

Southwest Maui Watershed Plan



Presented by Robin S. Knox,
Southwest Maui Watershed Coordinator
Water Quality Consulting, Inc.

What is a watershed?

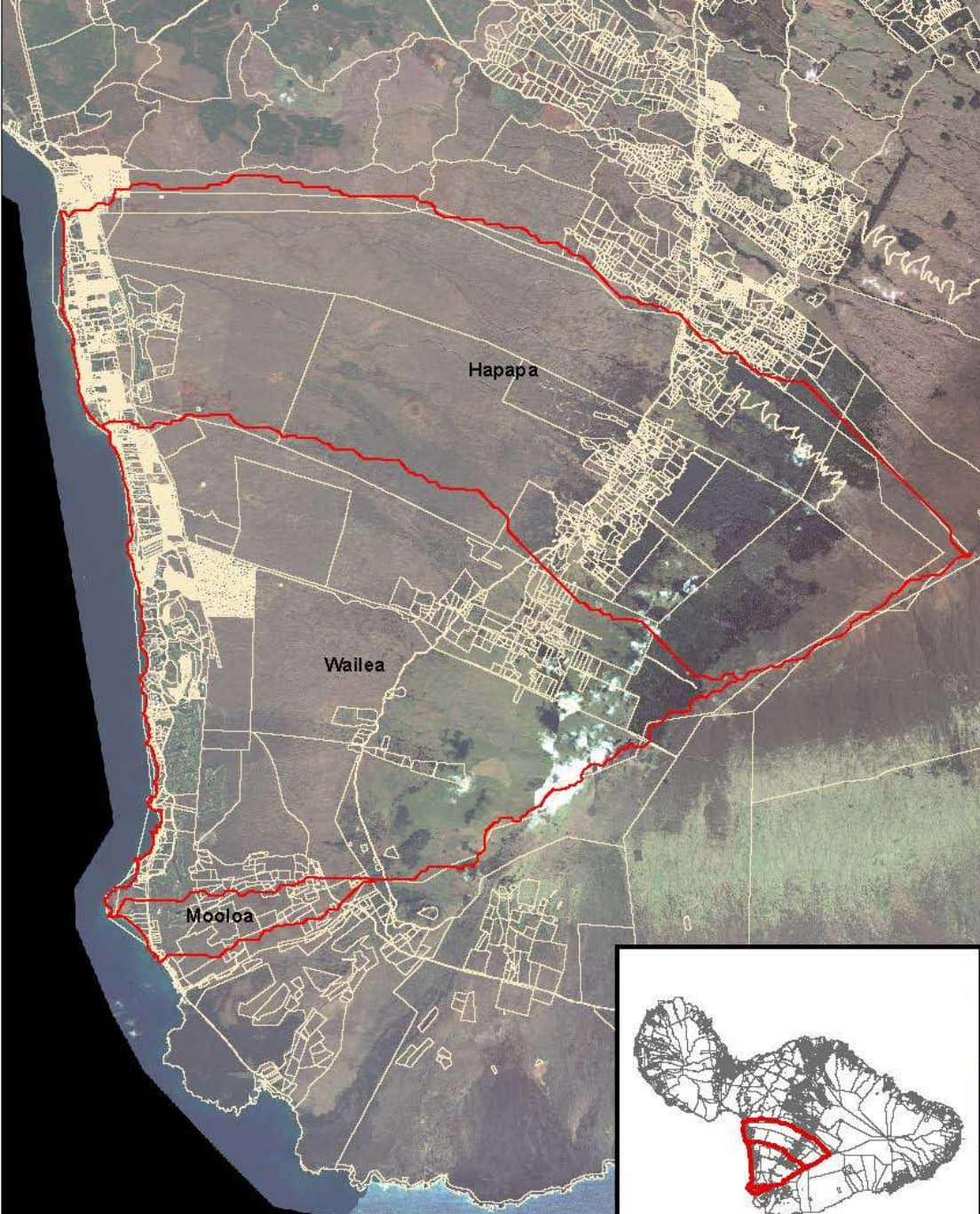


- **Ahupua'a**~ A traditional Hawaiian approach to sustainable watershed management
- We all live in an Ahupua'a (watershed) that reaches from the mountain slopes out to the sea including coral reefs.
- Within that ahupua'a, all living things- people, animals, plants, waters, earth are linked by their common connection – the water.

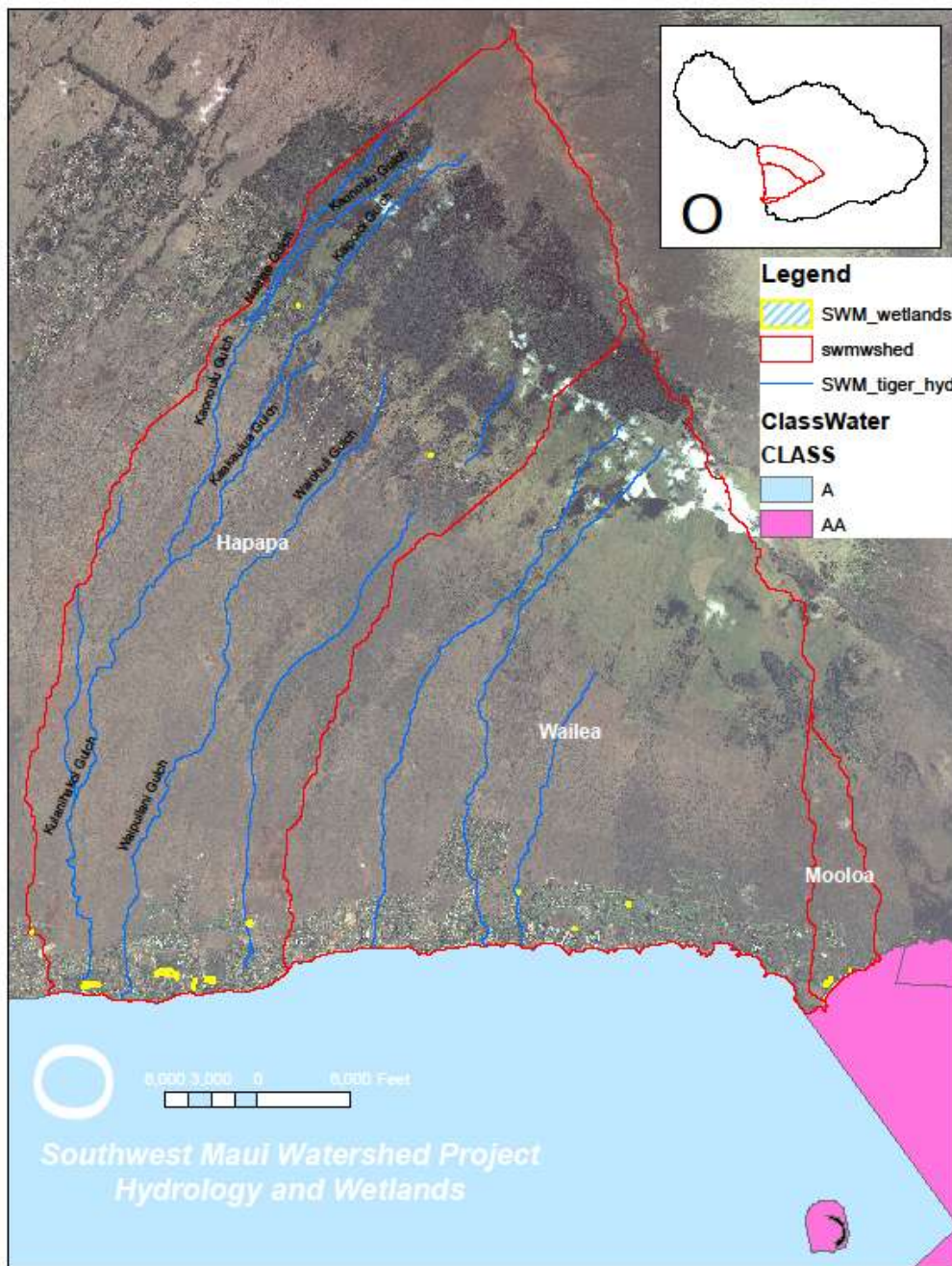
What Is Watershed Planning?

- Brings together all the users of a watershed to help make decisions.
- Includes government, residents, landowners and community groups.
- Looks at solutions for the goals the stakeholders agree upon.
- Based upon community knowledge and sound science.
- Helps make communities eligible for grants to accomplish different projects.

Southwest
Maui
Watershed
Plan
to protect
water quality
and reduce
land-based
pollution



Southwest Maui Watershed Project



2 year planning effort
 3 Watersheds
 Hapapa, Wailea, and Mooloa
 Sponsored by
 Central Maui Soil and Water
 Conservation District
 Funded by a
 Clean Water Act Grant
 from the USEPA and



Hawaii Department of Health
 Clean Water Branch

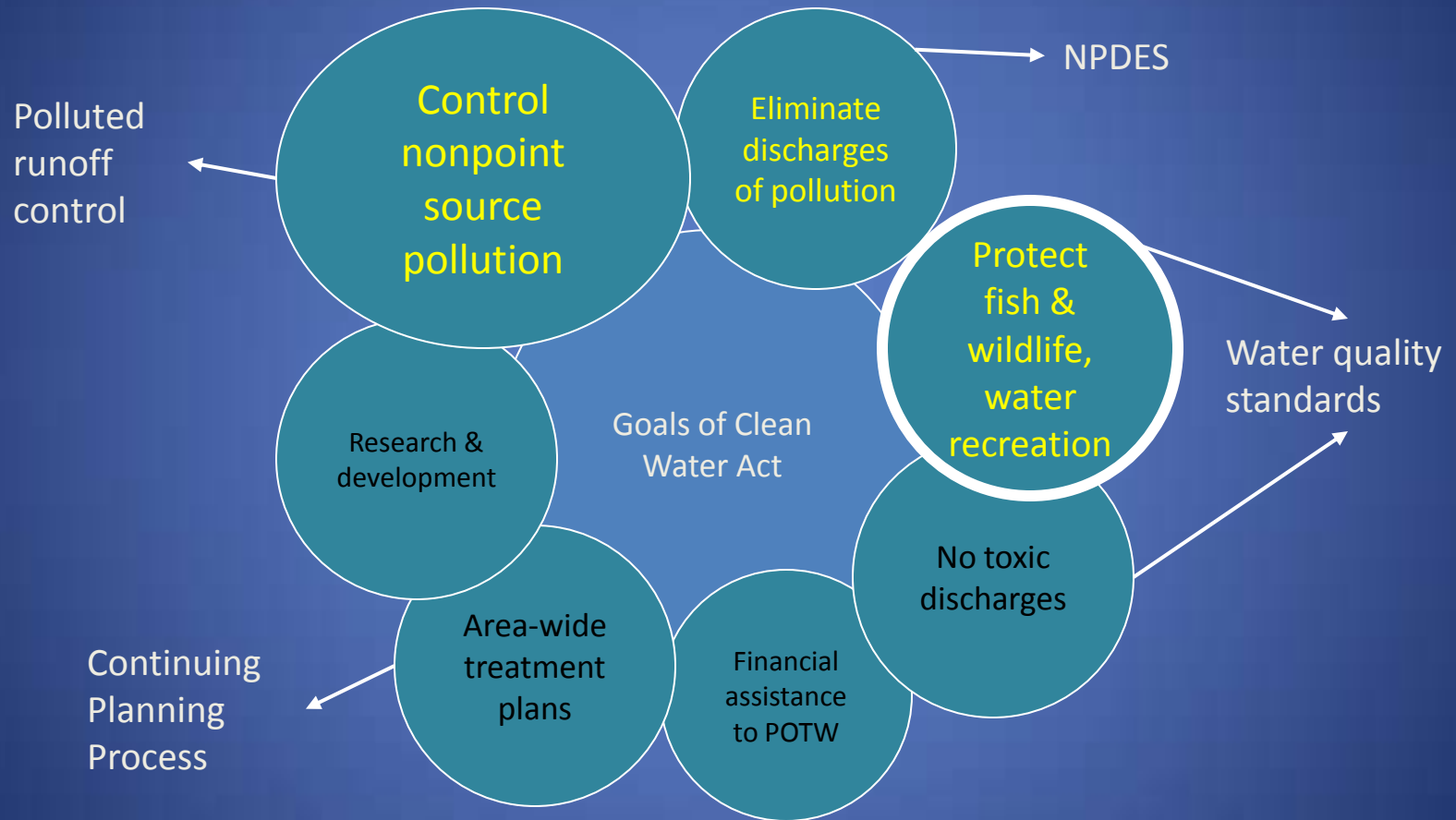


Clean Water Act

- Goals include *fishable swimmable* waters



Clean Water Act Goals



Point and Non-point sources of pollution

- Point source pollution comes from a discrete pipe, well or conveyance
- Non-point source pollution comes from more diffuse sources such as stormwater runoff from land areas (some stormwater (construction sites, industrial sites, some large urban) is considered point source).



Point Source



Non-point source

Pollutant Sources on Maui

- Nonpoint sources
 - Agriculture runoff
 - Development (landscaping, golf courses, roads, rooftops)
 - septic tanks, cess pools
- Point sources (NPDES regulated)
 - Construction site runoff (over 1 acre)
 - MECO
 - Maui Ocean center
 - Small sewage
 - County runoff (when population exceeds 150K)
- Injection wells – Point source but regulated under UIC instead of NPDES

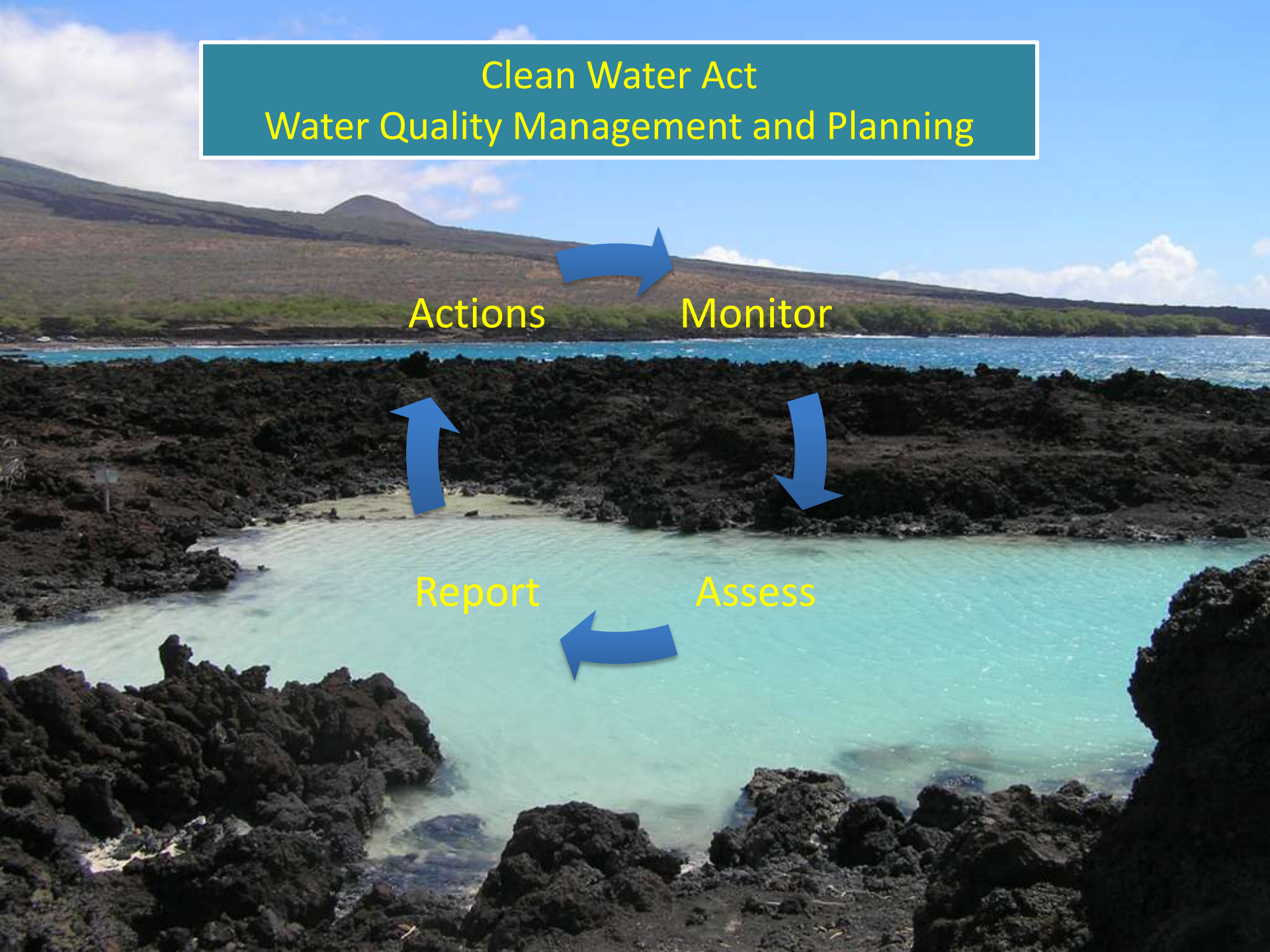
Clean Water Act Water Quality Management and Planning

Actions

Monitor

Report

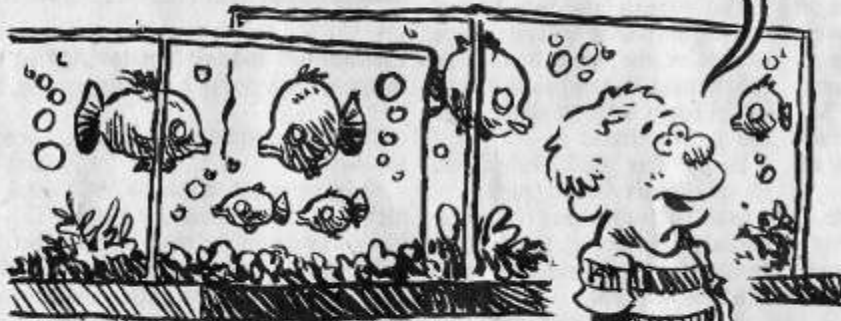
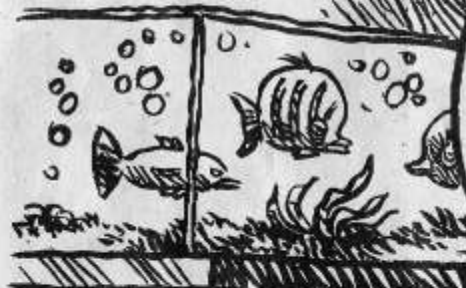
Assess



AQUARIUM WORLD

Mister, what do I need to create a realistic marine environment?

Agricultural runoff, coastal overdevelopment, unprocessed sewage, and depleted fish species...



MARGULIES

© 2004 THE RECORD NEW JERSEY
WWW.NORTHJERSEY.COM/MARGULIES



Why do we need watershed planning?

- Maui's aquatic resources, such as native fishes and corals reefs are threatened by man's activities.
- Anthropogenic (man-made) impacts to water quality are associated with population and land use patterns.
- Planning can reduce pollution loads and other impacts from man's activities

Examples Listed Maui Marine Waters

Note: A= Attainment of standards; N= nonattainment

Geo Scope	TN	NO3 NO2	TP	Turb	Chl- A	NH3
Kihei Coast – Cove Park	N	N	?	N	N	-
Ma'alea Boat Harbor	N	N	?	N	N	N
Oneloa (Big Beach) to Ahihi Kinau	N	N	A	N	N	N
Oneuli Beach	N	N	A	N	N	N
Poolenalena to Makena Landing	N	N	A	N	N	N
Makena Landing to Maluaka Beach	N	N	N	N	N	N

Impaired Waters List and Total Maximum Daily Loads

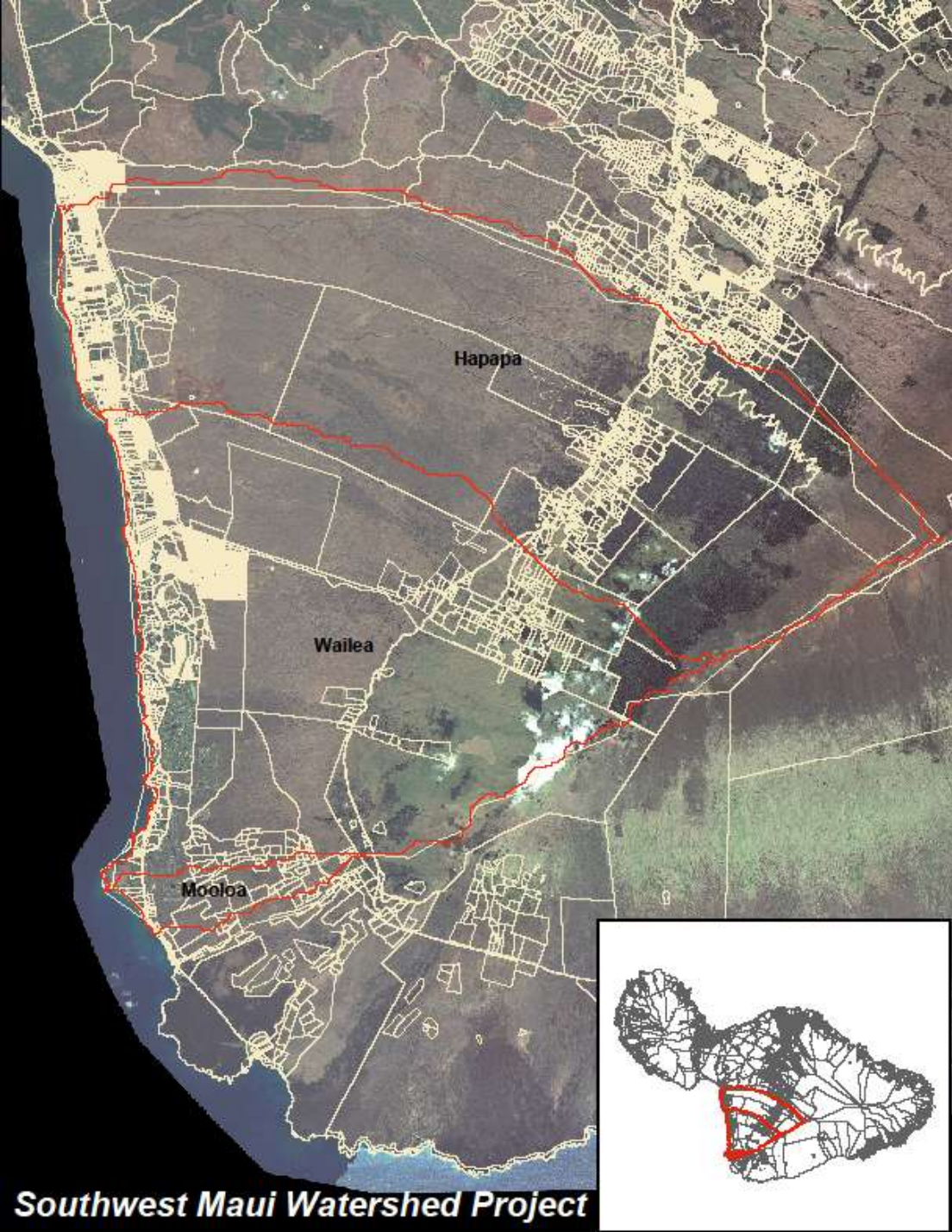
- Identify waters not meeting water quality standards
- Set priorities/ develop total maximum daily load (TMDL)
- Includes waste load allocation for point sources and load allocation for non-point sources

$TMDL = WLA + LA + \text{Margin of Safety}$



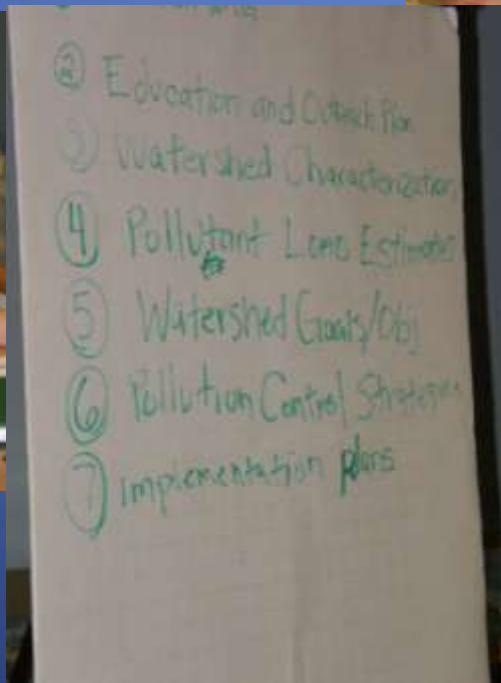
Southwest Maui Watershed Plan

- CWA Section 319 Nonpoint Source Control
- Watershed Advisory Group
 - Community Outreach/ Projects
- Watershed Characterization
- Pollutant Loading Estimates
- Best Management Practices
 - Pollutant Load Reduction Goals



Project Meetings

- 4 Public Meetings
 - 12 WAG Meetings
 - 24 SC Meetings



Project Meeting Schedule

- July 8 – Steering Committee (SC)
 - “Whale Sanctuary” in Kihei 3-5 pm
- Aug 12 – SC / WAG Upcountry Location TBD
- Sept 9 – SC “Whale Sanctuary” in Kihei 3-5 pm
- Oct 14 – SC/WAG HIHWNMS “Whale Sanctuary” in Kihei 3-5 pm
- Dec 9 – SC/WAG Upcountry Location TBD

Education and Outreach Plan

- Laie Wetland Restoration
 - <http://www.hear.org/naturalareas/laie/index.html>
- Whale Sanctuary Volunteer Monitoring Program
- Maui Nui Marine Resource Council Turbidity Task Force
- Surfrider Blue Water Task Force
- Hawaii Ecotube and Digital Bus
- CORAL Reef Alliance
 - <http://monitoring.coral.org/>



What can you do?

- Participate in Watershed Planning! Come to WAG meetings, public meetings
- Pick up a Turbidity Task Force sampling kit and monitor your favorite waterbody
- Take water quality training classes (Ocean Awareness Training, HIHWNMS Citizen Scientists, Surfrider Bluewater Task Force)
- Help with monitoring, data entry and reporting to DOH
<http://monitoring.coral.org>
- Comment on Clean Water Rulemaking and Decisions
<http://hawaii.gov/health/environmental/env-planning/wqm/wqm.html>

Want to volunteer?

Questions?

Want to know more?

Contact Robin S. Knox

Southwest Maui Watershed

Coordinator

(808)281-6416

wqcinc@hawaii.rr.com

knoxr@hawaii.edu