

State Laboratories Division: Staying Ahead of Threats 2006 - 2015

First Public Health Lab member of National Animal Health Lab Network



Sediments tested for contaminant metals and percent solids

Kaloko Dam breach samples (Kauai) tested for pesticides, metals, oils, and other contaminants

Supported studies investigating Vog contaminants in rainfall catchment systems on Hawaii

Environmental source of Kauai *E. coli* outbreak determined by DNA fingerprinting & FERN methods



Began hosting CDC / APHL EID training fellows

Electronic lab information system (LIMS) implemented for Influenza testing

FDA FERN response testing for melamine in dry foods imported from Asia by GC-MS

Global financial crisis begins

Established DNA sequencing for bacterial identifications

Pearl City Neighborhood Board supports biosafety level 3 certification with letter to governor

Global financial crisis results in loss of 15 positions and several functions at SLD

Tested Niihau fish kill samples for pesticides residues

Responded to 2009 Influenza A/H1N1 Pandemic with statewide lab coordination and management of over 26,000 specimens



Swine Influenza surveillance started

Earned Department of Health Team of the Year



Mumps/Measles PCR testing established

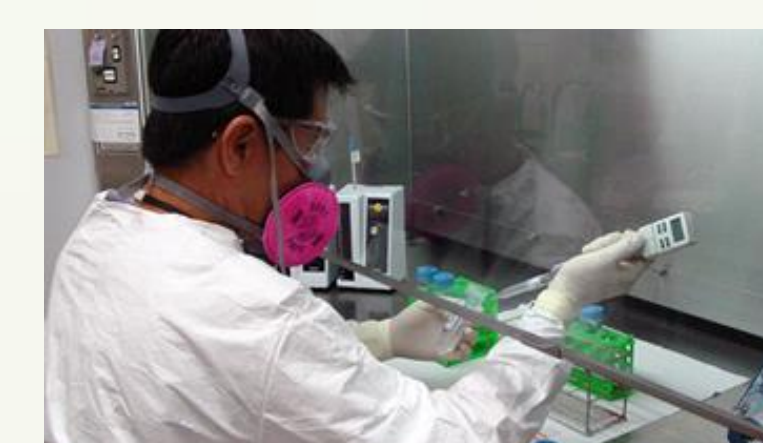
Designated critical infrastructure by Department of Homeland Security

Installed Mountain View monitoring station for Vog

Tested UH threat letters for anthrax

Installed Niualu air monitoring station in response to community complaints about cruise ship emissions on Kauai

Established 24/7 multi-agency bioterrorism monitoring in support of Asia-Pacific Economic Cooperation



Installed NCore monitoring station for ambient air pollutants

Earns CDC LRN Excellence in Partnership award

Winning Hawaii LRN video featured at national meeting

Supported Kewalo Basin investigation with testing for nutrients and total suspended solids

Provided biothreat testing support for Republican and Democratic Conventions

Chemical and biological training with National Guard 93rd Civil Support Team



Expanded testing for respiratory viruses established to investigate causes of non-flu illness

Automated molecular testing for sexually transmitted infections (STIs)

Installed Waikoloa monitoring station for Vog

Confirmed mercury in marlin fish jerky

APHL Healthiest Laboratory – Runner Up

Testing for Influenza A/H7 (Eurasian Lineage) by PCR established

Installed additional air monitoring station in response to sugarcane burning complaints

Supported Hawaii Kai marina sediment investigation; tested for salt, chlorides and sodium

Electronic systems for drinking water sampling and testing established

Malaria molecular testing established

Tested threat sample for ricin toxin

Confirmed double Malaria infection

1st Chikungunya virus in American Samoa detected; differentiated from measles in Yap

Foot and Mouth Disease and Classical Swine Fever screening by PCR established



Ebola testing established



Purge and Trap Gas Chromatography/Mass Spectrometry MS for volatile compounds in drinking water



Installed Kahului monitoring station for sugarcane burning emissions

Supported FBI Abrine Investigation

Milk certification on Oahu re-established

MERS CoV outbreak in S. Korea – SLD assists Tripler and USAPI

Hosted a sampling workshop for ~70 first responders

2006

2007

2008

2009

2010

2011

2012

2013

2014

2015

Hosted CDC / APHL Emerging Infectious Disease (EID) research fellow

Online licensing of clinical laboratory personnel began



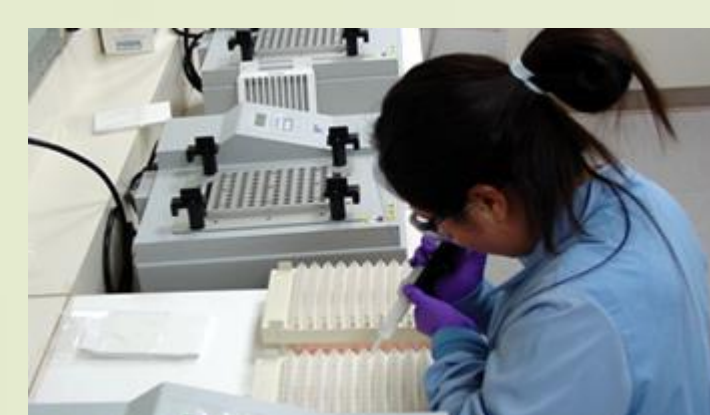
West Nile virus surveillance initiated

Avian Influenza Surveillance in birds established



Established PCR for whooping cough

Molecular testing for STIs established



Hawaii Admin Rules revised to allow non-licensed individuals to do Rapid HIV testing

Installed Pahala monitoring station for ambient air pollutants

Published journal article on lab systems integration and pandemic preparedness

Support from FERN helps reduce impact of decreased CDC funding

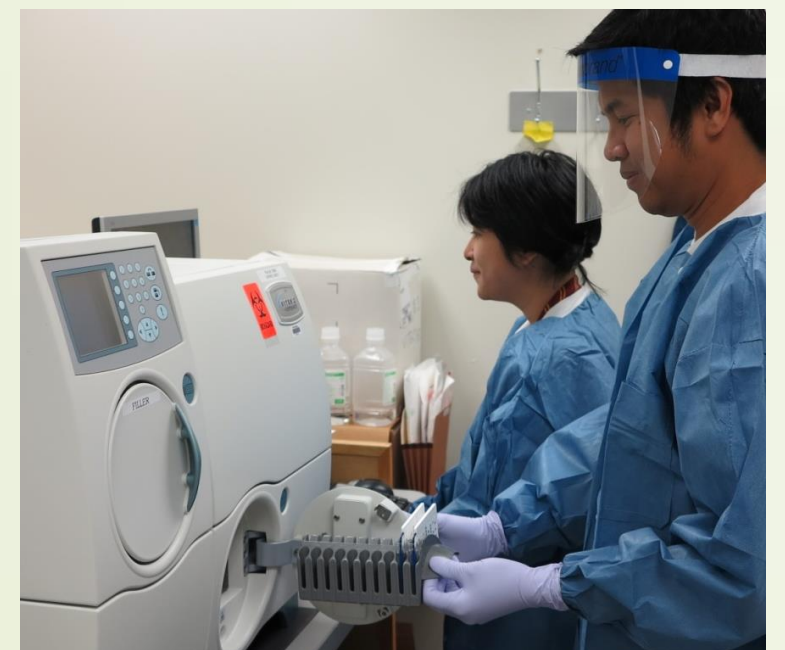
Online Licensing began accepting credit cards and >90% pay online

SLD Staff invited to visit the "LOST" set during filming on Waimano Ridge



Halemaumau Crater Eruption response included installation of additional monitoring station in response to sulfur dioxide emissions

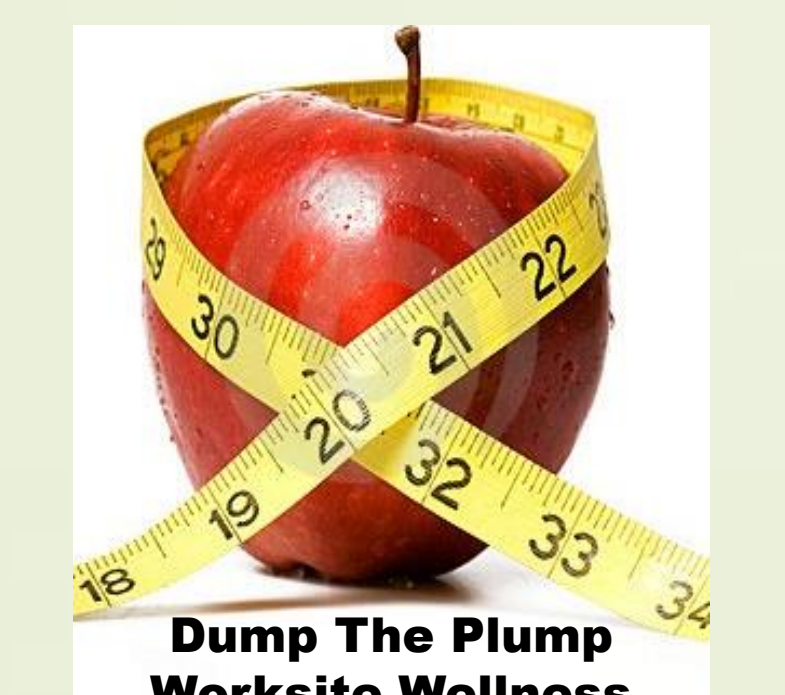
Sequencing for Norovirus typing established; joined CDC CaliciNet



Hosted FDA FERN microbiology & chemistry training

Response testing of unknown liquid (Kauai)

Initiates support to US Affiliated Pacific Islands (USAPI) for pandemic response



Insecticide carbaryl found in basil after a misuse report

75% of the 95 basil samples analyzed had violative pesticide residues

Installed Ocean View monitoring station for Vog

Swine Influenza expanded to USDA



Initiate internet-based training for OSHA compliance and other requirements

Established pyrosequencing to detect antiviral resistance in Influenza

Installed a National Core Network Site: a multi pollutant air monitor that integrates several advanced measurement systems for particles, pollutant gases and meteorology



Collaboration with UH to monitor mercury / selenium levels in fish and fish feed

Confirmed 1st clinical case of measles since the 2000 eradication

Cases of rat lungworm infection gain media attention; SLD works with CDC on testing

In response to first dengue outbreak in 10 years, established dengue PCR testing

Hosted training for lab Identification of bioterrorism agents for DOD and South Korean scientists



Began hosting 2-10 undergrad interns annually

Identification of metals leaching from the activated carbon used to remove contaminants in Central Oahu drinking water

Implemented a novel internet system for IT requests

Influenza A/H3N2 variant detected on Maui

Liquid Chromatography/Mass Spectrometry began for emerging drinking water contaminants

SLD featured on KHON Hawaii Five-O story



West Nile virus activity on mainland surges while Hawaii remains WNV-free

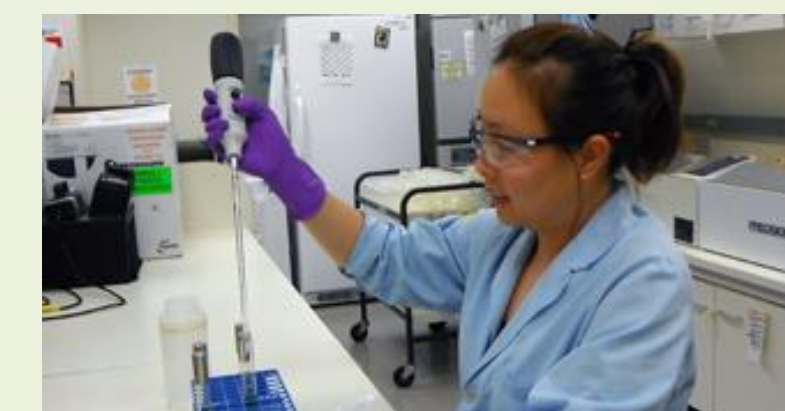
Rat lung worm testing established

Installed Paia monitoring station for sugarcane burning emissions

FDA presents Leveraging / Collaboration Award

Supported Maui Submarine Springs with scan for metals

FDA-approved shellfish testing re-established to support local growers



Molasses spill in Honolulu Harbor kills thousands of fish. Testing water quality requires 12-14 hr days, 7 days a week



Began hosting undergraduate STEM Interns

Identification of PCB's in a drinking water storage tank on Kauai

MERS CoV testing established

Kapaa Quarry samples tested for nutrients, oil & grease to address community concerns

Next generation ICP/MS system that allows the use of Collision Cell and Reaction Cell technology to analyze metals in complex sample matrix

Automated molecular testing for sexually transmitted infections expanded to off-label specimens

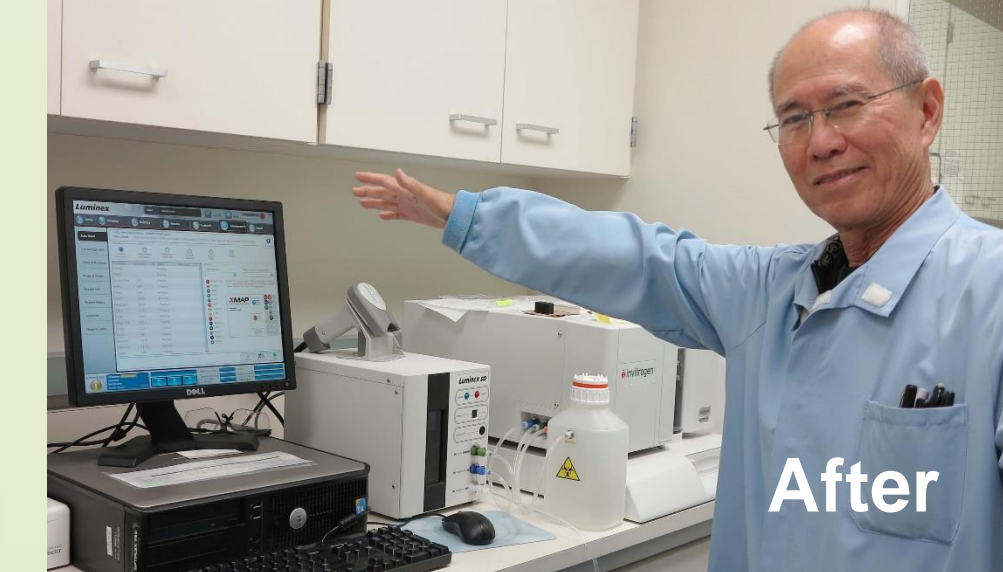
PCR used to screen *Leptospira* cultures

LIMS release 7 implemented

Governor visits to recognize SLD employees



Molecular *Salmonella* serotyping implemented



And much more to come...