



American Samoa

Land Based Sources of Pollution

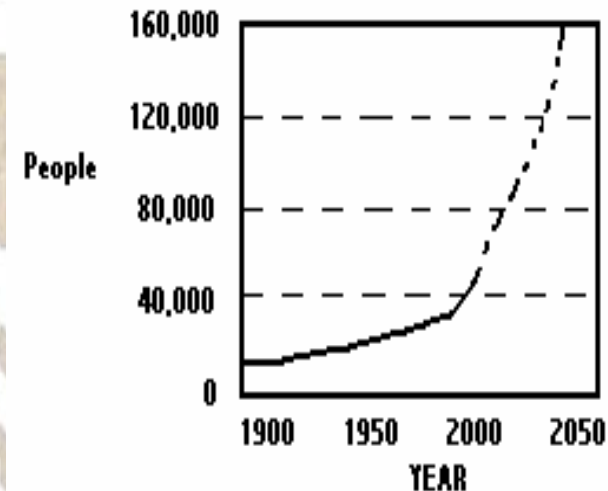
Local Action Strategy

Governor's Coral Reef Advisory Group

*USCRTF Meeting
Washington DC
March 1, 2007*

Pressure Points that lead to LBSP LAS

- Explosive population growth
 - ~Pop. rose by 16,300 more people in last 30 years~ increase by 35%
 - 3.7% growth annually
- Rapid Development on 30% developable land
- Unmanaged Land Use = Non-Point Source Pollution (i.e. sediments, pesticides, organic nutrients...)
- Public and coral reef health affected





L BSP Local Action Strategy Preface

Maximizing Existing Mechanisms

- Utilizing 2003NPS program relationships/approval as a launch pad between ASEPA & ASCMP.
- Focus on Gaps not currently addressed.

Island Style Reality Checks & Guiding Influences

- Achievable with on-island staff & resources.
- Resilient to staff turnover.
- Management driven.
- Sustainable over time with \$ & people.



American Samoa's LAS Approach to Land Based Sources of Pollution Action Strategy

3 Major Themes

- **Utilization of NPS Program.**

Goal #1 – Reduce NPS entering waterways through NPS Pollution Program Plan. Case Study – Piggery Compliance Program

- **Monitor Parameters of Coral Health & Water Quality at reef sites, Adjacent to watersheds to help determine efficacy of NPS program**

Goal # 1, 2, & 3 – Achieved via CRAG Territorial Coral Reef Monitoring Program & Biocriteria Development Study.

- **Development and Implementation of Education & Outreach Programs.**


Case Study – Piggery Compliance Program

Cultural/Ceremonial/Economical Benefits of Pig Farms or Piggeries in AS

Problems – uncontrolled waste from piggeries, severely degraded water Quality & transmission of disease via contaminated waters.

Approach – Under the AS Coastal Non-Point Source Program – lead by ASEPA with cooperation from several partners – ASCMP, ASCC, & DOI developed a multi-phased Piggery Compliance Program.





*Piggery Compliance Program –
Implemented:*

(1) Phase I – Education & Outreach Program on leptospirosis and laws Governing piggeries, GPS or geo-locate pig facilities and their discharge points. Methods used;

- ~ Assessment & baseline data collection by “Team Lepto” on waste disposal methods, piggery infrastructure, GPS of sites, and noted barriers for compliance/willingness of owners to comply
- ~ Campaigns on radio/tv/newspapers and house to house visits

(2) Phase II – Bring all piggery operations into compliance with local Environmental (i.e. land use permits) and health regulations.

- ~ Revisit of piggery sites by ASEPA officers, priority list developed to conduct compliance inspections.

Results of the Piggery Compliance Program



Phase I & II – Identified 8,244 pigs ~ 997 piggeries

~**97%** of the piggeries were non-compliant with environmental laws (92% of these were unpermitted)

~**82%** discharged directly into streams (23% were too close to streams), utilized open-bottom cesspools, or had improperly constructed septic tanks.

~**60%** did not meet 50 feet setback.

~ 997 piggeries – 30% cannot meet setbacks & must be permanently closed.

Case Study 2 – Coral Health Monitoring Program for AS



This effort lead to the development of a Territorial Monitoring Plan, Implementation of Regular Monitoring activities, provide on-going information to managers with data resulting from monitoring efforts.

Issues that lead to this effort – Status of Coral Health as a consequence of rapid growth & increased land based activities was done on a site by site basis, & no comprehensive program activity by any ASG agency was in place.

Approach – ASCMP funded project, supported by CRAG where office housing provided by partner agency DMWR as result of this work a Coral Reef Ecologist.



- To collect data from the monitoring sites for long-term trend information about marine resources.
- Use data to review the status and trends to assess the health and diversity of Samoan coral reefs and change over time.
- Survey efforts concentrated on Tutuila ~population is highest and threats to coral reefs are greatest, and accessibility is highest.
- 11 monitoring sites (Tutuila & Aunu'u) providing a reasonable geographic distribution and some of the variety of reef types & exposures (i.e. windward/leeward).

Biocriteria Development Study

Goal - coral reef monitoring program to carry out a long-term investigation to detect change over time resulting from land-based, human disturbance

Issues- dynamic nature of water quality data makes it very difficult to properly assess a region, project, or pollutant source, without appropriate sample sizes.

Project Description- Development of coral reef biocriteria, and to implement diagnostic reef monitoring that can guide curative, restorative & preventive management actions.

Approach – Partnership with CNMI/DEQ -Targeted sites established on reefs adjacent to stream discharge, at a uniform distance of ~250 m away from each stream mouth. Benthic coverage, coral community and macroinvertebrate and fish abundances data collected at a 9 – 11 m depth.



Take Home Messages & Lessons Learned

• Challenges

- Capacity – Resources (\$, equipment, maintenance...) On going Training & People (capacity skills, staff turnover...)
- Leveraging & Maintaining consistent support from partners (local & Federal) organizations.
- Relationship building (to facilitate sharing)
- Gaining constituency support & trust.
- Realistic Benchmarks/timing – contractual projects/still need project managers.
- Will we achieve a quantifiable measure of our success?



Needs

Sustained Capacity – Training - technical/science and fellowships, Program mentorship's of local staff (certification program).

Institutional strengthening for qualified individuals to maintain Programs over time. Recommend an;

- ~ Needs Assessment/Inventory of current status, short & long term needs by agency.
- ~ Inventory of Positions/Funding to support needs by CRAG agencies.

Science to Management Tool Kit – Innovative approaches to link monitoring/Science to management.

Sustainable Financing and Brokering Funding Opportunities – support, facilitation, & coordination needed from Federal and across government on existing/future grants ~ broadening partnerships/financing



Next Steps

- LAS Evaluation Survey Completed as a basis for LAS development.
- Point to note for a New LAS Development ~Revamping the goals to make them more measurable and more time bound. Ensuring sustainable capacity issues are incorporated.
- All of the objectives (termed projects in our LAS) remain high priorities for continued action.

Unfunded Project to date;

- Development of Database to collate data from all Monitoring Activities

Fa'afetai tele lava!

