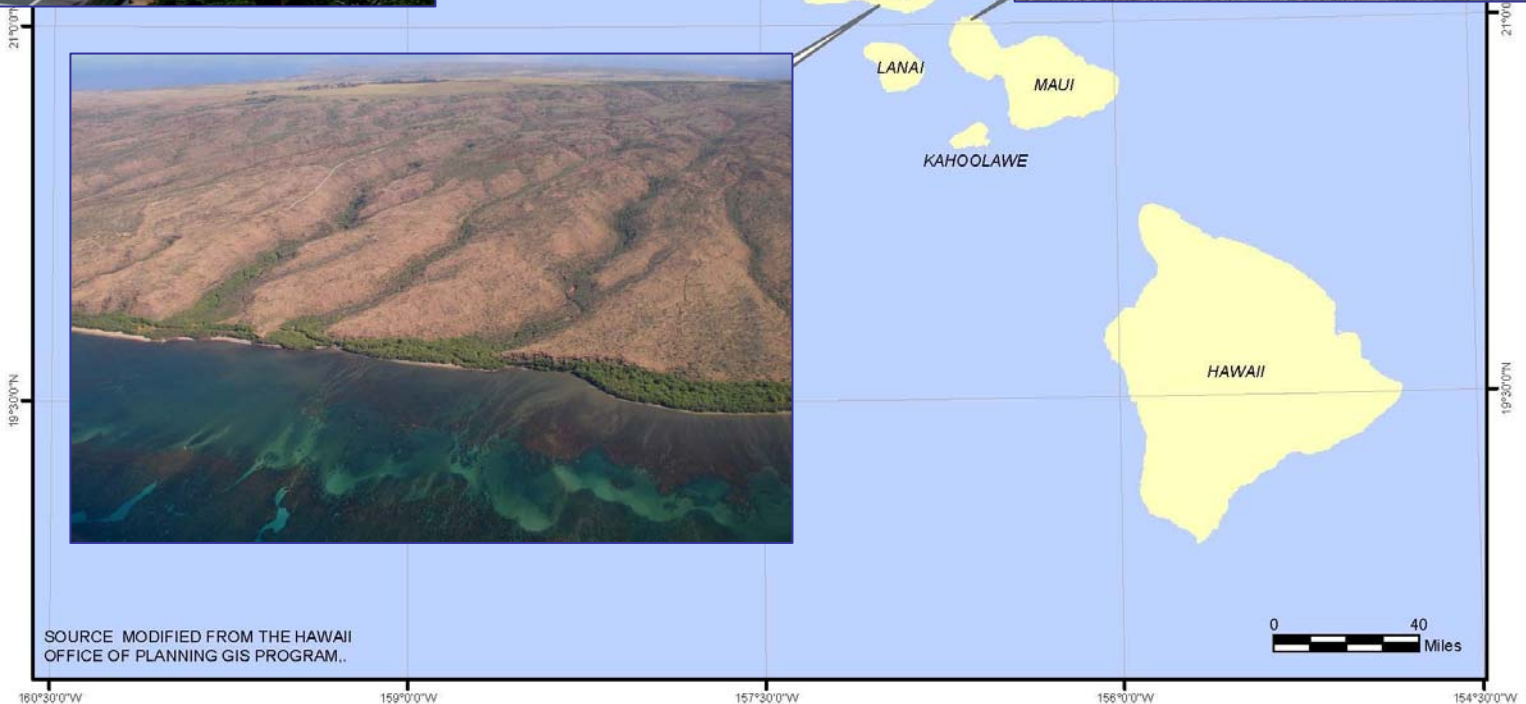
Sustainable Living Institute of Maui



Hawaii's LAS is watershed-based and incorporates holistic management aspects of traditional Hawaiian and natural resource management at the *ahupua`a* level.



Three Priority Watersheds



Watershed selection based on:

- Evidence that pollution impacts reef health
- High degree of community support and landowner interest
- Presence of ongoing land management and pollution control activities
- Availability of baseline data on reef and water quality conditions

LAS goal: Reduce land-based pollution to improve coastal water quality and coral reef ecosystem function and health

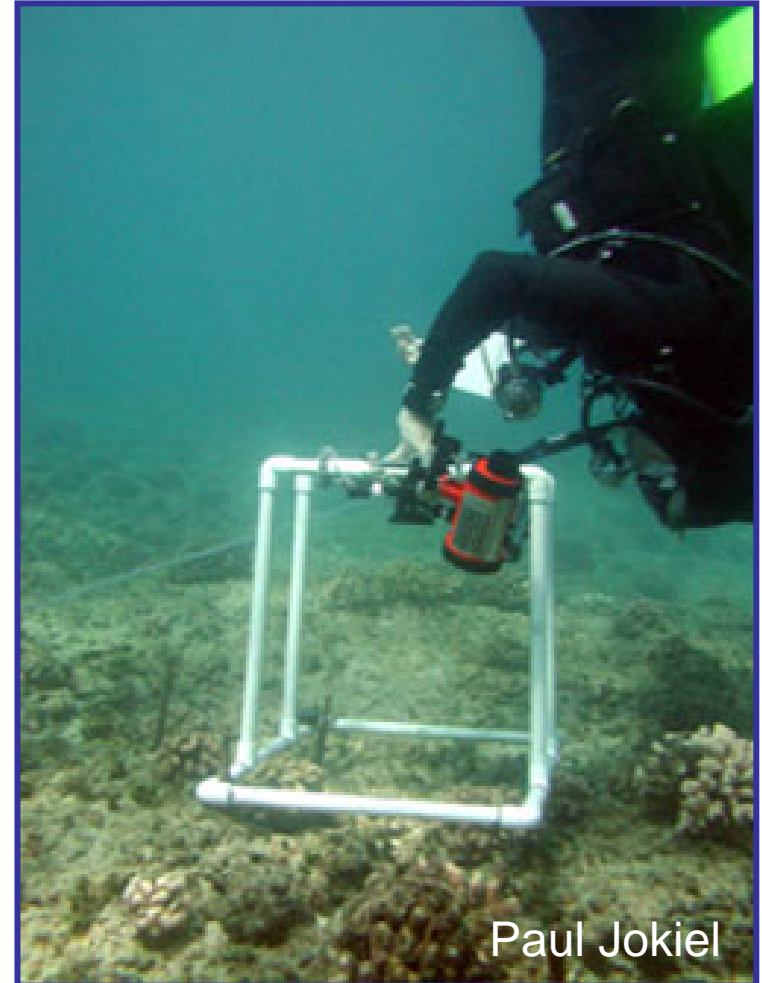


LAS Priorities

Reduce anthropogenic pollutant load to surface water and groundwater by 25% through **sites specific actions** and **best management practices** in Honolulu, Kawela to Kapualei, and Hanalei watershed.



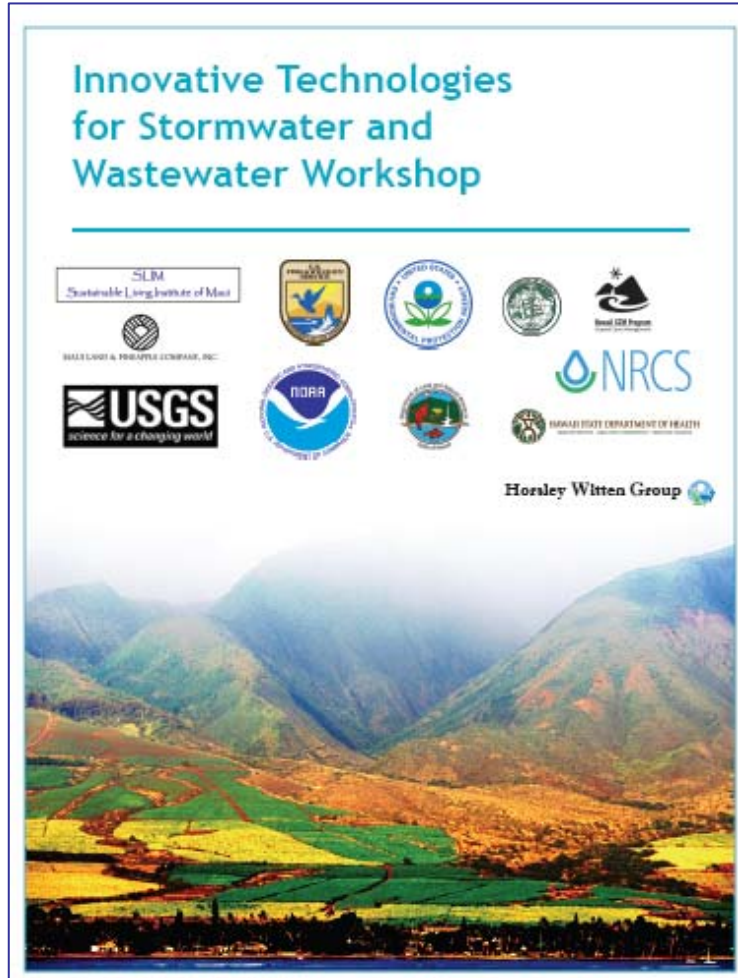
Improve understanding of the links between land-based pollution and coral reef health through **focused scientific research and monitoring**



Increase awareness of pollution prevention and control measures statewide



Project 1: Workshops on stormwater and wastewater management and erosion control



Objective:

Increase awareness and reduce pollutant load thru site specific actions

Challenges:

Finding consultants with local experience

Achievements:

- 3 workshops
- Design guidelines drafted
- Inclusion in county stormwater ordinances



Protecting island resources by enhancing local stormwater and erosion control practices

Project 2: USGS Sediment and Turbidity Studies Molokai

Priority issue: Improve understanding of impacts of sedimentation on reefs

Project partners: USGS Santa Cruz & Flagstaff, UW, TNC, UH, NPS, NOAA

Challenges: Logistics and community support

Achievements

- **Sediment stays on the reef for a long time and is suspended daily**
- **Leads to repeated turbidity for months to years**
- **Daily turbidity often occurs during the day when corals needs optimum sunlight for growth**
- **Daily sedimentation affects daily feeding, nutrients, algae growth, recruitment**

Project 3: Best Management Practices for Taro farms: Hanalei, Kaua'i



Partners: HWH, EPA, USFWS

Challenges: Integration with farming practices, maintenance

Achievements: 10% reduction in sediment with bmp's, increase of 10 -64% without

Challenges: land-based sources of pollution

An underwater photograph of a coral reef. The coral is primarily yellowish-white, suggesting some bleaching or degradation. The background is a clear, light blue water. The text is overlaid on the left side of the image.

Financial Capacity

- difficulty in securing large grants
- long-term funding for monitoring
- local donor priorities differ to LAS priorities
- matching fund requirements

Technical Capacity

- Scientific tools for management

Challenges: land-based sources of pollution

Staff Capacity

- limited staff to undertake projects

Short-time frame

- Projects take longer to initiate
(eg USACE 10 year project cycle)
- Difficult to measure effectiveness

Needs: Land-based Sources of Pollution

Project 1: LAS coordinator salary

Limitations: Long-term funding

Assistance Needs: Partnership between
University of Hawaii and NOAA, NRCS, EPA?

A person wearing a wetsuit and blue gloves is using a hammer to work on a coral reef underwater. The scene is dimly lit, suggesting an underwater environment. The coral is light-colored and textured.

Needs: Land-based Sources of Pollution

Project 2: Development of pollution sensitive indicators

Limitations:

- Partial funding (still need \$60K)
- Difficulty with federal match
- Not a priority of local funders

Assistance needed: Funding that doesn't require non-federal match

Needs: Land-based Sources of Pollution

Project 3: Restoration projects in Honolua and Molokai (sediment basins)

Limitations: Large grants, political will,
Long time frame

Assistance Needed: USACE, NRCS, NFWS

Needs: Land-based Sources of Pollution

Project 4: Long-term coral reef and water quality monitoring

Limitation: Long-term funding, limited capacity of state resource agencies

Assistance Needed: Long-term funding or increased staff for monitoring



Needs: Land-based Sources of Pollution

Project 5: Revegetation trial Molokai

Limitations:

Local capacity and funding

Assistance Needs: \$20K (project) , \$50K staff.
Position could be combination of part-time positions (NRCS, USFWS, EPA)

Next Steps

- **Extend the strategy for an additional 2 years**
- **Continue to focus on implementing projects in the 3 priority ahupua'a**
- **In the next 2 years select an additional watershed or theme to expand the strategy**
- **Steering Committee Retreat**
- **LAS review workshop with Stakeholders.**

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Mahalo

Hawaii

