



Water Quality Plan

FINAL
3.29.2019

Hawaii Department of Health **Water Quality Plan Update**

**Commission on
Water Resources
Management Meeting**

Oahu ~ May 21, 2019



Environmental Health Administration
Healthy People • Healthy Communities • Healthy Islands

Presentation Agenda

- **Water Quality Plan Outline**
- **Proposed Schedule for Presenting the Final Water Quality Plan to the Water Industry**



Water Quality Plan Outline

- **Section I: Background**
 - Hawaii Water Plan
 - Statewide Framework for Updating the Hawaii Water Plan
- **Section II: Water Quality Programs and Initiatives**
 - Surface Water Quality
 - Ground Water Quality
 - Drinking Water and Clean Water State Revolving Funds
 - Challenges and New Initiatives
- **Section III: Supporting DOH Water Quality Work**
- **Section IV-VII: Relevant Statutes and Rules; Information Sources; Organization Charts; and Water Quality Maps**

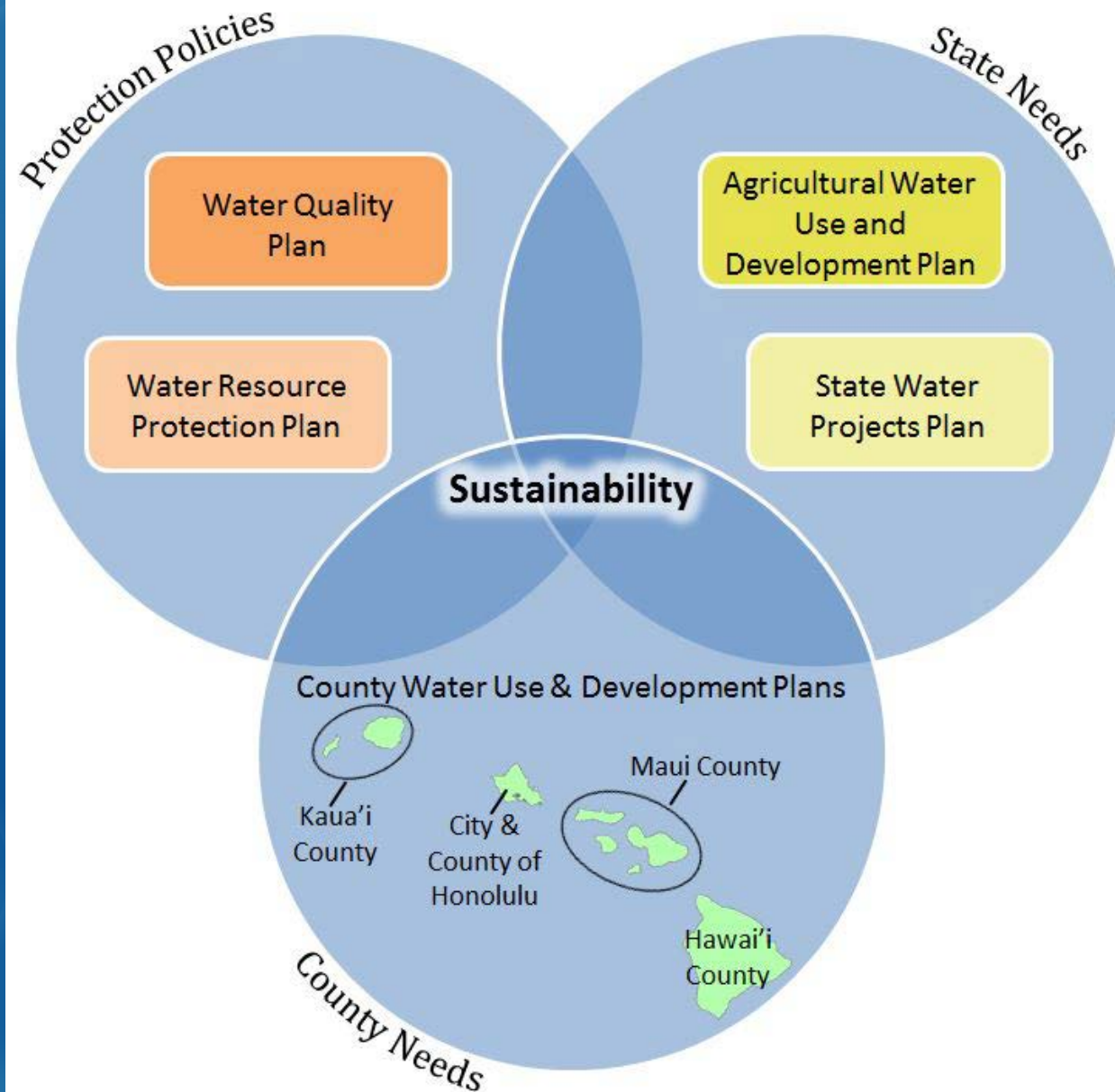


Water Quality Plan Outline

- **Section I: Background**
 - Hawaii Water Plan
 - Statewide Framework for Updating the Hawaii Water Plan



Hawaii Water Plan Components:

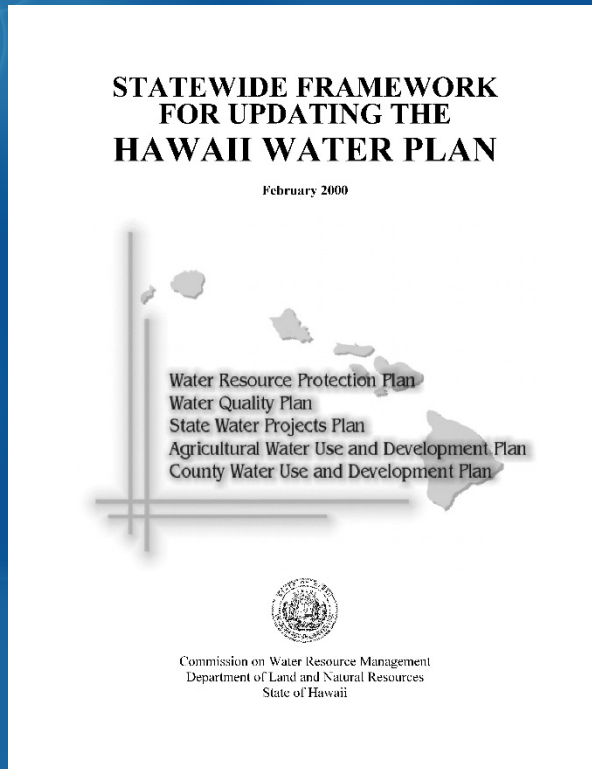


Source: State of Hawaii Department of Health,

2019 Final Water Quality Plan (Updated 3/29/2019)



Framework for Updating the Hawaii Water Plan, February 2000



Recommended Plan Elements:

- Source Water Assessment and Protection (SWAP) Program
- Source Water Protection Strategy
- Other DOH Programs (e.g., Underground Injection Control [UIC], Wastewater, etc.)
- Developing Effective Linkages Between Inter-Agency Programs
- Recommended Water Quality Plan (WQP) Guidelines

<http://dlnr.hawaii.gov/cwrp/planning/hiwaterplan/framework/>



Water Quality Plan Outline

- **Section II: Water Quality Programs and Initiatives**
 - Surface Water Quality
 - Ground Water Quality
 - Drinking Water and Clean Water State Revolving Funds
 - Challenges and New Initiatives



Surface Water Quality

CLEAN WATER BRANCH

Monitoring & Analysis Section

Polluted Runoff Control Program

Engineering Section

Environmental Indicators



<http://health.hawaii.gov/cwb/>

Monitoring & Analysis Section



Goals: Maintain Surface Waters for the Health & Safety of people, plants, and animals.

- Identify sources of surface water pollution through surveillance, Water Quality Monitoring, and analysis of Statewide Water Quality data;
- Protect Hawaii's aquatic and marine resources;
- Protect Hawaii's Water Recreational Community; and
- Generate, collect, and evaluate data for Total Maximum Daily Load (TMDL), Impaired Waters Report, and Water Quality Standards revisions.

Program Activities:

- Hawaii's Beach Monitoring Program;
- Hawaii Water Quality Monitoring and Assessment Report;
- Water Quality Standards;
- Total Maximum Daily Load;
- Monitoring Initiatives and Partnerships.



Hawaii Beach Monitoring Program

Goals: The goal of the Hawaii Beach Monitoring Program is to reduce the risk of illness to users of Hawaii's beaches.

Current Action:

- The Clean Water Branch conducts routine monitoring of Hawaii's beaches which includes: sample collection, field measurements, and field observations. Program also requires the CWB to notify the public whenever indicator bacteria levels exceed safe levels. In 2017, CWB made major upgrades to their website to make beach advisories more accessible to the public.



<https://eha-cloud.doh.hawaii.gov/cwb/#!/landing>



Hawaii Water Quality Monitoring and Assessment Report

Goals: The purpose of the Integrated Report (IR) is to inform EPA and the public of the overall status of water quality statewide, describing the extent to which water quality provides for the protection and propagation of a balance population of shellfish, fish, and wildlife, and allows recreational activities in and on the water.

Current Action:

The Clean Water Act is required to prepare the IR every two (2) years to fulfill the requirements of the CWA Sections 303(d) and 305(b). Last Integrated Report was completed in 2018.



<http://health.hawaii.gov/cwb/clean-water-branch-home-page/integrated-report-and-total-maximum-daily-loads/>



Water Quality Standards

Goals: The goal of the WQS Program is to develop scientifically-based WQS that:

- (a) meet federal requirements;
- (b) specify the uses to be protected in State waters; and
- (c) provide appropriate criteria and methods for evaluating the attainment of these protected uses.

Current Action:

In 2018, CWB conducted triennial review of WQS & evaluated EPA's new/revised CWA Section 304(a) criteria. CWB is considering amending the WQS & adopting or revising current State WQ criteria to include 2015 EPA recommended criteria for 94 chemical pollutants. CWB also recently updated its WQS maps.



Total Maximum Daily Loads



Goals:

- Quantitatively assess watershed-scale water quality problems, contributing sources, and pollutant load reductions.
- Provide an analytical basis for planning & implementing pollution controls.
- Provide assistance with identifying restoration projects to improve water quality and protect public and environmental health.

Recommended Actions:

- Incorporate CWB program elements (beach and surface water monitoring, polluted runoff control, NPDES permits, etc.) into the TMDL process to develop effective, implementable TMDLs.
- Collaborate with the counties and other state agencies to prioritize watersheds for restoration efforts and support stakeholder stewardship of watershed resources through coordinated efforts.



Monitoring Initiatives and Partnerships



Goals: The goal of the Monitoring Initiatives and Partnerships is to obtain sufficient data to properly assess the waterbodies throughout the State. CWB has begun collecting water quality samples for analytes beyond fecal indicator bacteria.

Proposed Actions:

- Partnership with the University of Hawaii to assess water quality at various locations throughout the State.
- Partnership with DOH Hazard Evaluation and Emergency Response Office, Hawaii Department of Agriculture and US Geological Survey (USGS) to conduct statewide pesticide sampling.
- Partnership with USGS to conduct surveys of endocrine active compounds in smallmouth bass to determine existence of chemical contaminants (herbicides, pharmaceutical, and biogenic hormones).
- Partnership with USGS to deploy five Semipermeable Membrane Devices in West Maui to determine existence of pollutant sources and levels in different locations.
- Partnership with EPA to conduct chemical, bacteriological and biologic monitoring in bays and estuaries for EPA National Coastal Condition Assessment in Hawaii.



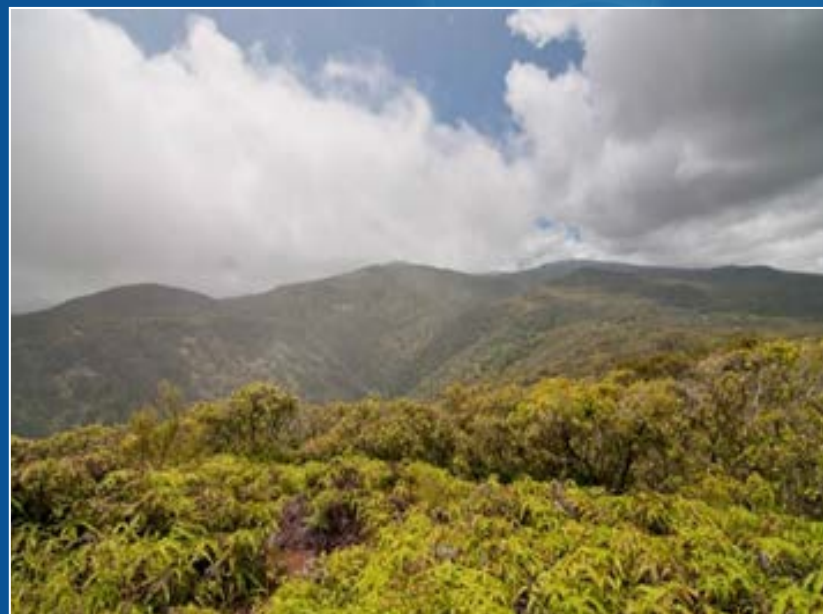
Mission:

- Protect and improve the quality of Hawaii's water resources by preventing environmental degradation due to nonpoint source pollution;
- Increase the amount of resources devoted to the control of polluted runoff and focus on collaborative efforts to utilize limited resources; and
- Provide outreach and education to the community in partnership with other agencies.

Actions:

- Increase the amount of funding devoted to the control of polluted runoff through best management practices;
- Obtain federal approval of Coastal Zone Nonpoint Pollution Control Program.
- Issue Request for Proposals for the Watershed Implementation Projects on an annual basis
- **Creation of a Branch-level program for PRC. (Act 005, 2019 HSL authorized 6 new positions)**

Polluted Runoff Control



ENGINEERING SECTION

National Pollutant Discharge Elimination System (NPDES) Program

Goals: Regulate point source discharges through permitting and enforcement.

Actions: NPDES permit includes water quality-based effluent limits that are based on the State's WQS in HAR, Chapter 11-54 and effluent limits based on technology available to treat pollutant. General (rule) and individual (specific discharger at specific location) permits are issued.



ENGINEERING SECTION

Water Quality Certification Program (CWA Section 401 WQC)

Goals: Certifies that a proposed discharge/activity will not violate applicable State Water Quality Standards. WQC is required if a project/activity requires a federal permit, license, certification, approval, or exemption; and may result in a water pollutant discharge into State waters.

Actions:

Section 401 WQC is required to contain the following statements:

- DOH has examined the application or other information provided and bases its certification upon an evaluation of the information contained;
- There is reasonable assurance the activity will be conducted in a manner which will not violate applicable WQS; and
- Conditions considered necessary or desirable with respect to the discharge resulting from the activity.



Environmental Indicators

Provides a way to measure or keep track of a particular condition in the environment. Identifies where we are, where we are going and how far we are from the goal.

- **Brown Water Advisories:** Heavy storm water runoff events.
- **Sewage Spill Advisories:** Wastewater or chemical spills and other pollutant releases restrict the public enjoyment and use of the shoreline and negatively affect aquatic life. Requires posting of warning and water sampling.



Surface Water Quality

SAFE DRINKING WATER BRANCH

- **Surface Water supplies about five percent (5%) of the State's drinking water supply. The Safe Drinking Water Branch's primary function related to surface water is to ensure that it meets Federal and State standards for drinking water.**
- **Source Water Assessments Data useful to other Surface Water Quality programs (TMDL & PRC)**
- **Drinking Water State Revolving Fund**



<http://health.hawaii.gov/sdwb/>



Surface Water Quality

WASTEWATER BRANCH

Water Reuse

Wastewater Treatment Plant Operation & Maintenance Compliance

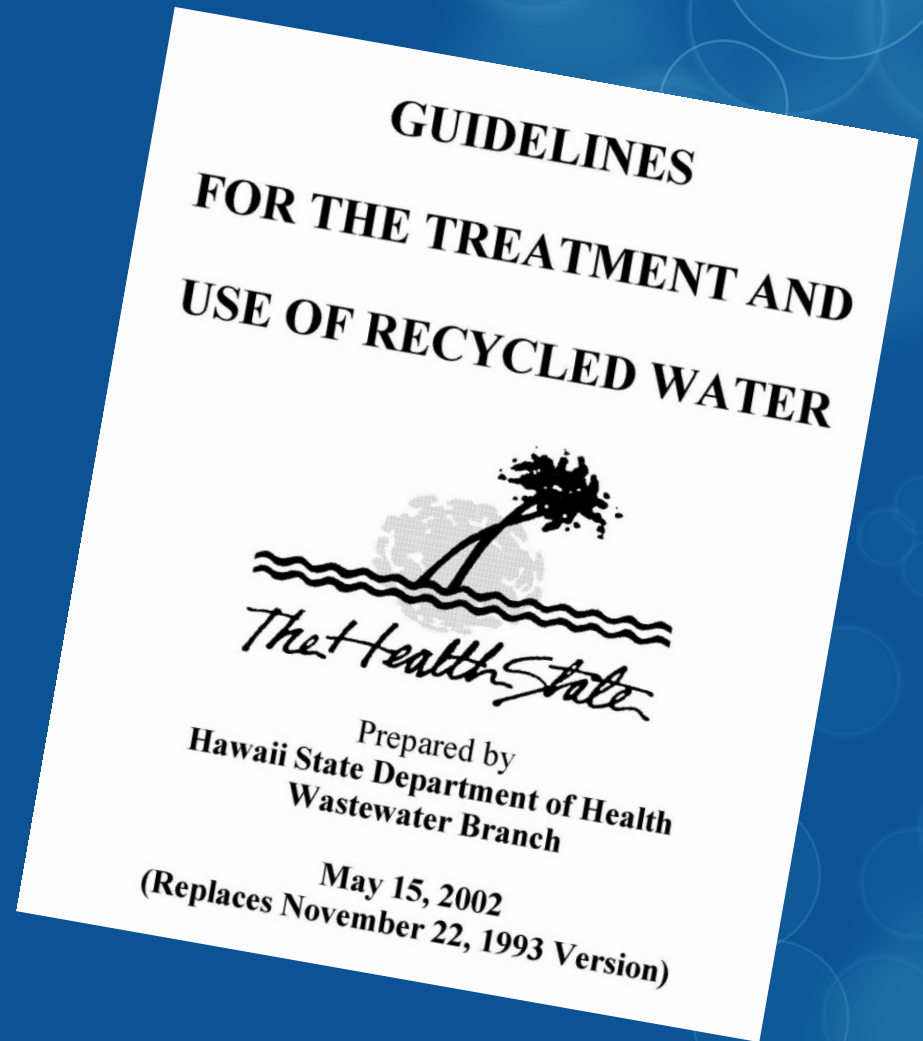


<https://health.hawaii.gov/wastewater/>



Revising Recycled Water Guidelines

- **Goal:** Increase water reuse statewide.
- **Proposed Actions:**
 - Completed revisions to the Guidelines in January 2016.
 - In 2018, convened task force to identify barriers and solutions to expanding water reuse.
 - Recommendations provided in 2019 Legislature Report.



Wastewater Treatment Plant Operation & Maintenance Compliance

- **Purpose:**

- Performs annual operation and maintenance inspections of wastewater treatment plants to ensure compliance with HAR Chapter 11-62, Wastewater System,

- **Actions:**

- Inspections are conducted to ensure that WWTPs are operated and maintained properly to prevent groundwater and surface water contamination.



Ground Water Quality

SAFE DRINKING WATER BRANCH

- Underground Injection Control
- Source Water Assessment and Protection Program
- Hawaii Groundwater Protection Strategy and Protection Program
- Groundwater Contamination Viewer
- Drinking Water State Revolving Fund

<http://health.hawaii.gov/sdwb/swap/>



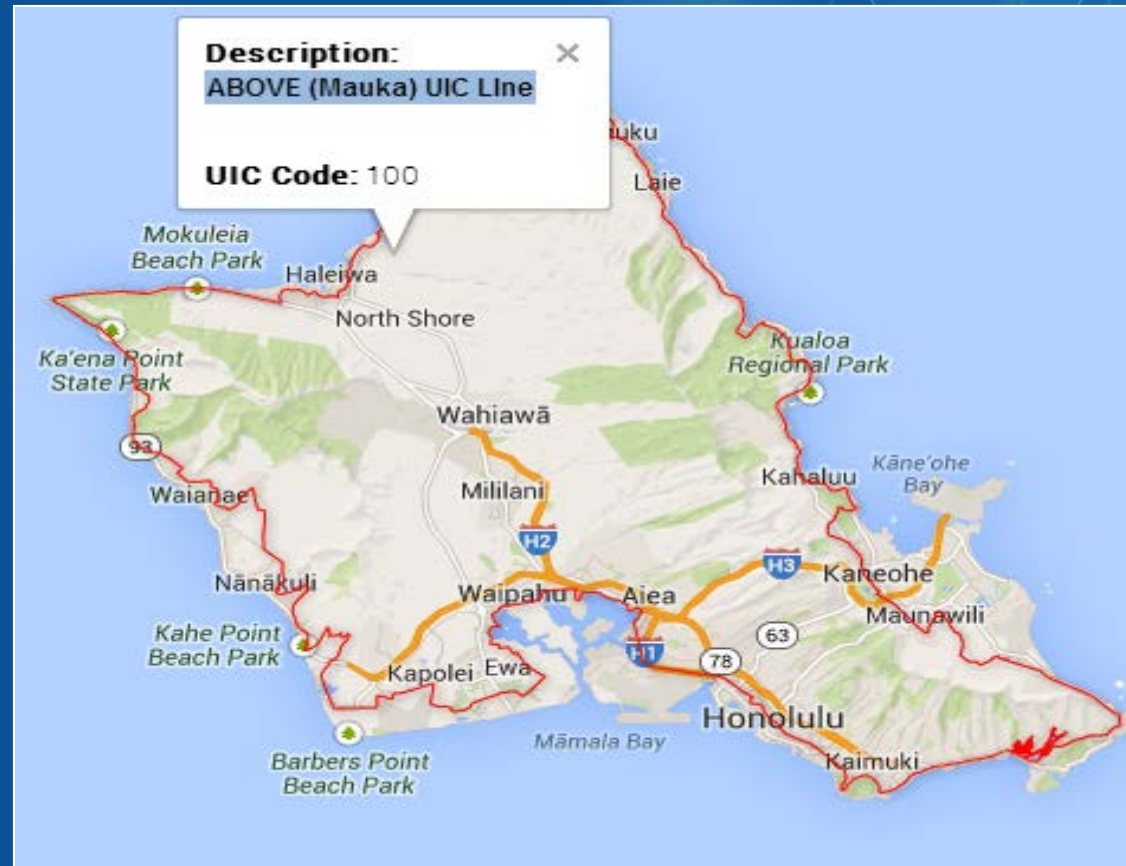
Underground Injection Control

Goal:

- Reduce the number of unpermitted UIC well facilities
- Assure proper abandonment of UIC wells

Proposed Action:

- Improve the UIC database system
- Continue to utilize and improve the Environmental Health Administration online e-Permitting System

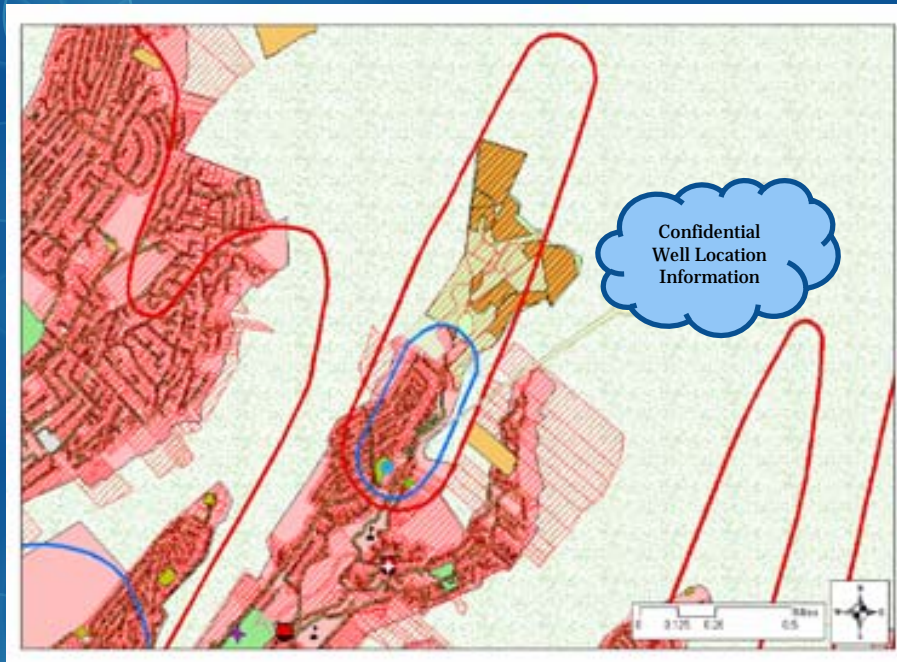


- **Maui lawsuit may result in possible development of State Groundwater Quality Standards**



Ground Water Quality

Source Water Assessment and Protection (SWAP) Program



Goals:

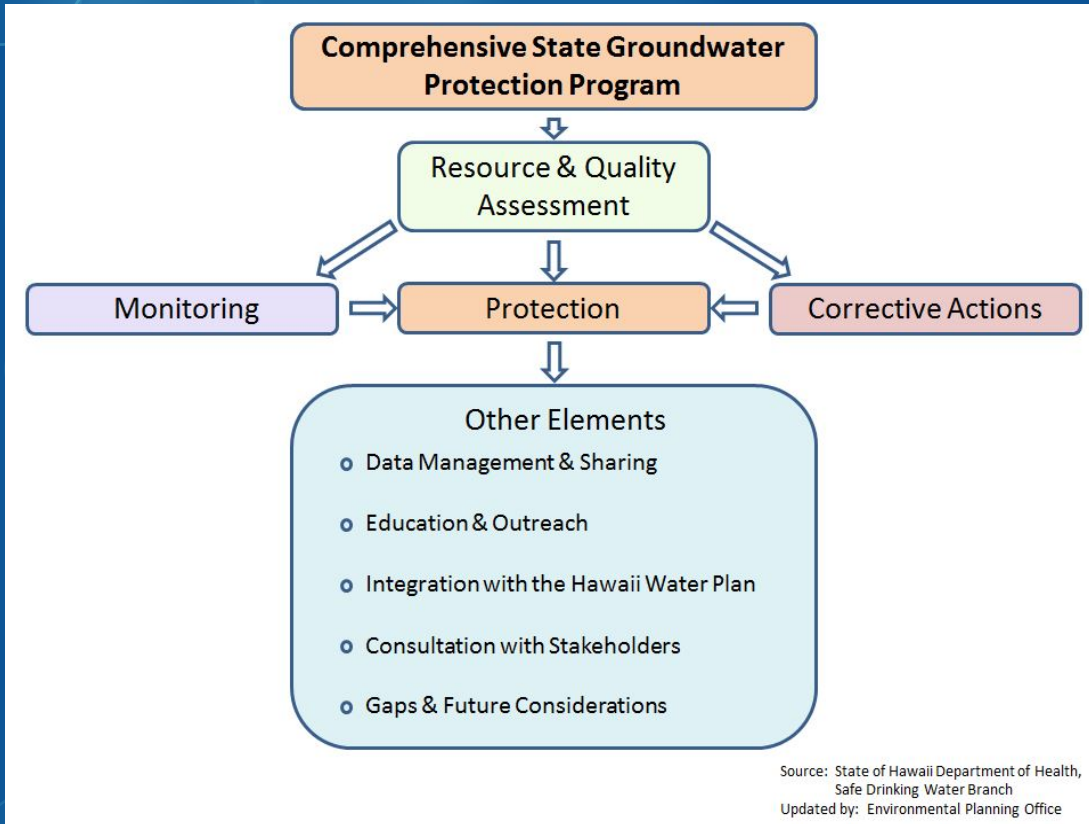
- Assess the susceptibility of public drinking water sources to contamination;
- Protect public drinking water sources from contamination; and
- Use source water assessment information to meet drinking water requirements.

Proposed Actions:

- Assess all existing and proposed drinking water sources;
- Create state and local source water protection workgroups; and
- Redevelop and implement the Wellhead Protection Financial Assistance Program.



Hawaii Groundwater Protection Strategy and Protection Program



Goals:

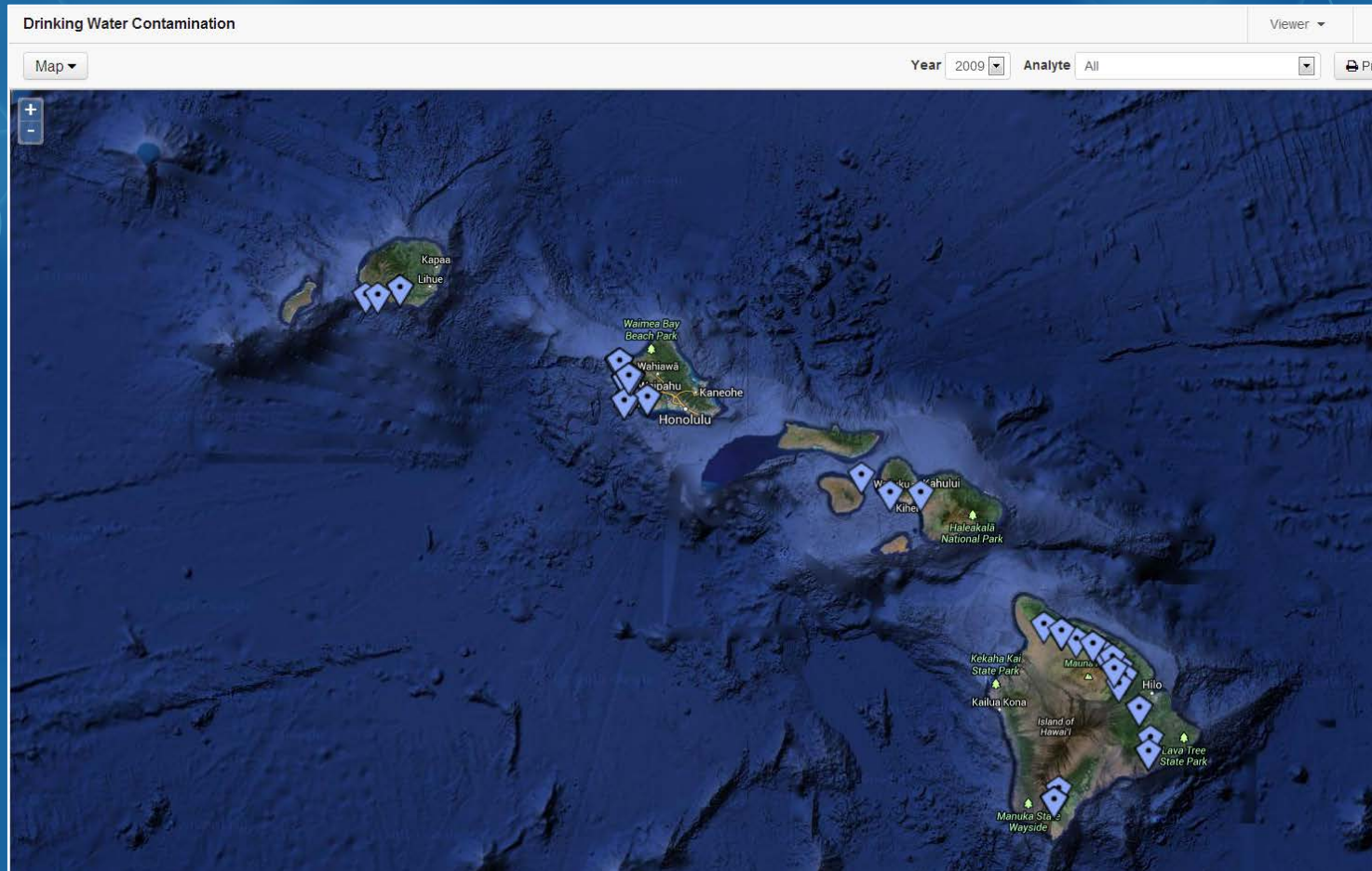
- Establish a mechanism for better understanding of relationships between ground water quantity and quality concerns;
- Demonstrate the State's proactive approach to ground water protection, justifying increased funding for program development & additional flexibility from the EPA and other federal agencies; and
- Improve public understanding of ground water protection concerns within the State, and provide a broader context for public participation.

Proposed Actions:

- Implementation of a Hawaii Groundwater Protection Strategy to guide the relevant federal, state, and local programs operating within the State. Strategy will monitor and assess groundwater quality, identify and prioritize groundwater contamination threats, and mitigate priority contamination threats and prevent contamination (through cooperation and collaboration).



Groundwater Contamination Viewer



Drinking Water State Revolving Fund



Waikamoi Flume Repair/Replacement
Upper Kula Water System, Maui
\$8,362,760 DWSRF project

Beginning in SFY 2019, DWSRF program will be able to provide low interest loans to non-county water system.

In cooperation with CWRM, funded \$600,000 of the Water Loss Audit Program for counties and certain small water systems, under Act 169, 2016 SLH using DWSRF Set-Aside funds.

- Over \$344 million in low-interest loans issued since SFY 1997
 - Loans are provided to Hawaii's four Counties for drinking water infrastructure projects
- Total Loan Rates of 1.75-2.75% will be offered beginning in SFY 2020.

SFY	# Final Loan Agreements Executed	\$ Committed
2012	5	5,856,911.00
2013	10	27,692,905.65
2014	10	32,924,850.00
2015	8	48,638,387.31
2016	12	55,591,357.45
2017	4	46,889,784.00
2018	2	15,960,611.00
2019	6 (estimated)	34,460,611.00 (estimated)



Ground Water Quality

WASTEWATER WATER BRANCH

- **Upgrading and Eliminating Cesspools**
- **Clean Water State Revolving Fund**



Upgrading and Eliminating Cesspools

Goal:

- Eliminate cesspool pollution.

Current Action:

2016, Update HAR, Chapter 11-62 to:

- Prohibit the construction of new cesspools.
- Implement the temporary income tax credit for the cost of upgrading or converting a qualified cesspool (HB1140 HD1 SD2 CD1 was signed into law on June 12, 2015, as Act 120 affecting Hawaii Revised Statutes, Chapter 235).
- 2017, Act 125 mandated all cesspools not granted an exemption shall be upgraded or converted to a higher level of disposal by 2050.
- 2018, Act 132, established a Cesspool Conversion Working Group to develop a long-range, comprehensive plan for cesspool conversions statewide.



Clean Water State Revolving Fund

New UV Banks at
West Maui
Recycled Water –
Phase 1 – UV
Expansion
Lahaina
Treatment Plant,
Maui
\$10,946,000
CWSRF Project



- Over \$916 million in low-interest loans provided since SFY 1991
- Loans provided to the Counties for construction of publicly-owned wastewater treatment facility infrastructure.
- The current interest rate is 1%.

SFY	# Loans Agreements Executed	\$ Committed
2014	6	19,285,186.69
2015	10	61,202,149.87
2016	10	29,240,925.01
2017	11	38,092,251.77
2018	10	49,048,811.52

CWSRF has also provided funding assistance to Counties for replacement of large capacity cesspools and water reuse projects.



Challenges

Intra-agency
collaboration

Inter-agency
collaboration

Funding
Issues

Climate
Change



Water Quality Plan Outline

- **Section III: Supporting DOH Water Quality Work**
- **Section IV-VII: Relevant Statutes and Rules; Information Sources; Organization Charts; and Water Quality Maps**



Other DOH Water Quality Work



State Department of Health
 Safe Drinking Water Branch
 Clean Water Branch
 Wastewater Branch
 Support Programs

State Department of Land and Natural Resources
 Commission on Water Resource Management

State Department of Agriculture
 Pesticides Program

WATER QUALITY

Federal Agencies
 Environmental Protection Agency
 USDA – RD, NRCS, Others
 USGS

County Agencies
 Water Departments
 County Planning
 Public Works (Wastewater & Stormwater)
 Finance

Stakeholders
 Public/Community Homeowners
 Private Well Owners
 Legislators
 Regulated Community

Academia



Water Quality Maps



DOH's Clean Water Branch and Environmental Planning Office eGIS program also updated the State water quality maps.

These are included in Section VII of the Water Quality Plan.



Schedule for DOH Final Water Quality Plan Presentation to the Water Industry

Plan Presented to CWRM

- **May 21, 2019**
Final 2019 Water Quality Plan presented to Commission on Water Resources Management (CWRM)
- **Begin working with Hawaii Water Plan Agencies to coordinate and implement WQP activities.**

2019 Joint Government Water Conference

- **August 2019**
Final Water Quality Plan Presentation to Water Industry
- at the 5th Joint Government Water Conference on Kauai, Oahu, Maui, Hilo and Kona

HWWA CONFERENCE

- **October 9-11, 2019**
Final Water Quality Plan Presented to Water Industry at HWWA Annual Conference

2020 Pacific Water Conference

- **February 4-6, 2020**
Final Water Quality Plan Presented to the Water Industry at the Pacific Water Conference



Current DOH Priorities

- **Red Hill Bulk Fuel Storage Facility**
- **Upgrade & Replacement of Cesspools**
- **Establishment of a Polluted Runoff Control (Non-Point Source) Branch**
- **Water Reuse**



For more information on the Final 2019 Plan or
DOH's Water Quality work, please contact:

Safe Drinking Water Branch

(808) 586-4258

sdwb@doh.hawaii.gov

Clean Water Branch

(808) 586-4309

cleanwaterbranch@doh.hawaii.gov

Wastewater Branch

(808) 586-4294

wwb@doh.hawaii.gov

Review the Final 2019 Water Quality Plan at:

<http://health.hawaii.gov/water/>

