

Lock 'Um in a Room, Hawai'i's Attempt at Comparability

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Comparability

- Political entities and agendas
- Geological, hydrological, and other ‘natural’ phenomenon



Basic History

- State Aquatic Resource Protection Responsibility is shared by two State Departments, the Department of Land and Natural Resources (DLNR), and the Department of Health (DOH)
- Subject to various other federal mandates and interests - FWS(ESA), NOAA, USGS, USDA-NRCS
- Also influenced by other scientific, economic and community interests



Mission Statements

DLNR-CWRM - ‘set policies, protect resources, defines uses, establish priorities while assuring rights and uses, and establish regulatory procedures’

DLNR-DAR— ‘manage, conserve and restore the state’s unique aquatic resources and ecosystems for present and future generations’

DOH – ‘protect and improve the health and environment for all people in Hawai’i’



Decision Mandates

■ DLNR

- ◆ Allocation of water resources
- ◆ Protect stream channels from alteration
- ◆ Restoration
- ◆ Allocation of biological resources

■ DOH

- ◆ CWA Compliance
 - ◆ Standards
 - ◆ Permit conditions



Data Quality Objectives

DLNR

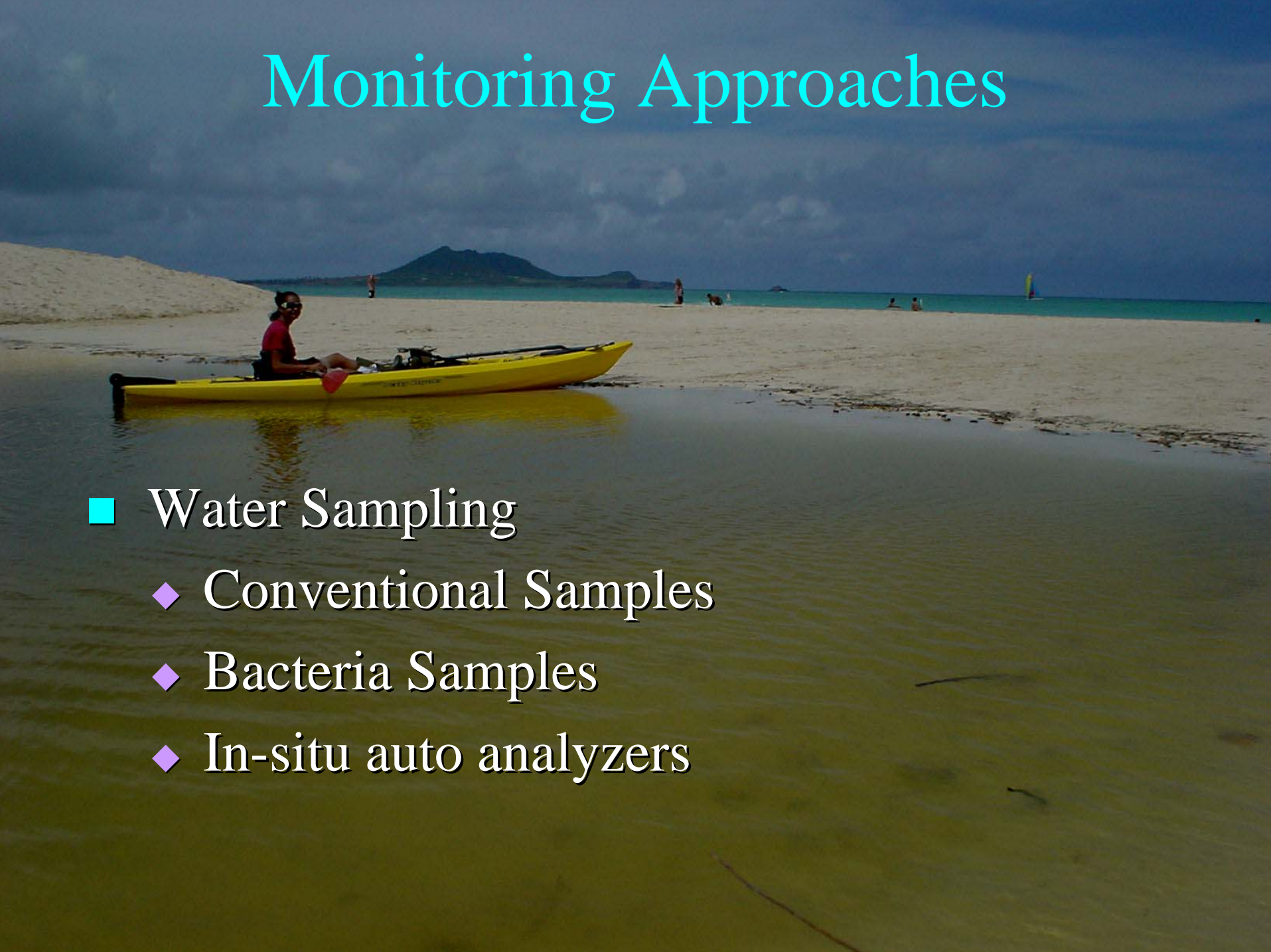
DOH

Unknown

Various MDLs and
QA/QC as required by
EPA



Monitoring Approaches

- 
- A person in a yellow kayak is positioned in the shallow water of a beach. The kayak is bright yellow and has some gear on board. The person is wearing a red shirt and sunglasses. The beach is wide and sandy, with a few other people visible in the distance. In the background, there is a large, dark mountain under a cloudy sky. The water is calm and reflects the sky and the kayak.
- Water Sampling
 - ◆ Conventional Samples
 - ◆ Bacteria Samples
 - ◆ In-situ auto analyzers

Monitoring Approaches

■ Biological Assessments

◆ DLNR – presence/absence

◆ Point quadrat method – 1992

◆ DOH

◆ Hawaii Stream Bioassessment Protocol (HSBP) developed by UH Manoa - 2002

◆ Hawaii Stream Visual Protocol (HSVP) developed by NRCS - 2001

Other Approaches

- EMAP and NAQWA have significant differences to our protocols
- Community groups may need specialized training
- Other research may be too specific for regulatory work and needs



Difficulties in Comparability

■ Physical differences

- ◆ Each Island is very different and unique
- ◆ Each Island has 'ecoregions'
- ◆ Each Stream has different components

■ Biological differences

- ◆ Species composition



Volcanic History



And Yes, we have snow!



Deserts on the Leeward Sides



Extremely Wet Windward Sides



Erosion over geologic time



Extreme Waterfall Heights



Biological Component



Biological Component



Biological Invasives

There have been planned/unplanned releases

- Bass – both large and small mouth
- Catfishes – Chinese and Channel
- Tilapia – several species
- Aquarium fishes
- Extensive array of invasive plant species
- Wild Pigs and Goats



Invasives



Solutions

- Help DOH establish a better working relationship with DLNR
- Create a State WQM Council
 - ◆ WQS
 - ◆ Methods
 - ◆ Data management
- Create a tiered approach to environmental monitoring



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