

# Environmental Health Management Plan 2015 -2016 Goals and Objectives



## Message from Director Virginia Pressler, M.D.

The Administration clarified their priorities in regards to the environment in their action plan. See:  
<http://governor.hawaii.gov/action-plan/environment>



A vital part of this Action Plan includes ensuring the quality of our environment. DOH takes seriously its responsibility of working with the people of Hawaii to protect and improve public health and the environment. This plan details DOH role, programs and actions that will achieve this essential goal. The Administration clarified their priorities in regards to the environment in their action-plan.

See: <http://governor.hawaii.gov/action-plan/environment>

Our work, has led to a revitalization of essential public health and environmental protection programs. We will continue to work with public and private partners in ensuring the State's health and safe environment.

## Message from Deputy Director of Environmental Health, Dr. Keith Kawaoka

The Environmental Health Administration (EHA) plays a key role in ensuring the health and safety of the



air we breathe, the ocean and streams we enjoy, the water we drink, the food we eat, the products we use, and safely processing the waste we create. EHA covers a wide range of programs and activities summarized in this 2014-15 Environmental Health Management Report. EHA takes our responsibility seriously because environmental health issues intricately touch upon almost every aspect of public life. EHA works closely with many County, State and Federal partners. EHA has delegated authority from the U.S. Environmental Protection Agency to implement a number of Federal environmental statutes. EHA also works closely with the U.S.

Food and Drug Administration (FDA) and the Centers for Disease Control and Prevention (CDC).

Together we ensure that we meet national standards, while also focusing on issues that are unique to our islands. In this Environmental Health Management Report we summarize 2014-15, and describe goals, objectives, strategies, and actions to better protect and improve public health and the environment.

## Acknowledgements

The 2014-2015 Hawaii State Department of Health's (DOH), Environmental Health Management Report was prepared by the DOH Environmental Planning Office (EPO). The following organizations and individuals are recognized for their valuable contribution to this Report.

Hawaii State Department of Business, Economic Development & Tourism (DBEDT)

Hawaii State Department of Land and Natural Resources (DLNR)

Hawaii State Department of Hawaiian Home Lands (DHHL)

Hawaii State Department of Transportation (DOT)

Hawaii State Department of Agriculture (DOA)

University of Hawaii (UH)

Office of Hawaiian Affairs (OHA)

County of Hawaii

County of Kauai

County of Maui

City and County of Honolulu

United States Environmental Protection Agency (EPA) – Region IX, Pacific Southwest

United States Food and Drug Administration (FDA)

United States Centers for Disease Control (CDC)

United States Geological Survey (USGS)

***This report is available online at:***

<http://health.hawaii.gov/epo/ehm-report>

*All photos courtesy of DOH staff, family and friends with permission*

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## Acronyms

CAA	Federal Clean Air Act
CAB	(DOH/EHA) Clean Air Branch
CAO	(DOH/EHA) Compliance Assistance Office
CDC	(US) Centers for Disease Control and Prevention
CERCLA	Federal Comprehensive Environmental Response, Compensation, and Liability Act
CTAHR	University of Hawaii College of Tropical Agriculture and Human Resources
CWA	Federal Clean Water Act
CWB	(DOH/EHA) Clean Water Branch
CWSRF	Clean Water State Revolving Fund
DBC	Deposit Beverage Container
DOH	(State of Hawaii) Department of Health
DWSRF	Drinking Water State Revolving Fund
EHA	(State of Hawaii) Environmental Health Administration
EHSD	(DOH/EHA) Environmental Health Services Division
EHW	Environmental Health Warehouse (IT)
EIM	Environmental Information Manager
EMD	(DOH/EHA) Environmental Management Division
EPA	(US) Environmental Protection Agency
EPO	(DOH/EHA) Environmental Planning Office
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
HAR	Hawaii Administrative Rules
HEER	(DOH/EHA) Hazard Evaluation & Emergency Response Office
HRS	Hawaii Revised Statutes
IRHB	(DOH/EHA) Indoor & Radiological Health Branch
IM	Information Management
LUST	Leaking Underground Storage Tank
MCL	Maximum Contaminant Level
MGD	Million Gallons per Day
MRDL	Maximum Residual Disinfectant Level
NAAQS	National Ambient Air Quality Standards
NPDES	National Pollutant Discharge Elimination System
OEQC	(DOH) Office of Environmental Quality Control
RCRA	Federal Resource Conservation and Recovery Act
SDWA	Federal Safe Drinking Water Act
SDWB	(DOH/EHA) Safe Drinking Water Branch
SHWB	(DOH/EHA) Solid & Hazardous Waste Branch
SLD	(DOH/EHA) State Laboratories Division
TRI	Toxic Release Inventory
UH	University of Hawaii
UIC	Underground Injection Control
UST	Underground Storage Tank
WQS	Water Quality Standards
WTP	Wastewater Treatment Plant
WWB	(DOH/EHA) Wastewater Branch

## SECTION I: Looking Forward – Strategic Planning

# Introduction

## State of Hawaii Vision, Mission and Core Values

**OUR VISION:** To ensure Hawaii is a state that our keiki, kupuna and residents can call home, while honoring the traditions and values of our host culture.

**OUR MISSION:** To have a state government that is honest, transparent, and responsive to its citizens.

**Our Core Values:** Are centered on integrity and collaboration - helping set our new direction.

1. **Aloha** We treat everyone with dignity, respect and kindness; reflecting our belief that people are our greatest source of strength.
2. **Kuleana** We uphold a standard of transparency, accountability, and reliability; performing our work as a government worthy of the public's trust.
3. **Laulima** We work collaboratively with business, labor, and the community to fulfill our public purpose.
4. **Kūlia** We do our very best to reflect our commitment to excellence.
5. **Pono** We strive to do the right thing, the right way, for the right reasons; to deliver results that are in the best interest of the public.
6. **Lōkahi** We honor the diversity of our employees and constituents through inclusiveness and respect for the different perspectives that each brings to the table.
7. **Ho'okumu** We continually seek new and innovative ways to accomplish our work and commit to finding creative solutions to the critical issues facing this state.

A handwritten signature in black ink, appearing to read "David Y Ige".

## **“Governor Ige’s State Plan for “Engineering Hawaii’s Future”**

The current Hawaii State Administration created a comprehensive plan entitled “Engineering Hawaii’s Future”. The Plan details the Administration’s commitment to the people of Hawaii. The plan is provided online at: <http://governor.hawaii.gov/action-plan>

Home > Engineering Hawaii’s Future

### **ENGINEERING HAWAII’S FUTURE**

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#### **COMMITMENT TO THE PEOPLE OF HAWAII**

The Ige Administration brings a leadership style to our state that works to do the right things, the right way in an honest, transparent, accountable, and responsive manner. Governor David Ige and all appointees pledge to serve the people of Hawaii with the highest standard of transparency and accessibility to ensure there are no conflicts of interest.

The Ige Administration aspires to

- display a leadership style that moves Hawaii forward collectively instead of favoring special interests.
- be held accountable for its actions.
- make state government more efficient, especially in the procurement of goods and services and the hiring of personnel.
- spend public funds thoughtfully and without waste to avoid raising taxes.
- address the issues facing our state in a direct and forthright manner.
- conduct government affairs openly and be visible to the public.
- hold regular news conferences.
- have no hidden agendas.
- hear all views and strive to find the best solution for all.

The Ige Administration will display efficiency, innovation in developing solutions, adaptability to a rapidly changing environment, and above all, accountability to its “customers,” the people of Hawaii.

1. [Budget](#)
2. [Economy](#)
3. [Education](#)
4. [Health Care](#)
5. [Seniors](#)
6. [Environment](#)
7. [Energy](#)
8. [Agriculture](#)
9. [Affordable Housing and Homelessness](#)
10. [County Partnerships](#)
11. [Open Government](#)

More specifically, the State of Hawaii has the following environmental goals:

- Return to 1990 Greenhouse Gas (GHG) levels by 2020;
- Reduce our solid waste stream by 50% by 2020;
- Reuse 20% of the State’s wastewater by 2020; and
- Achieve 70% clean energy by 2030.

## Governor's Environmental Plan

1. Direct the newly-created Pacific-Asia Institute for Resilience and Sustainability, to mitigate risks from natural and man-made hazards, as well as to develop solutions for sustainable economic growth and adaptive plans for climate change.
2. Move forward implementation of Department of Health rules that will reduce greenhouse gas emissions.
3. Increase funding to control the damage by invasive species through prevention, control, and outreach activities. An immediate action will be to step up the inspection of baggage and cargo for invasive species.
4. Provide funding to protect Hawaii's watersheds to ensure a continuous supply of clean drinking water for all.

### 1. Adaptive plans for climate change

Climate change is having wide-reaching impacts in Hawaii, the broader United States and throughout the world. In order to mitigate and adapt to the serious impacts that scientists anticipate, various DOH Programs are taking climate change into account as [they move forward with their work](#).

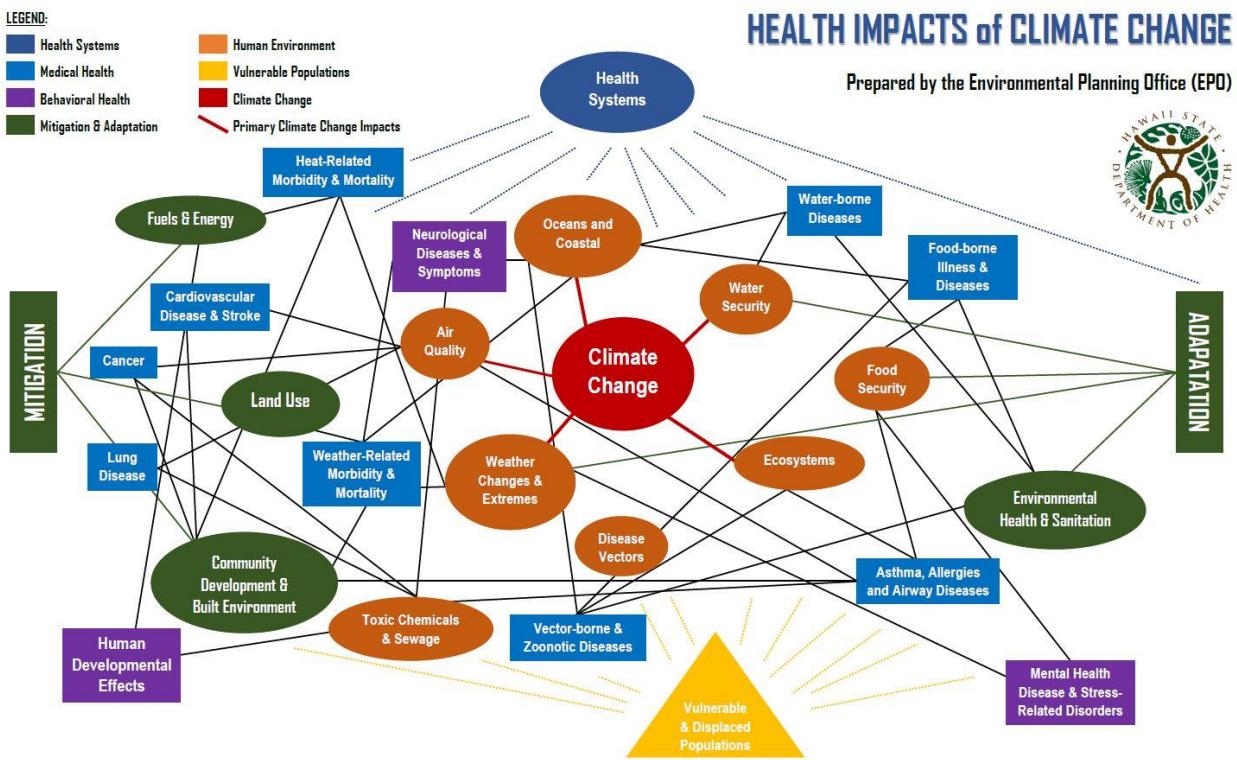
DOH is ready for Environmental Hazard Evaluation and Emergency Response: <http://eha-web.doh.hawaii.gov/eha-cma/Leaders/HEER/spill-reporting-and-emergency-response>

The HEER Office has initiated mapping and research to identify priority areas where pending sea level rise may increase hazards from known in situ contamination since many known contaminated sites in Hawaii are within 2 miles of the ocean. The project will use mapping techniques to compare projected local sea level rise over time with current locations of contaminated soil and/or groundwater.

DOH's Clean Air Branch worked diligently on getting [new Greenhouse Gas Rules](#) passed. Hawaii Administrative Rules (HAR) Chapter 11-60.1, Air Pollution Control, has been amended effective June 30, 2014. Changes were made in several parts of the chapter. The most notable addition is Subchapter 11, Greenhouse Gas Emission, which establishes a Greenhouse Gas (GHG) regulatory program in Hawaii. For more information please refer to the: [Final Amendments to Hawaii Administrative Rule webpage](#)

DOH's [Clean Water Branch](#) is planning to conduct studies to examine the effects of changing weather patterns and ocean chemistry as a result of climate change. The [Safe Drinking Water Branch](#) is working to update its [Water Quality Standards](#). Also, to help alleviate future water supply uncertainties related to the changing climate, the [Wastewater Branch](#) is working on updating its Guidelines for the Treatment and Reuse of Recycled Water, promoting more water reuse for activities such as landscape irrigation. Water reuse helps to reduce the pressure on drinking water supplies. This is particularly important because some of Hawaii's drinking water wells have and are expected to further experience increased salinity, as sea levels rise over the coming decades.

In addition, DOH is working with other agencies and groups throughout the state to increase collaboration, streamline decision-making processes, and promote information-sharing related to climate change. Together, we can elevate awareness of environmental impacts and the need for adaptation. The State of Hawaii is in the process of developing policies and plans for climate change adaptation that will apply to many of the State's agencies. The Governor, State Office of Planning, and the Department of Land and Natural Resources are taking the lead on developing these policies.



## 2. Implementation of Greenhouse Gas rules

The Clean Air Branch (CAB) has been working hard to reduce Greenhouse Gas (GHG) in Hawaii. In June, 2014 the Hawaii Administrative Rules regarding Clean Air (HAR Chapter 11-60.1) were significantly updated. [http://health.hawaii.gov/cab/files/2014/07/HAR\\_11-60\\_1-typed.pdf](http://health.hawaii.gov/cab/files/2014/07/HAR_11-60_1-typed.pdf)

### *In 2015-2016 the Clean Air Branch will:*

- Review 20 GHG emissions reduction plans to establish GHG emission caps for the 20 affected sources;
- Provide the 20 affected facilities with the flexibility necessary to achieve reductions in a feasible and cost effective way;
- Ensure minimum GHG cuts are 16%, unless an alternate cap is approved based on the GHG control assessment;
- Require GHG control assessments for facilities that consider the 16% GHG reduction to be unattainable;

- Use actual emissions from 2010 as a baseline year to establish emissions cap unless an alternate baseline year is approved; and
- Charge fees for GHGs emissions for the affected facilities holding a covered source permit starting in the second half of 2014 and annually thereafter.

Please note that biogenic CO<sub>2</sub> emissions are excluded from cap requirements and that affected facilities may use partnering to meet the GHG emission reduction cap.

***In 2016-2017 the Clean Air Branch will:***

- Confirm completeness of 20 GHG emission reduction plans;
- Compile and update statewide GHG emission inventories in 2016 and annually thereafter;
- Contract a consulting firm for compiling GHG emission inventories between 2016 and 2018; and
- Assess the US EPA State Inventory & Projection Tool to compile emission inventories independently.

Once GHG emission reduction plans are deemed complete, emission limits will be incorporated into each affected facility's permit for the established cap. Facilities must comply with permit limits for the established caps by January 1, 2020. Contracted work to compile GHG emission inventories will be used to evaluate progress in achieving the statewide GHG emissions limit of 1990 levels by 2020. The consulting firm that prepares the GHG emission inventories will also assess the U.S. Environmental Protection Agency (EPA) State Inventory and Projection Tool for the CAB to compile emission inventories independently. Further reductions are required if data from emission inventories show the statewide GHG limit will not be met. GHG emission caps will not apply if emission inventories show the statewide limit is met prior to 2020 and projections indicate ongoing maintenance of the limit.

***From 2015-2019 the Clean Air Branch will ensure compliance with Federal GHG regulation.***

They will:

- Work with other Hawaii State agencies to prepare a state plan for reducing carbon pollution from existing fossil fuel-fired electric generating units (EGUs) under 111(d) of the Clean Air Act; and
- Revise the appropriate HAR to align with federal guidance for permitting Prevention of Significant Deterioration and Title V sources, in line with the Tailoring rule.

The 111(d) Rule applies best system of emission reduction (BSER) for reducing carbon pollution from EGUs. In the final 111(d) Rule, issued on August 3, 2015, EPA defers requirements for two non-contiguous states (Alaska and Hawaii) and two U.S. territories (Guam and Puerto Rico) until emission performance rates are established for these regions. Please note a Supreme Court ruling has invalidated a portion of the Tailoring Rule for regulating GHGs.

### 3. Vector and Disease Control

DOH, Environmental Health Services Division (EHSD), Vector Control, is primarily concerned with preventing epidemics of vector-borne diseases and the establishment of new vector species in Hawaii. Towards this goal, DOH has been re-establishing its Vector Control capabilities after they were significantly scaled back in 2009. DOH received funding for four general funded Vector Control positions in 2013. These four positions were established and filled in 2015. These new hires are currently being trained and acquiring the necessary security clearances to enter restricted areas at the airport and harbors. These four positions will be primarily focused on disease vectors that may impact human or environmental health at ports of entry on Oahu. They report to the DOH Chief Entomologist VI within Vector Control. DOH, in close cooperation with DOT, FAA and DOD is ensuring that there are no infected Aedes aegypti mosquitos any of our international airports, especially Honolulu International (HNL-PHHJB).

DOH received an additional four vector positions in 2015. These four positions will be established and filled in 2016. Two of these positions will be based on Maui and primarily focused on disease vectors that may impact human or environmental health at ports of entry. These two positions will report to the District Health Office (DHO) Maui, Chief Sanitarian. The other two new 2016 positions will be based on Hawaii Island and will also focus on disease vectors that may impact human or environmental health at ports of entry. These two positions will report to the DHO Hawaii, Chief Sanitarian.

In the future, DOH, along with key partners (DLNR, DOT, DOA, DBEDT, UH, DOD, and FWS) plans to:

- Control/remove established populations of Aedes aegypti (the mosquito that can spread dengue fever, chikungunya, yellow fever viruses, zika and other viruses/diseases) that are known to exist on Maui and the Island of Hawaii;
- Expand education about the dangers of mosquitos and encourage landscapes that do not include plants that hold stagnant water (e.g. bromeliads); and
- Fund an additional IT position to provide support, including enhanced mapping of known vectors.
- We are very fortunate here in Hawaii, many diseases that afflict millions in tropical and subtropical regions around the world pose little immediate risk to us here in the islands. However, Hawaii is uniquely vulnerable to the introduction of invasive species, making the importance of constant vigilance critical to ensuring the safety of the people of Hawaii. This became obvious, in the recent locally acquired dengue fever outbreak on the Island of Hawaii (in late October 2015). For more information on this outbreak please see: <http://health.hawaii.gov/news/current-year-news-releases>

The Department of Health (DOH) works with state and federal partners to ensure that new human diseases and potential vectors for those diseases do not become established in the islands. Our Disease Outbreak Control Division (DOCD) has a wealth of information on various diseases and conditions. Its Disease Investigation Branch has more information on various ailments and diseases.

#### 4. Ensure Clean Drinking Water

##### *In 2016, the DOH will finalize the State Water Quality Plan*

DOH will continue to ensure a continuous supply of clean drinking water and strive to protect our aquifers from any contaminants. Towards this overarching goal, the DOH has prepared a Draft Water Quality Plan. The Draft plan is available at: <http://health.hawaii.gov/water/files/2014/09/2014-DOH-DRAFT-Water-Quality-Plan.pdf> From 2016-2019, DOH will implement the goals and actions detailed in the State Water Quality Plan:

##### **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.

###### *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.

###### Comprehensive State Groundwater 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.

###### *Actions:*

- Establish specific ground water protection goals to guide the relevant federal, state, and local programs operating within the State; and
- Establish priorities to guide relevant federal, state, and local programs and activities.

###### Underground Injection Control

###### *Goals:*

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

###### *Proposed Action:*

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

### Upgrading and Eliminating Cesspools

*Goal:* Eliminate cesspool pollution.

*Actions:*

- Update HAR, Chapter 11-62 to prohibit the construction of new cesspools; and
- 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).

## **Surface Water Quality**

### Water Quality Standards

*Goal:* 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.

*Action:* The Clean Water Act requires the State to review WQS every 3 years. The revisions to Hawaii Administrative Rules, Chapter 11-54 became effective on November 15, 2014. Implementation has already begun.

### Monitoring Program

*Goals:*

- Monitor surface waters of the State;
- Develop and implement monitoring tools and methodologies;
- Protect Hawaii's aquatic and marine resources; and
- Protect Hawaii's water recreational community.

*Actions:*

- 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.

### Polluted Runoff Control

*Goals:*

- Prevent 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; and

- Issue Request for Proposals for the Watershed Implementation Projects on an annual basis.

#### Total Maximum Daily Loads

##### *Goals:*

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

##### *Proposed Actions:*

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

#### National Pollutant Discharge Elimination System (NPDES) Program

*Goal:* Regulate point source discharges through permitting and enforcement.

##### *Proposed Actions:*

- CWB is planning to implement a statewide MS4\* and storm water system initiative to encourage counties without MS4 permits to implement storm water controls; and
- CWB will provide financial and technical assistance to implement best management practices (BMPs) and monitoring.

#### Revising Recycled Water Guidelines

*Goal:* Increase water reuse statewide.

*Proposed Action:* Complete revisions to the Guidelines by December 31, 2015.

#### Drinking Water State Revolving Fund

*Goal:* Continue to provide low-interest loans

##### Proposed Actions:

- 2015: Finalize 8 loan agreements worth more than \$48 million
- 2016: Finalize 11 loan agreements worth more than \$69 million.

#### Clean Water State Revolving Fund

*Goal:* Continue to provide low-interest loans

##### Proposed Actions:

- 2015: Finalize 7 loan agreements worth more than \$50 million
- 2016: Finalize 10 loan agreements worth more than \$54 million.

Ala Moana, Waikiki and Sandy's Beach Closure – August 2015



## U.S. EPA FY 2014-2018 Strategic Plan

The U.S. EPA Federal Fiscal Year 2014-2018 Strategic Plan charts the course for advancing EPA's priorities and mission to protect human health and the environment.

The plan is available online at: [http://www2.epa.gov/sites/production/files/2014-09/documents/epa\\_strategic\\_plan\\_fy14-18.pdf](http://www2.epa.gov/sites/production/files/2014-09/documents/epa_strategic_plan_fy14-18.pdf)

**The Plan details five clear goals and various objectives. The 5 goals are:**

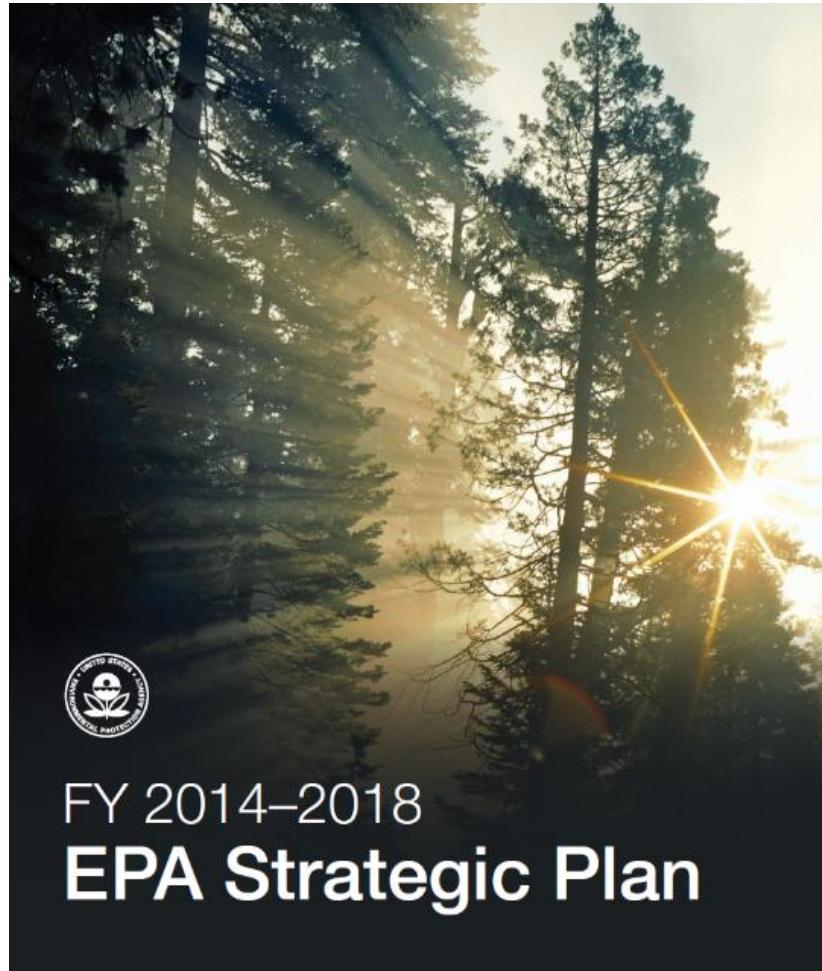
***Goal 1: Addressing Climate Change and Improving Air quality.*** This includes reducing greenhouse gas emissions and developing adaptation strategies to address Climate change and protect and improve air quality.

***Goal 2: Protecting Waters.*** This includes protecting and restoring waters to ensure that drinking water is safe and sustainably managed. It also includes sustaining aquatic ecosystems that sustain fish, plants, wildlife and other biota, as well as economic, recreational, and subsistence activities.

***Goal 3: Cleaning Up Communities and Advancing Sustainable Development.*** This includes protecting disproportionately impacted low-income and minority communities and preventing releases of harmful substances as well as restoring contaminated areas.

***Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution.*** This involves reducing risk, increasing the safety of chemicals and preventing pollution at the source.

***Goal 5: Enforcing Laws and Assuring Compliance.*** This involves vigorous and targeted civil and criminal enforcement.



**The 5 goals and relevant objectives are:**

**Goal 1: Addressing Climate Change and Improving Air quality.** This includes reducing greenhouse gas emissions and developing adaptation strategies to address Climate change and protect and improve air quality. This goal encompasses four key objectives:

1. **Address Climate Change:** Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions to help communities and ecosystems become more resilient to the effects of climate change.
2. **Improve Air Quality:** Achieve and maintain air quality to reduce the risk from toxic air pollutants and indoor air contaminants.
3. **Restore and Protect the Ozone Layer:** Protect the public from the harmful effects of ultraviolet (UV) radiation.
4. **Minimize Exposure to Radiation:** Minimize releases and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

**Goal 2: Protecting Waters.** This includes protecting and restoring waters to ensure that drinking water is safe and sustainably managed. It also includes sustaining aquatic ecosystems that sustain fish, plants, wildlife and other biota, as well as economic, recreational, and subsistence activities. This goal includes two key objectives:

1. **Protect Human Health:** Achieve and maintain standards and guidelines protecting human health in drinking water supplies, fish, shellfish, and recreational waters. Protect and sustainably manage drinking water resources.
2. **Protect and Restore Watersheds and Aquatic Ecosystems:** protect, restore, and sustain the quality of rivers, lakes, streams and wetlands on a watershed basis. Sustainably manage and protect coastal and ocean resources and ecosystems.



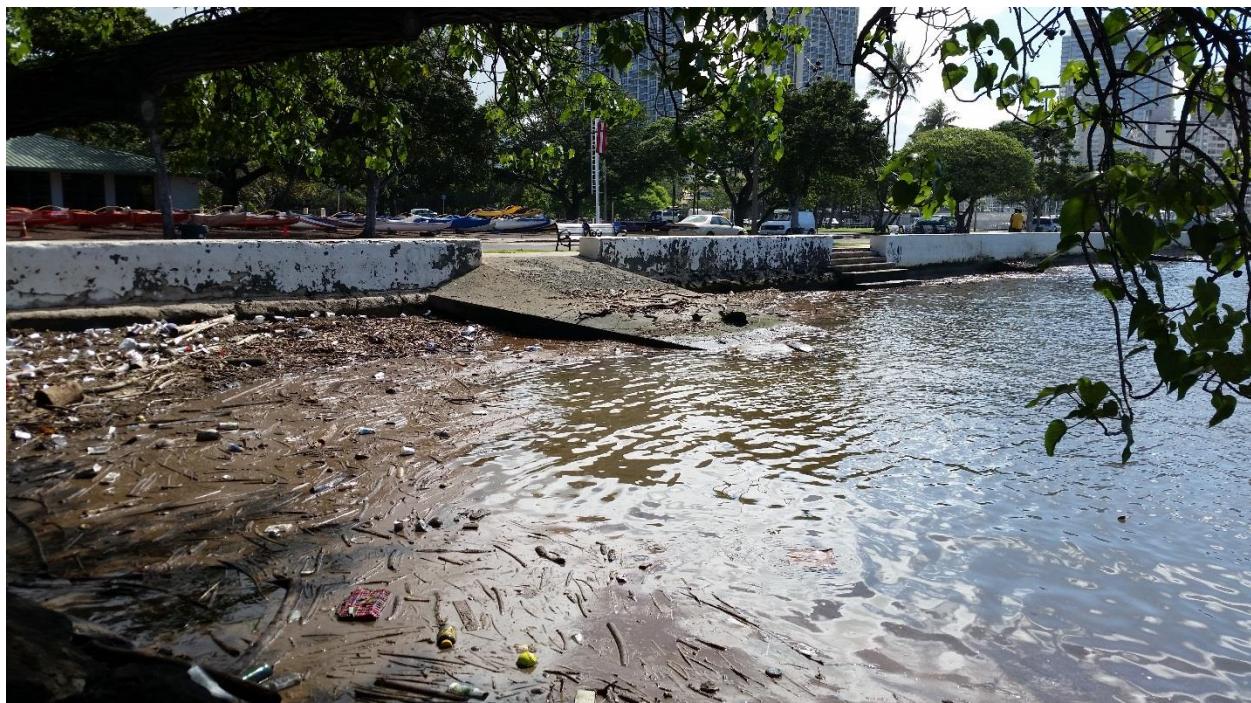
**Goal 3: Cleaning Up Communities and Advancing Sustainable Development.** This includes protecting disproportionately impacted low-income and minority communities and preventing releases of harmful substances as well as restoring contaminated areas. This goal focuses on four key objectives:

1. Promote Sustainable and Livable Communities: Support sustainable, resilient, and livable communities by promoting smart growth, emergency preparedness, recovery planning, redevelopment, and reuse of formerly contaminated sites. This includes the equitable distribution of environmental benefits.
2. Preserve Land: Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.
3. Restore Land: Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.

**Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution.** This involves reducing risk, increasing the safety of chemicals and preventing pollution at the source.

1. Ensure Chemical Safety: Reduce the risk and increase the safety of chemicals that enter our products, our environment, and our bodies.
2. Promote Pollution Prevention: Conserve and protect natural resources by promoting pollution prevention and the adoption of other sustainability practices by companies, communities, governmental organizations, and individuals.

**Goal 5: Enforcing Laws and Assuring Compliance.** This involves vigorous and targeted civil and criminal enforcement.



## EPA National Strategic Goals and Environmental Health Actions

***Addressing Climate Change and Improving Air quality.*** This includes reducing greenhouse gas emissions and developing adaptation strategies to address Climate change and protect and improve air quality.

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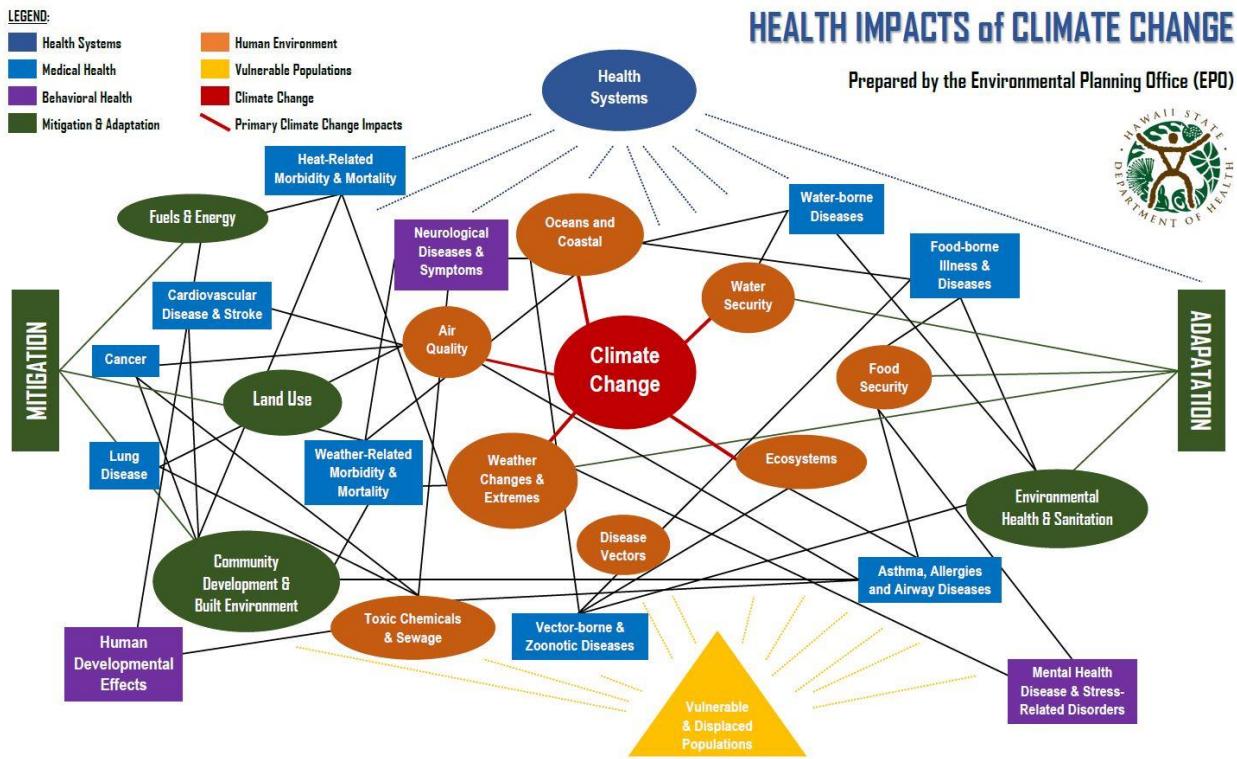
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DOH's Clean Air Branch worked diligently on getting [new Greenhouse Gas Rules](#) passed. Hawaii Administrative Rules (HAR) Chapter 11-60.1, Air Pollution Control, has been amended effective June 30, 2014. Changes were made in several parts of the chapter. The most notable addition is Subchapter 11, Greenhouse Gas Emission, which establishes a Greenhouse Gas (GHG) regulatory program in Hawaii. For more information please refer to the: [Final Amendments to Hawaii Administrative Rule webpage](#)

DOH's [Clean Water Branch](#) is planning to conduct studies to examine the effects of changing weather patterns and ocean chemistry as a result of climate change. The [Safe Drinking Water Branch](#) is working to update its [Water Quality Standards](#). Also, to help alleviate future water supply uncertainties related to the changing climate, the [Wastewater Branch](#) is working on updating its Guidelines for the Treatment and Reuse of Recycled Water, promoting more water reuse for activities such as landscape irrigation. Water reuse helps to reduce the pressure on drinking water supplies. This is particularly important because some of Hawaii's drinking water wells have and are expected to further experience increased salinity, as sea levels rise over the coming decades.

In addition, DOH is working with other agencies and groups throughout the state to increase collaboration, streamline decision-making processes, and promote information-sharing related to climate change. Together, we can elevate awareness of environmental impacts and the need for adaptation. The State of Hawaii is in the process of developing policies and plans for climate change adaptation that will apply to many of the State's agencies. The Governor, State Office of Planning, and the Department of Land and Natural Resources are taking the lead on developing these policies.



### Implementation of Greenhouse Gas rules

The Clean Air Branch (CAB) has been working hard to reduce Greenhouse Gas (GHG) emissions in Hawaii. In June, 2014 the Hawaii Administrative Rules regarding Clean Air (HAR Chapter 11-60.1) were significantly updated. [http://health.hawaii.gov/cab/files/2014/07/HAR\\_11-60\\_1-typed.pdf](http://health.hawaii.gov/cab/files/2014/07/HAR_11-60_1-typed.pdf)

### In 2015-2016 the Clean Air Branch will:

- Review 20 GHG emissions reduction plans to establish GHG emission caps for the 20 affected sources;
- Provide the 20 affected facilities with the flexibility necessary to achieve reductions in a feasible and cost effective way;
- Ensure minimum GHG cuts are 16%, unless an alternate cap is approved based on the GHG control assessment;
- Require GHG control assessments for facilities that consider the 16% GHG reduction to be unattainable;
- Use actual emissions from 2010 as a baseline year to establish emissions cap unless an alternate baseline year is approved; and
- Charge fees for GHGs emissions for the affected facilities holding a covered source permit starting in the second half of 2014 and annually thereafter.

Please note that biogenic CO<sub>2</sub> emissions are excluded from cap requirements and that affected facilities may use partnering to meet the GHG emission reduction cap.

In 2016-2017 the Clean Air Branch will:

- Confirm completeness of 20 GHG emission reduction plans;
- Compile and update statewide GHG emission inventories in 2016 and annually thereafter;
- Contract a consulting firm for compiling GHG emission inventories between 2016 and 2018; and
- Assess the US EPA State Inventory & Projection Tool to compile emission inventories independently.

Once GHG emission reduction plans are deemed complete, emission limits will be incorporated into each affected facility's permit for the established cap. Facilities must comply with permit limits for the established caps by January 1, 2020. Contracted work to compile GHG emission inventories will be used to evaluate progress in achieving the statewide GHG emissions limit of 1990 levels by 2020. The consulting firm that prepares the GHG emission inventories will also assess the U.S. Environmental Protection Agency (EPA) State Inventory & Projection Tool for the CAB to compile emission inventories independently. Further reductions are required if data from emission inventories show the statewide GHG limit will not be met. GHG emission caps will not apply if emission inventories show the statewide limit is met prior to 2020 and projections indicate ongoing maintenance of the limit.

From 2015-2019 the Clean Air Branch will ensure compliance with Federal GHG regulation.

They will:

- Work with other Hawaii State agencies to prepare a state plan for reducing carbon pollution from existing fossil fuel-fired electric generating units (EGUs) under 111(d) of the Clean Air Act; and
- Revise the appropriate HAR to align with federal guidance for permitting Prevention of Significant Deterioration and Title V sources, in line with the Tailoring rule.

The 111(d) Rule applies best system of emission reduction (BSER) for reducing carbon pollution from EGUs. In the final 111(d) Rule, issued on August 3, 2015, EPA defers requirements for two non-contiguous states (Alaska and Hawaii) and two U.S. territories (Guam and Puerto Rico) until emission performance rates are established for these regions. Please note a Supreme Court ruling has invalidated a portion of the Tailoring Rule for regulating GHGs.



**Protecting Waters.** This includes protecting and restoring waters to ensure that drinking water is safe and sustainably managed. It also includes sustaining aquatic ecosystems that sustain fish, plants, wildlife and other biota, as well as economic, recreational, and subsistence activities.

## In 2016, the DOH will finalize the State Water Quality Plan

DOH will continue to ensure a continuous supply of clean drinking water and strive to protect our aquifers from any contaminants. Towards this overarching goal, the DOH has prepared a Draft Water Quality Plan. The Draft plan is available at: <http://health.hawaii.gov/water/files/2014/09/2014-DOH-DRAFT-Water-Quality-Plan.pdf> From 2016-2019, DOH will implement the goals and actions detailed in the State Water Quality Plan:

### 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.

##### *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.

#### Comprehensive State Groundwater 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.

##### *Actions:*

- Establish specific ground water protection goals to guide the relevant federal, state, and local programs operating within the State; and
- Establish priorities to guide relevant federal, state, and local programs and activities.

#### Underground Injection Control

##### *Goals:*

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

##### *Actions:*

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

### Upgrading and Eliminating Cesspools

*Goal:* Eliminate cesspool pollution.

*Actions:*

- Update HAR, Chapter 11-62 to prohibit the construction of new cesspools; and
- 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).

## Surface Water Quality

### Water Quality Standards

*Goal:* Develop scientifically-based WQS that:

- Meet federal requirements;
- Specify the uses to be protected in State waters; and
- Provide appropriate criteria and methods for evaluating the attainment of these protected uses.

*Action:* The Clean Water Act requires the State to review WQS every 3 years. The revisions to Hawaii Administrative Rules, Chapter 11-54 became effective on November 15, 2014. Implementation has already begun.

### Monitoring Program

*Goals:*

- Monitor surface waters of the State;
- Develop and implement monitoring tools and methodologies;
- Protect Hawaii's aquatic and marine resources; and
- Protect Hawaii's water recreational community.

*Actions:*

- 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.

### Polluted Runoff Control

*Goals:*

- Prevent 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; and
- Issue Request for Proposals for the Watershed Implementation Projects on an annual basis.

Total Maximum Daily Loads*Goals:*

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

*Actions:*

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

National Pollutant Discharge Elimination System (NPDES) Program

*Goal:* Regulate point source discharges through permitting and enforcement.

*Actions:*

- CWB is planning to implement a statewide MS4\* and stormwater system initiative to encourage counties without MS4 permits to implement stormwater controls; and
- CWB will provide financial and technical assistance to implement best management practices (BMPs) and monitoring.

Revising Recycled Water Guidelines

*Goal:* Increase water reuse statewide.

*Action:* Complete revisions to the Guidelines by December 31, 2015.

Drinking Water State Revolving Fund

*Goal:* Continue to provide low-interest loans

*Actions:*

- 2015: Finalize 8 loan agreements worth more than \$48 million
- 2016: Finalize 11 loan agreements worth more than \$69 million.

Clean Water State Revolving Fund

*Goal:* Continue to provide low-interest loans

*Actions:*

- 2015: Finalize 7 loan agreements worth more than \$50 million
- 2016: Finalize 10 loan agreements worth more than \$54 million.

***Cleaning Up Communities and Advancing Sustainable Development.*** This includes protecting disproportionately impacted low-income and minority communities and preventing releases of harmful substances as well as restoring contaminated areas.

EHA supports smart growth and sustainable redevelopment. EHA is committed to cleaning up our communities statewide, by directing scientifically defensible and economically feasible investigations of contaminated properties, and selecting appropriate and protective remedies that facilitate safe reuse of brownfields while protecting Hawaii's unique ecological resources.

In 2015, EHA ensured that potentially contaminated soils and groundwater extracted from the Honolulu Authority for Rapid Transit (HART) project excavations were properly screened and handled to ensure compliance with Solid Waste, Safe Drinking Water and Clean Water Federal and State requirements.

In 2015, the HEER office completed the development of a Programmatic Environmental Hazard Evaluation (ENE)/Environmental Hazard Management Plan (EHMP) document for the Iwilei district. This document details the remedial measures and controls.

In 2015, The HEER office worked extensively with the US Army Corps of Engineers in UXO impacted communities in Waikoloa on Hawaii Island in order to increase public awareness of the risks from unexploded ordnance (UXO).

After DOH approved the Final Cleanup Action Plan for the Former Kohala Sugar Company Pesticide Mixing Site in July 2014, the HEER Office worked closely with the DBEDT Office of Planning and Hawaii Island Community Development Corporation (HICDC) to work out loan terms and a cleanup agreement to award a cleanup loan of \$500,000.

***Ensuring the Safety of Chemicals and Preventing Pollution.*** This involves reducing risk, increasing the safety of chemicals and preventing pollution at the source.

Due to the redemption rate falling below 70%, the Solid and Hazardous Waste Branch decreased the beverage container fee by half a cent, effective September 1, 2015. For more information on the state's Deposit Beverage Container Program, visit <http://health.hawaii.gov/hi5/>

**Enforcing Laws and Assuring Compliance.** This involves vigorous and targeted civil and criminal enforcement.

In state fiscal year 2015, EHA conducted a total of 15,124 field inspections, issued 478 warning notices and 6,577 field citations, initiated 57 enforcement cases, and resolved 381 formal cases.

#### Enforcement Summary for State Fiscal Year 2014

DRAFT - EHA Enforcement Report for FY 2015 (July 2014-June 2015)								
	Complaints	Field Inspections	Warning Notices	Field Citations	Enforcement Cases Issued	Penalties Sought (\$)	Formal Cases Resolved	Funds (\$) Received
	Informal	Informal	Informal	FY 2015	FY 2015	FY 2015	FY 2015	FY 2015
Clean Air Branch	1,526	2,146	84	12	9	\$73,100	4	\$99,550
Solid & Hazardous Waste Branch	159	708	139	22	14	\$832,446	354	\$66,150
Clean Water Branch	217	62	27	21	17	\$60,760	17	\$38,800
Wastewater Branch	164	230	52	31	13	\$177,400	3	\$16,200
Safe Drinking Water Branch	29	66	26	0	0	\$0	0	\$0
Hazard Evaluation & Response	0	22	38	6	2	\$0	0	\$0
Indoor & Radiological Health	553	928	85	2	2	\$15,000	3	\$4,000
Food Safety Branch	1,042	10,962	27	6,483	0	\$0	0	\$0
<b>Environmental Health Total</b>	<b>3,690</b>	<b>15,124</b>	<b>478</b>	<b>6,577</b>	<b>57</b>	<b>\$1,158,706</b>	<b>381</b>	<b>\$224,700</b>

In state fiscal year 2014, EHA conducted a total of 17,400 field inspections, issued 476 warning notices and 8,883 field citations, initiated 38 enforcement cases, and resolved 364 formal cases

#### Enforcement Summary for State Fiscal Year 2014

DRAFT - EHA Enforcement Report for SFY 2014 (July 2013-June 2014)								
	Complaints	Field Inspections	Warning Notices	Field Citations	Enforcement Cases Issued	Penalties Sought	Formal Cases Resolved	Funds Received
CAB	1,044	1,549	88	6	12	\$1,398,900	8	59,700
SHWB	1,423	770	142	10	12	\$739,275	345	117,150
CWB	229	71	19	2	3	\$5,500	3	358,072
WWB	183	316	28	41	4	\$31,000	2	15,150
SDWB	18	40	19	0	0	\$0	0	0
HEER	7	17	31	2	0	\$0	0	0
IRHB	771	694	111	6	5	\$32,000	6	27,300
SAN	3,689	13,943	38	8,816	2	\$90,000	0	1,000,000
<b>EHA TOTAL</b>	<b>7,364</b>	<b>17,400</b>	<b>476</b>	<b>8,883</b>	<b>38</b>	<b>\$2,296,675</b>	<b>364</b>	<b>\$1,577,372</b>

Source: Department of Health, EHA, Summary by the Environmental Planning Office

### **Enforcement case: Clean Air Branch – Puna Geothermal Venture NFVO**

The Clean Air Branch monitors air quality and regulates businesses that release pollutants into the air. The Branch reviews and approves air permits, evaluates and enforces state and federal air standards, conducts inspections, and investigates reported incidents related to outdoor air quality. Through the air permit process, the Branch ensures companies comply with state and federal emission standards to minimize air pollution impacts on the public.

In January 2015, The Clean Air Branch issued a Notice and Finding of Violation and Order (NFVO) to Puna Geothermal Venture (PGV) for operational, emission and notification violations relating to the unabated release of hydrogen sulfide on Aug. 7, 2014. The violations were documented and confirmed in excess emissions reports submitted to the department by PGV and during inspections conducted by DOH staff. A penalty of \$23,700 has been assessed for the alleged violations. A copy of the Notice of Violation is posted at <http://health.hawaii.gov/cab/clean-air-branch/notice-and-finding-of-violation-downloads-pdf>

For more information refer to DOH Press Release: <http://health.hawaii.gov/news/files/2013/05/15-001-DEPARTMENT-OF-HEALTH-CITES-PUNA-GEOTHERMAL-VENTURE-FOR-CLEAN-AIR-VIOLATIONS.pdf>

### **Enforcement case: Clean Water Branch - Chemical Spill in Aiea**

On May 12, 2015 the Clean Water Branch received the report of a fish kill and milky-white discolored water with a strong “cleaning agent” like scent lingering in the affected area in Aiea. Staff from the department’s Hazard Evaluation and Emergency Response Office and Clean Water Branch conducted an on-site inspection and took water samples for testing. Results indicated lower than normal PH levels in the water suggesting contamination from an acidic compound which could include cleaning solvents or solutions.

During the department’s investigation, the owner of the ditch, the US Navy, was notified of the situation by the DOH. The source of the spill has been confirmed as a nearby business, MOC Hawaii located in Aiea. MOC Hawaii reported that on May 11, the company accidentally spilled about 70 gallons of an industrial cleaner into a storm drain inlet that drains to the Aiea ditch. The company is cooperating with the department’s investigation. DOH will continue to investigate the spill and determine any further enforcement action. Clean water violations may carry penalties of up to \$25,000 per day per violation. The public is reminded that storm drains connect to our streams and ocean and proper disposal of all chemicals protects our environment and waters.

For more information refer to DOH Press Release:

<http://health.hawaii.gov/news/files/2013/05/HAWAII-DEPARTMENT-OF-HEALTH-INVESTIGATES-CHEMICAL-SPILL-IN-AIEA-NEAR-BIKE-PATH-AT-HEKAHA-STREET.pdf>

### **Enforcement cases: Solid and Hazardous Waste Branch**

The Solid Waste Section of the Department of Health regulates standards governing the design, construction, installation, operation, and maintenance of solid waste disposal, recycling, reclamation, and transfer systems. Such standards are intended to prevent pollution of the drinking water supply or waters of the state; prevent air pollution; prevent the spread of disease and the creation of nuisances; protect public health and safety; conserve natural resources; and preserve and enhance the beauty and quality of the environment.

The Hawaii State Department of Health (DOH) filed a Notice of Violation and Order against Sanford's Service Center, Inc. The violation occurred at its facility located at 13-3820 Pahoa-Kalapana Road, Pahoa, Hawaii. The company was cited for operating a solid waste management facility without a state permit. Since 2004, Sanford's Service Center, Inc. accepted and disposed of more than 8,000 tons of green waste without a solid waste management permit. In 2013, the company also accepted construction and demolition waste at its facility without a permit. The large amount of green waste at the site poses a potential environmental hazard because of the risk of vectors and fire. The company was not cited for violations from Aug. 6-15, 2014 when state solid waste statutes were suspended due to conditions brought about by severe weather from Hurricane Iselle. Based on an investigation of the site conducted in 2014, DOH imposed a penalty of \$25,000 and ordered the facility to cease accepting solid waste, implement a corrective action plan for accumulated green waste, and remove and properly dispose of all construction and demolition waste. The facility paid the penalty and has submitted a plan to correct the violations.

For more information refer to DOH Press Release: <http://health.hawaii.gov/news/files/2013/05/15-021-HAWAII-DEPARTMENT-OF-HEALTH-CITES-SANFORD'S-SERVICE-CENTER-INC.-FOR-SOLID-WASTE-PERMIT-VIOLATIONS.pdf>

In September 2015, the DOH SHWB filed a Notice of Violation and Order against Ken's Towing Service, Inc. The violations occurred at 55 Kukila Street in Hilo, Hawaii and involved the operation of an unpermitted vehicle salvage facility and the obstruction of a DOH inspection. Ken's Towing Service, Inc. was previously operating under a solid waste management permit that expired in February 2012. DOH conducted an inspection of the facility on Mar. 13, 2013 and found approximately 40 junk vehicles, at least five cubic yards of scrap metal, at least 100 scrap tires, and approximately 3 pallets of shrink wrapped lead acid batteries. The company submitted a permit application in June 2013, but the department was unable to issue the permit as the facility neglected to finish the permit process and the application remains incomplete. On Oct. 20, 2014, DOH attempted an inspection of the facility and was denied entry. Based on these findings and events, DOH has imposed a penalty of \$7,500, and ordered the facility to remove all solid waste and close the unpermitted salvage operation. Ken's Towing Service, Inc. may request a hearing to contest the allegations or order. The DOH, Solid Waste Section regulates standards governing the design, construction, installation, operation, and maintenance of solid waste disposal, recycling, reclamation, and transfer systems. Such standards are intended to prevent pollution of the drinking water supply or waters of the state; prevent air pollution; prevent the spread of disease and the creation of nuisances; protect public health and safety; conserve natural resources; and preserve and enhance the beauty and quality of the environment. For more information refer to DOH Press Release: <http://health.hawaii.gov/news/files/2013/05/HAWAII-DEPARTMENT-OF-HEALTH-CITES-KEN'S-TOWING-SERVICE-INC.-FOR-VEHICLE-SALVAGE-AND-SOLID-WASTE-INSPECTION-VIOLATIONS.pdf>

In April 2015, the DOH, SHWB issued a Notice of Violation and Order (NOVO) to the Department of Hawaiian Home Lands (DHHL) for violations of the hazardous waste and used oil regulations. DHHL was ordered to clean up abandoned hazardous wastes and used oils found at the former Kalaeloa Raceway Park (KRP), an operation that was part of SORT (Save Our Raceway Track), LLC. DHHL leased the property to SORT, LLC., but subsequently evicted them. The former KRP location is on Coral Sea Road in Kalaeloa. After receiving complaints about the former raceway track site, DOH conducted an onsite inspection on Oct. 14, 2014 and documented hazardous wastes and used oil releases on the property. As a major landowner and lessor in Hawaii, DHHL will be required to properly dispose of remaining hazardous wastes and conduct a site characterization of the property for contaminants associated with the automotive and race track operations to determine the magnitude of contamination and risks that it presents to human health and the environment. Upon completion of the site characterization, DHHL must submit a corrective action plan that meets the Resource Conservation and Recovery Act (RCRA)

regulatory cleanup requirements. For more information refer to DOH Press Release:  
<http://health.hawaii.gov/news/files/2013/05/15-019-HAWAII-DEPARTMENT-OF-HEALTH-CITES-DEPARTMENT-OF-HAWAIIAN-HOMELANDS-FOR-HAZARDOUS-WASTE-VIOLATIONS.pdf>

## Enforcement cases: Food Safety Branch

The State's placarding system for food establishments began on July 21, 2014 and since that time DOH's Sanitation Branch has completed more than 9,068 inspections statewide under the new program. The vast majority of food establishments in Hawaii are in compliance, meet all health requirements and have their green placard displayed. A food establishment may face fines of \$2,000 per day for removing an inspection placard posted by DOH and \$1,000 per day for each critical violation that led to the facility receiving a yellow placard. Placard removal is a serious violation because this act intentionally places profit above health and safety and compromises the public's trust and their right to know when violations occur during an inspection. Violations observed during an inspection. Major violations are those conditions known to cause foodborne illnesses as recognized by the U.S. Centers for Disease Control and Prevention (CDC) and the Food and Drug Administration (FDA).

In October 2015, DOH issued a red "closed" placard to Blue Water Shrimp and Seafood Market, located at Ala Moana Shopping Center, for numerous health inspections revealed chronic temperature violations. The department issued a penalty fee of \$9,000 for the violations that led to the posting of the red placard. For more information refer to DOH Press Release:

<http://health.hawaii.gov/news/files/2013/05/HAWAII-DEPARTMENT-OF-HEALTH-ISSUES-RED-'CLOSED'-PLACARD-TO-BLUE-WATER-SHRIMP-AND-SEAFOOD-MARKET-FOR-FOOD-SAFETY-VIOLATIONS.pdf>

In October 2015, DOH also issued a Notice of Violation Permit Suspension and Order (NVPSO) to Paalaa Kai Bakery located at 66-945 Kaukonahua Road in Waialua. The bakery was cited for allegedly selling food after it was issued a red "closed" placard. A penalty fine of \$22,000 was assessed.

Paalaa Kai Bakery was issued a red placard and closed by health inspectors on Oct. 6. A subsequent investigation by health inspectors confirmed allegations that the bakery opened on Oct. 7 and conducted sales of baked products after being closed by DOH. Due to the actions of the bakery, DOH is assessing fines of \$12,000 for numerous temperature violations leading up to the posting of a red placard at the bakery and an additional \$10,000 for the sale of potentially adulterated food products. Any and all food items produced or held at an establishment after it is closed by health inspectors is considered adulterated as it was held under conditions that may be detrimental to public health. For more information refer to DOH Press Release:

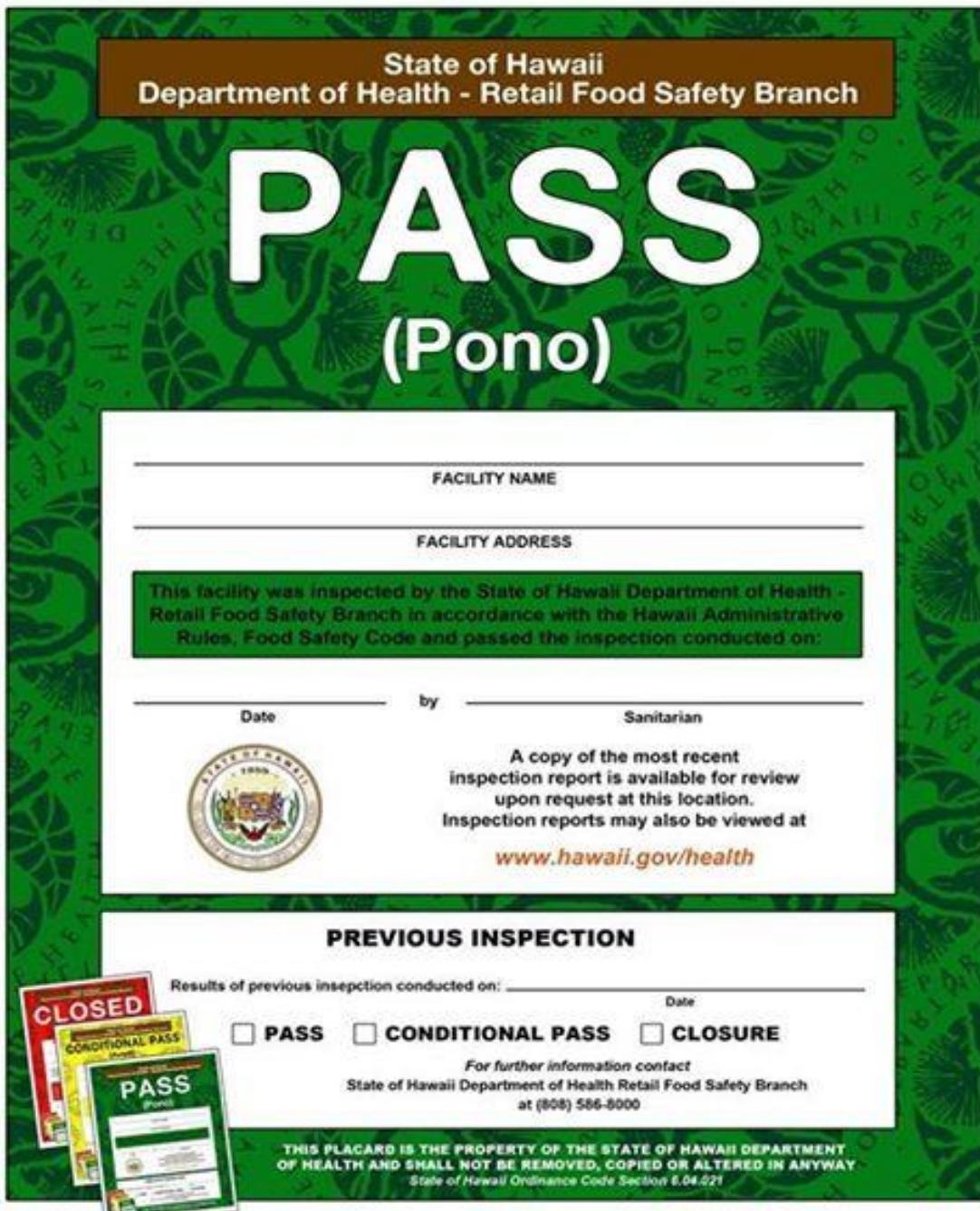
<http://health.hawaii.gov/news/files/2013/05/HAWAII-DEPARTMENT-OF-HEALTH-CITES-PAALAA-KAI-BAKERY-FOR-OPERATING-AFTER-ISSUANCE-OF-RED-CLOSED-PLACARD.pdf>

In October 2015, DOH also ordered and witnessed the destruction of approximately 5,000 pounds of Thai basil grown at Wong Hon Hin Inc.'s Farm in Waianae. The ordered destruction came as a result of pesticide residue violations at the farm. Health inspectors were notified on Sept. 23, that routine screening samples taken at a local produce distributor showed illegal levels of the organophosphate insecticide Malathion on Thai basil. Department of Health conducted a trace back investigation to identify the producer of the basil. Confirmatory samples taken at the farm revealed illegal pesticide levels on Thai basil growing at Wong Hon Hin Inc. The produce distributor was notified on Sept. 23 to halt sales of Thai basil and Wong Hon Hin Inc. was ordered to halt any deliveries of the basil. The farm was notified about the violation and ordered to destroy the crops affected. Health inspectors witnessed the destruction of the affected basil at the farm on Sept. 30.

<http://health.hawaii.gov/news/files/2013/05/HAWAII-DEPARTMENT-OF-HEALTH-ORDERS-DESTRUCTION-OF-BASIL-CROPS-DUE-TO-PESTICIDE-VIOLATIONS-AT-WONG-HON-HIN-FARM-IN-WAIANAE.pdf>

In January 2015, DOH issued a Notice of Violation and Order against a Restaurant Group for \$8,000 for intentionally removing the posted yellow “CONDITIONAL PASS” placard from its facility and for food safety violations cited during the health inspection resulting in the issuance of the yellow placard.

For more information refer to DOH Press Release: <http://health.hawaii.gov/news/files/2013/05/15-005-DOH-Cites-Ichiben-for-Unlawful-Placard-Removal.pdf>



## SECTION II: INDICATORS

## Tracking Performance:

**Open Performance Hawaii** provides access to public information to facilitate transparency and knowledge at the State Level: to find out more go to: <https://dashboard.hawaii.gov>

As part of the State of Hawaii's objective of the Open Government Program is to make government more transparent, participatory, and collaborative.

**The Governor's Dashboard** can be viewed at: <https://dashboard.hawaii.gov/open-government>

It provides tracking on key measures covering:

- Budget and Economy;
- Education;
- Healthcare and Seniors;
- Energy;
- Agriculture and Environment;
- Homelessness, Affordable Housing and Self Sufficiency;
- Public Safety; and
- Open Government.

**The Aloha+ Challenge Dashboard** provides access to public information on the statewide commitment to achieve six interconnected sustainability targets by 2030. The Aloha+ Challenge Dashboard can be viewed at: <https://dashboard.hawaii.gov/aloha-challenge>

The six interconnected sustainability targets focus on:

1. Clean Energy Transformation;
  - a. State-wide tracking of Greenhouse Gas Emissions;
2. Solid Waste Reduction;
  - a. Total Solid Waste Generation (in tons)
  - b. Percent of Total Solid Waste Reduction
  - c. Recycling
3. Natural Resource Management;
4. Smart Sustainable Communities;
5. Local Food Production; and
6. Green Workforce and Education.

## INDICATORS

The Environmental Health Administration (EHA) tracks key environmental indicators as well as compliance and enforcement data in accordance with environmental laws, the State of Hawaii Strategic Plan, the State of Hawaii Department of Health (DOH) Strategic Plan, and the U.S. Environmental Protection Agency (EPA) Strategic Plan, Goals, objectives and initiatives.

This report supports the reporting requirements for DOH's National Accreditation, DOH Environmental Council's annual reporting, and EPA Region IX. This report is also developed to provide the public with an overview of the Environmental Health Administration (EHA). However, it is important to keep in mind that government programs for the protection of health and the environment are implemented by a combination of local, State, and Federal agencies.

Accurate and timely information is essential to environmental enforcers' ability to protect public health, to deter and prosecute those that violate environmental laws and regulations, and to create a level playing field for business competition. Public transparency has been identified as a necessary element of promoting efficiency and effectiveness in government.



## Clean Air Branch

The Clean Air Branch (CAB), <http://health.hawaii.gov/cab/>, has made great strides in improving Hawaii's air quality over the last forty years under the federal Clean Air Act and Hawaii's air pollution control laws. The CAB has delegated authority from EPA to administer the Federal Clean Air Act in Hawaii. However, for all of its clean-air successes, Hawaii still faces many challenges, ranging from diesel pollution to climate change. The Branch regulates an ever-growing number of air pollution sources. The CAB coordinates Hawaii's efforts to reach and maintain the health-based Federal and State air quality standards and to protect the public from exposure to toxic air contaminants. Vigorous enforcement ensures that these efforts achieve the anticipated emissions reductions and provides a level playing field among the regulated community. More information on the Clean Air Branch and indoor air quality can be found at: <http://hawaii.gov/health/environmental/air/index.html>

## Activities

CAB has:

- Begun to implement new rules to reduce greenhouse gas emissions to 1990 levels by 2020;
- Completed approximately 2,146 field inspections in SY 2015, about 1,233 in response to agricultural burning;
- Sent out 84 warning notices, 34 to covered sources;
- Issued 12 field citations, seven for fugitive dust; and
- Continued to expand the statewide ambient air quality monitoring network.

## Air Indicators

CAB monitors ambient levels of eight air pollutants, including airborne particulates ( $PM_{10}$  and  $PM_{2.5}$ ), sulfur dioxide ( $SO_2$ ), nitrogen dioxide ( $NO_2$ ), ozone ( $O_3$ ), lead (Pb), carbon monoxide (CO), and hydrogen sulfide ( $H_2S$ ). Vog is measured as  $PM_{2.5}$  and  $SO_2$ .

## Greenhouse Gas Emissions

Climate change and global warming have the potential to severely affect Hawaii's economy, public health, natural resources, and environment. In 2007, the Legislature passed Act 234 committing the State to reduce its greenhouse gas (GHG) emissions (primarily caused by fossil fuel based electricity generation and transportation uses) to, or below 1990 levels by 2020. Act 234 created a Greenhouse Gas Emissions Reduction Task Force to oversee development of a work plan to achieve this goal. The Clean Air Branch is currently developing the administrative rules. For more information, please visit: <http://health.hawaii.gov/cab/proposed-amendments-to-hawaii-administrative-rules/>.



**Greenhouse Gas Emissions 1990-2010 (MMTCO<sub>2</sub>Eq)\***

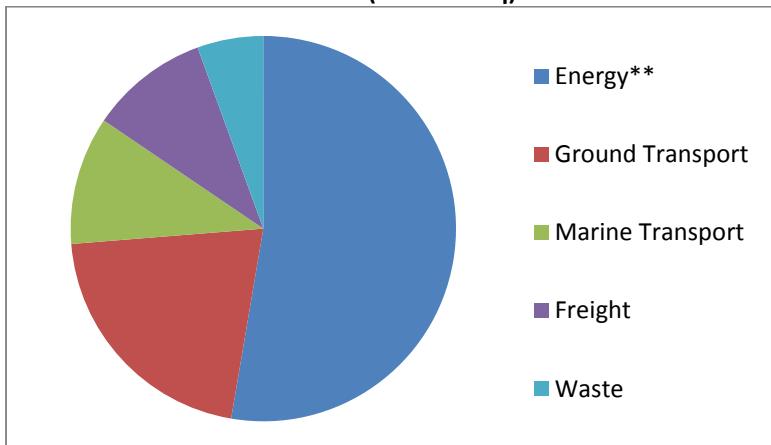
<b>Greenhouse Gas Emissions By Type</b>	<b>Calendar Years</b>	
	<b>2010</b>	<b>2020 Goal</b>
Energy**	8.85	8.08
Ground Transport	3.10	3.23
Marine Transport	2.15	1.65
Freight	1.37	1.53
Waste	1.10	0.85
<b>TOTAL</b>	<b>16.57</b>	<b>15.34</b>

Source: ICF International (DBEDT Consultant for the GHG Task Force), Proposed GHG Reduction Work Plans for Hawaii, November 10, 2009

\*MMTCO<sub>2</sub>Eq = Million Metric Tons of Carbon Dioxide Equivalent

\*\*Energy= residential, commercial, industrial, electric power, oil and gas

Note: Aviation emissions are excluded from Act 234, and thus are not included in this table

**2020 Greenhouse Gas Emissions (MMTCO<sub>2</sub>Eq) Goal**

### Ambient Levels of Sulfur Dioxide and Airborne Particulates

Sulfur dioxide (SO<sub>2</sub>) and fine particulate matter (PM<sub>2.5</sub>) are monitored across the state. On the island of Hawaii, and sometimes on the other islands, the two pollutants indicate the impact of volcanic emissions. In other areas of the state, the monitored levels are primarily the result of human-induced pollution. The following tables list every station that monitors for SO<sub>2</sub> and PM<sub>2.5</sub>. The tables indicate the number of times the National Ambient Air Quality Standard (NAAQS), set by the U.S. EPA, were exceeded during the year.

**Number of Exceedances\* of 1-Hour Standard (75 ppb\*\*) (CY 2010-2014 \*\*\*)**

ISLAND	STATION	2010	2011	2012	2013	2014
Hawaii	Hilo	14	8	20	14	10
Hawaii	Kona	0	1	2	0	0
Hawaii	Mountain View	8	16	20	17	27
Hawaii	Ocean View	76	95	177	115	93
Hawaii	Pahala	156	214	292	204	174
Hawaii	Puna E	0	0	0	0	0
Oahu	Honolulu	0	0	0	0	0
Oahu	Kapolei	0	0	0	0	0
Kauai	Niumalu	na	1	1	0	0
<b>TOTAL</b>		<b>254</b>	<b>335</b>	<b>512</b>	<b>350</b>	<b>304</b>

Source: Department of Health, Clean Air Branch

\*Exceedances since the NAAQS became effective in June 2010

\*\*ppb = parts per billion

\*\*\* Calendar Year 2010-2014

Note: The Ocean View monitors began operation in April 2010. In December 2010, the Mountain View station was relocated. In April 2011, the Niumalu monitors were added and in July 2012, the Waikoloa station came online.

**Number of Exceedances of 24-Hour Block Average PM 2.5\* Standard (35 ug/m<sup>3</sup>\*) (CY 2010-2014 )**

ISLAND	STATION	2009	2010	2011	2012	2013	2014
Hawaii	Hilo	1	0	0	0	0	0
Hawaii	Kona	8	6	0	0	0	0
Hawaii	Mountain View	na	0	0	0	0	0
Hawaii	Ocean View	na	1	0	0	0	0
Hawaii	Pahala	5	3	0	2***	1	2
Hawaii	Waikoloa	na	na	na	0	0	0
Hawaii	Puna	0	0	0	0	0	1
Maui	Kihei	0	0	0	0	0	0
Oahu	Honolulu	0	1**	0	0	0	0
Oahu	Kapolei	0	1**	0	0	0	0
Oahu	Pearl City	0	0	1**	0	0	0
Oahu	Sand Island	0	0	0	0	0	0
Kauai	Niumalu	na	na	0	0	0	0
<b>TOTAL</b>		<b>14</b>	<b>10</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>

Source: Department of Health, Clean Air Branch

\*PM 2.5\*=particulates with an aerodynamic diameter less than or equal to 2.5 microns.

\*\* Exceedance occurred on 1/1/11, during the New Year's fireworks celebration

\*\*\*Due to brushfires near station

Note: In April 2010, the Ocean View monitors began operations. In December 2010, the Mountain View station was moved. In April 2011, the Niumalu monitors were added. In July 2012, the Waikoloa station came online

### Ambient Levels of Carbon Monoxide

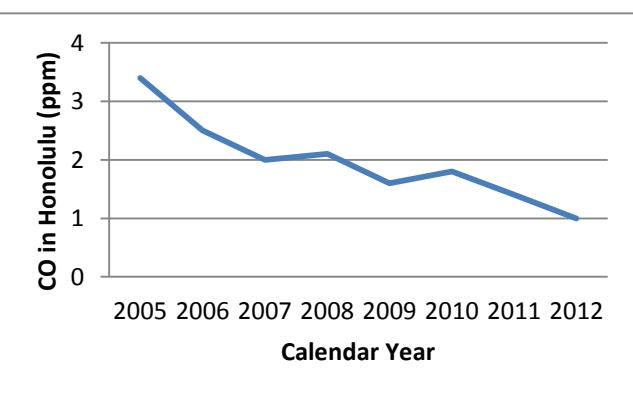
EPA sets the 1-hour average limit for carbon monoxide concentrations in ambient air. Hawaii statistics are taken from the Honolulu monitoring station located downtown. The Honolulu data clearly show that levels are consistently well below the national standard.

**Ambient Levels of Carbon Monoxide (CO) in Honolulu (CY 2005-2013)**

Calendar Year	Highest 1-hour Average (ppm)	National Standard (ppm)
2005	3.4	35
2006	2.5	35
2007	2	35
2008	2.1	35
2009	1.6	35
2010	1.8	35
2011	1.4	35
2012	1	35
2013	1.6	35
2014	2.0	35

Source: Department of Health, Clean Air Branch

ppm=parts per million



## Clean Water, Safe Drinking Water, and Wastewater Branches

Consistent with the federal Clean Water Act; federal Safe Drinking Water Act; relevant federal regulations; Hawaii Revised Statutes (HRS) chapter 321 (partial), 322 (partial), 340E, 340F, 342D, 342E; and sections of Hawaii Administrative Rules (HAR) Title 11, the EHA water branches have made great strides to improve Hawaii's water quality over the last forty years. The water branches protect State waters by ensuring compliance with laws, issuing permits, and taking enforcement actions against illegal discharges of pollutants into surface and ground waters.

For all of its clean-water successes, Hawaii still faces many challenges. The water branches regulate a growing number of potential pollution sources and coordinate Hawaii's efforts to reach and maintain health-based Federal and State water quality standards and protect the public and the environment from exposure to pollutants. Vigorous enforcement ensures that these efforts achieve the anticipated results. More information on Water Quality can be found at: <http://health.hawaii.gov/water/>.

### Water Indicators

The Clean Water Branch (CWB), <http://health.hawaii.gov/cwb/>, tracks a number of indicators, including the number of impaired coastal waters and streams and the total number of days of shoreline postings related to pollutant levels in nearshore waters. The Safe Drinking Water Branch (SDWB) also tracks a number of indicators, including: the percent of the State population's drinking water that is below maximum contaminant levels (MCLs); the number and regularity of surveys of safe drinking water systems; and the number and percent of underground injection control (UIC) permits. The Wastewater Branch (WWB) tracks the number and percent of waste water treatment plants in compliance with State laws and the percentage of wastewater recycled in the state.

### Clean Water Branch

#### Number of Coastal Waters Listed as Impaired

The coastal water impairment indicator is based on the 2014 State of Hawaii Water Quality Monitoring and Assessment Report: Integrated Report to EPA and the U.S. Congress Pursuant to § 303(d) and § 205(b), Clean Water Act (“Integrated Report”). The report is available at:

<http://health.hawaii.gov/cwb/files/2014/11/Final-2014-State-of-Hawaii-Water-Quality-Monitoring-and-Assessment-Report.pdf>

The 2014 Integrated Report identifies waters where DOH's analysis of available data revealed non-attainment of State water quality standards, which necessitates that these waters be listed as “impaired.” There are 264 waters listed as impaired in the 2014 Integrated Report. Turbidity was the most common reason for impairment in the State's marine waters—the 2014 Integrated Report identified 150 different areas where turbidity levels exceeded water quality standards. The CWB believes this is due to polluted runoff, and is continuing to focus its polluted runoff control program on selected watersheds to work toward making measurable improvements.

**Number of State Coastal Waters\* Assessed\*\* by Island in Calendar Years 2012-2014**

<b>Island</b>	<b>Number of Coastal Waters</b>	<b>Number of Impaired Coastal Waters</b>	<b>Percentage of Known Impaired Coastal Waters by Island</b>
Hawaii	83	62	75%
Kauai	64	41	64%
Lanai	12	7	58%
Maui	84	77	92%
Molokai	32	3	9%
Oahu	114	74	65%
<b>TOTAL</b>	<b>389</b>	<b>264</b>	<b>68%</b>

Source: Department of Health, Clean Water Branch

\* "Coastal Waters" means beaches, bays, harbors, and coastal estuaries.

\*\* Assessed, as it is used in the chart above, means tested for any of the following: enterococci (a pathogen which negatively affects recreation), nitrogen, nitrates, phosphorus, turbidity, and/or other (including trash).

**State of Hawaii Recreational Coastline Assessed in Calendar Year 2012**

<b>Island</b>	<b>Miles of Coastline</b>	<b>Miles of Coastline Assessed</b>	<b>Percent of Coastline Assessed</b>
Hawaii	266	36	13%
Kauai	90	70	78%
Lanai	47	20	43%
Maui	120	65	54%
Molokai	88	18	20%
Oahu	112	94	84%
<b>TOTAL STATEWIDE</b>	<b>723</b>	<b>303</b>	<b>42%</b>

Source: Department of Health, Clean Water Branch

**Number of Shoreline Postings due to Sewage or Other Water Pollution**

Sewage or chemical spills and other pollutant releases restrict the public's enjoyment and use of the shoreline and negatively affect aquatic life. The table below shows the number of times shoreline waters were posted with warning signs (explaining that they were unsafe due to water pollution) by the counties, military, private parties, or the Department of Health. For any sewage spills, shoreline warnings are posted first, followed by water sampling. The CWB then reviews bacteria data prior to allowing removal of warning signs. Unfortunately, the number of days per year of shoreline postings due to water quality concerns is increasing. Shoreline postings tend to vary according to the year's weather—because storms can result in brown water advisories and cause overflowing sewer lines they often lead to an increase in sewage spills, which results in shoreline water quality postings.

**Days Per Year of Shoreline (Water Quality) Postings (SFY 2010-2013)**

<b>State Fiscal Year</b>	<b>Total</b>	<b>Number of Shoreline Postings Caused by Sewage Events</b>
2010	403	403
2011	529	529
2012	729	15
2013	145	136

- These numbers do not reflect warning sign postings on streams, lakes, and other inland waters, such as the Ala Wai Canal.
- Other agencies may also post other shoreline warning signs.
- These numbers do not include "brown water advisories," which are general media releases anticipating or responding to heavy storm water runoff events and are not necessarily accompanied by actual shoreline postings.

**Number of Brown Water Advisories by Island (CY 2011-2014\*)**

<b>Island</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>
Hawaii	2	0	0	0
Kauai	5	5	6	5
Maui	5	0	0	13
Oahu	5	1	9	2
<b>TOTAL</b>	<b>17</b>	<b>6</b>	<b>15</b>	<b>20</b>

Source: Department of Health, Clean Water Branch

\* Calendar Year



### Number of Impaired Streams

This stream quality indicator is based on the 2012 Integrated Report. The Report identifies streams where analysis of available data indicated that the waters are not meeting State water quality standards. The stream quality indicator refers only to the freshwater, inland parts of a watershed that have salinity lower than 0.5 parts per thousand (ppt), including all stream tributaries. The identification of these streams initiates a process that gives agencies, non-profits, businesses, and community groups the tools to begin to control sources of pollution, improve water quality, and protect and enhance aquatic ecosystems.



**Perennial\* Stream Impairment in the State Assessed\*\* by Calendar Year**

Island***	Number of Perennial Streams	Number of Impaired Perennial Streams						
		2002	2004	2006	2008	2010	2012	
Hawaii	132	12	15	16	17	17	17	
Kauai	61	8	11	20	16	16	16	
Maui	90	9	10	11	11	11	11	
Molokai	36	0	0	1	1	1	1	
Oahu	57	30	34	45	46	46	46	
<b>TOTAL</b>	<b>376</b>	<b>59</b>	<b>70</b>	<b>93</b>	<b>91</b>	<b>91</b>	<b>91</b>	
<b>% of Streams Impaired in the State</b>		<b>16%</b>	<b>19%</b>	<b>25%</b>	<b>24%</b>	<b>24%</b>	<b>24%</b>	

Source: Department of Health, Clean Water Branch

\* Perennial means that the stream flows all year long.

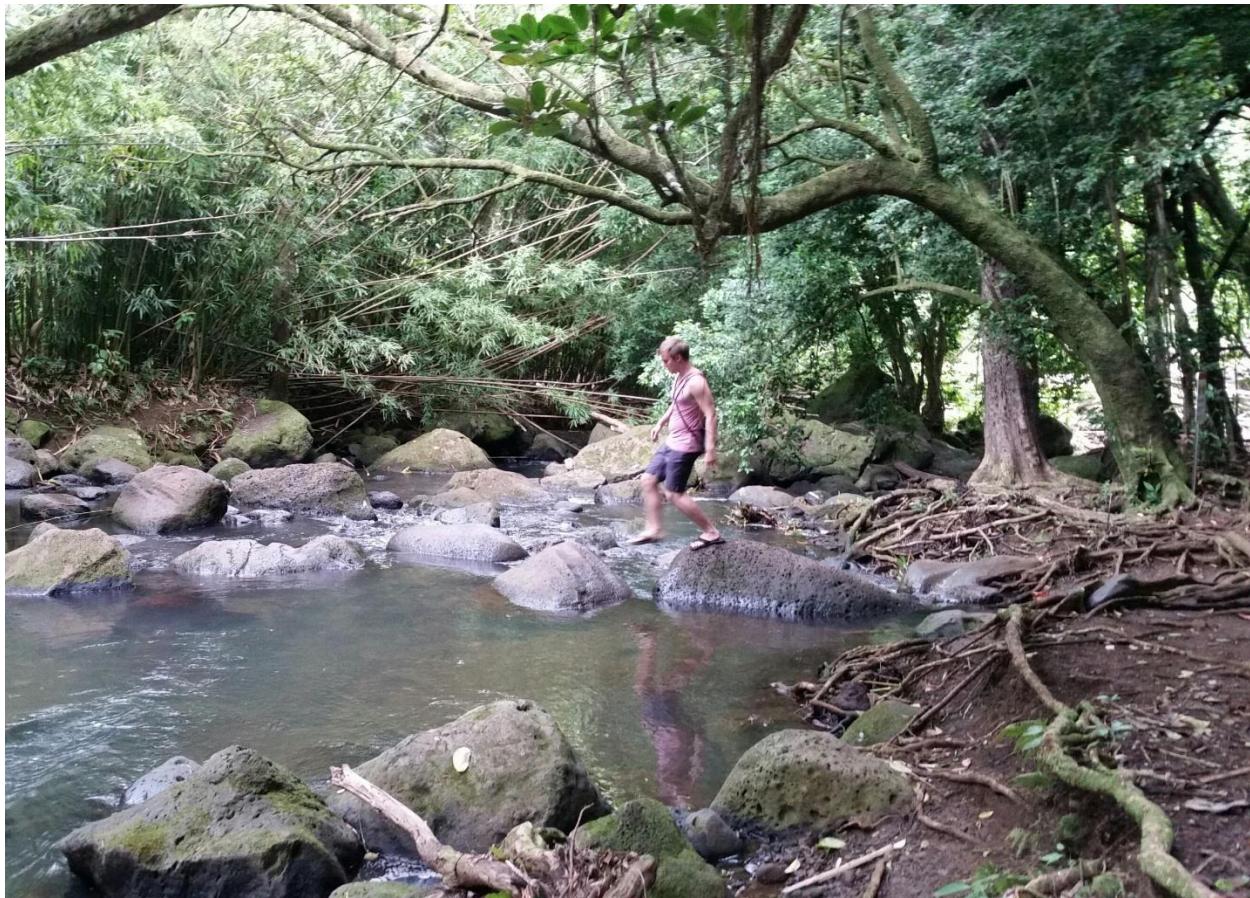
\*\* Assessed, as it is used in this table, means tested for any of the following: enterococci (a pathogen which negatively affects recreation), nitrogen, nitrates, phosphorus, turbidity, and/or other (including trash).

\*\*\*Kahoolawe, Lanai, and Niihau had no perennial streams.

### Polluted Runoff Control

Polluted runoff, or nonpoint source pollution, occurs when stormwater or irrigation water washes pollutants off the land into streams and coastal waters. These pollutants, like dirt (sediment), nutrients (from fertilizers), bacteria (from animal waste), oil, trash, and yard waste, affect water quality. DOH's Polluted Runoff Control Program utilizes Clean Water Act funding to provide grants for polluted runoff control projects in Hawaii, including watershed planning and implementation projects, and nonpoint source outreach and education.

For more information on the Polluted Runoff Control Program and the Program's most recent End of Fiscal Year Report, please visit: <http://health.hawaii.gov/cwb/site-map/clean-water-branch-home-page/polluted-runoff-control-program/>.



## Safe Drinking Water Branch

The Safe Drinking Water Branch's (SDWB), <http://health.hawaii.gov/sdwb/>, primary function is to ensure public water systems meet state and federal health-related standards for drinking water. These standards include: 75 maximum contaminant levels (MCLs), 10 treatment technique requirements, and 3 maximum residual disinfectant level (MRDL) requirements.

### Percentage of Population Served Safe Drinking Water

Drinking water that exceeds MCLs creates a risk of harm to human health. In calendar year 2014, 98.93% of Hawaii's residents and visitors were served drinking water that met all federal standards and fell below all of the MCLs on a monthly basis. Even using conservative assumptions, the compliance rate has consistently exceeded 99.0%. Whenever a violation is found in a public water system, the public is notified through electronic media, hand-delivered notices, or published notices. About 40,000 persons are served by small, unregulated systems such as individual home catchments. These systems are excluded from the statistics presented below.

The SDWB employs many programs to strengthen public water system protection.

#### Percentage of Population\* Served Safe Drinking Water

State Fiscal Year (July-June)	Total Population Served Drinking Water	Population Served Water Below MCLs**	Percentage Population Served Water in Compliance with MCLs**
2009	1,440,715	1,432,116	99.40%
2010	1,471,887	1,470,664	99.92%
<b>Calendar Year</b>			
2011	1,473,960	1,472,420	99.90%
2012	1,476,931	1,476,931	100.00%
2013	1,505,329	1,448,126	96.20%
2014	1,505,329	1,489,254	98.93%

Source: Department of Health, Safe Drinking Water Branch

\*= Water systems report their populations based on an estimated number of persons their systems serve. The total number of persons served will exceed the recorded population of the state (based on Census data) because some people are served by multiple water systems on a daily basis, and therefore are counted in multiple estimates.

\*\*=Maximum Contaminant Levels (MCL)

## SDWB Programs

**Groundwater Protection Program** – Hawaii's heavy dependence on groundwater as a source of drinking water places great importance on groundwater protection. There are many county, state and federal agencies that have the potential to directly or indirectly affect groundwater on an advisory, research, regulatory, and planning level. Besides coordinating with these agencies, the Program collects groundwater data and will be conducting its own monitoring in accordance with a monitoring strategy that is currently in development.

**Source Water Assessment and Protection Program** - These programs delineate the boundaries of areas that provide source water for public water systems and identify the origins of regulated and unregulated contaminants in the delineated area to determine the susceptibility of the public water system. Recent efforts include educating water systems, the public, and other organizations on development and implementation of drinking water protection strategies and plans. SDWB meets with

water systems and government agencies to discuss the results of source water assessments and plans for source water protection.

**Capacity Development Program** - The purpose of this program is to make sure water system owners have the technical, managerial, and financial capacity (knowledge and ability) to properly operate and maintain a public water system and, if necessary, expand these capabilities. This program involves direct technical assistance to owners of individual water systems and general training sessions on system operations.

**Underground Injection Control (UIC) Program** - The goal of this program is to protect existing and potential sources of drinking water from contamination by injected fluid wastes. The program issues and administers permits for injection well facilities and limits the areas where this type of fluid waste disposal can be sited. Maps that delineate the UIC line can be found at:

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

The overall percentage of underground injection well facilities in compliance with State and Federal regulations (those with a current permit) for fiscal year 2015 is 56%. Most of the non-compliant injection well facilities use drainage injection wells for rainfall runoff disposal. Sewage disposal and industrial-related wastewater disposal injection wells had a slightly higher compliance percentage at 65%. Permit renewals for sewage and industrial related injection are processed before permit renewals for drainage injection because of their higher risk of causing groundwater contamination.

**Underground Injection Control (UIC) Well Compliance (2004-2015)**

Calendar Year	Total UIC Permits	Total Expired Permits	Percent of Total with Current Permits	Percent of Current Sewage & Industrial UIC Permits
2004	677	298	56%	77%
2005	679	345	49%	57%
2006	714	358	50%	56%
2007	768	364	53%	60%
2008	796	379	52%	60%
State Fiscal Year				
2009	818	374	54%	63%
2010	857	385	55%	67%
2011	879	394	55%	67%
2012	911	393	57%	71%
2013	926	389	58%	72%
2014	934	402	57%	69%
2015	935	413	56%	65%

Source: Department of Health, Safe Drinking Water Branch

### SDWB Approvals

**New Source Approvals** - All new sources of water intended to serve as part of a public water system are required to be approved by the Director of Health. Approval is based on satisfactory submission of an engineering report addressing many aspects of the source, including water quality.

**Well**



**Surface Intake**



**Rain-Water Catchment**



**Treatment Plant Approvals** - The addition of new drinking water treatment facilities is generally considered a major or substantial modification of a public water system, which also requires approval by the Director of Health.

**Granular Activated Carbon**



**Packed Tower Aeration**



**Reverse Osmosis**



**Water Treatment Plant and Distribution System Operator Certification** - This program is designed to ensure that water treatment plant and distribution system operators have the proper education and experience to operate their systems. In State Fiscal Year 2012, there were approximately 212 certified water treatment plant operators in the State. A distribution system can be a source of water contamination. Water main breaks and stagnation are two of the many ways that the distribution system can affect drinking water quality. Operators must know how to address these and other conditions to maintain the best quality water possible. At the present time, there are 128 public water systems that require certified distribution system operators and 512 certified distribution system operators in the State.

### Cumulative Sanitary Surveys of Safe Drinking Water Systems

One of SDWB's most significant responsibilities is conducting sanitary surveys, which provides a review of the water system field conditions. Sanitary surveys are conducted periodically to determine the condition of various aspects of the public water system including; sources, facilities, record-keeping, management, financial status, operation, and more. SDWB's goal is to regularly conduct "Sanitary Surveys" of all public water system source, treatment, and distribution operations over a five-year period.

### Cumulative Sanitary Surveys of Drinking Water Systems

Calendar Year	Target Number of Systems Surveyed in a year*	Surveys Actually Completed Annually	Target Cumulative Number of Systems Surveyed*	Actual Cumulative Number of Systems Surveyed
2007	26	23	26	23
2008	26	31	52	54
2009	26	28	78	82
2010	26	27	104	109
2011	26	41	130	150
2012	26	43	130*	193
2013	26	20	132	213

Source: Department of Health, Safe Drinking Water Branch (SDWB)

\* There were a total of 130 Drinking Water Systems in 2012.

Note: SDWB tries to do at least 26 surveys a year so that each system is inspected at least every 5 years

### Drinking Water State Revolving Fund (DWSRF)

The DWSRF is a federally-capitalized low-interest loan program that provides funding to the four County water departments for water infrastructure projects, like treatment plants, new drinking water sources, the replacement of aging waterlines, and storage tanks. EPA provides the capitalization grants to SDWB, which administers the loan program with assistance from the Environmental Resources Office and Water Revolving Fund Staff. The DWSRF program is considering offering financing to state-owned and privately-owned water systems in the future.

**Proposed DWSRF Project**



**Completed DWSRF Project**



In State Fiscal Year 2013, the Safe Drinking Water Branch and Environmental Resources Office executed 10 final loan agreements, totaling \$27,692,906. This represents a 100 percent increase in the number of loan agreements executed and a 373 percent increase in the dollar amount loaned when compared to State Fiscal Year 2012. In State Fiscal Year 2014, 10 new loan agreements were finalized, totaling \$32,924,849. These loan agreements provide funding to County Departments of Water Supply for repairs and improvements to their water systems.

<b>Drinking Water State Revolving Fund (DWSRF) SFY 2013</b>	
<b>Project Description</b>	<b>Loan Amount</b>
Kulaimano Production Well and Supporting Facilities	\$ 1,344,599.00
Wakiu Well Replacement	\$ 398,485.65
Kahili Horizontal Directional Drilled Well	\$ 2,000,000.00
Kynnersley #1- 0.3 MG Reservoir Replacement	\$ 2,394,278.00
Kaupakalua Road Waterline Improvements Phase 1	\$ 846,047.00
Kealakaha Dr., Pooholua Dr., and Waipao Pl 8-in Mains	\$ 1,179,714.00
Kona Street 8-inch Main	\$ 4,399,728.00
Ward Avenue 12-inch and 8-inch Water Mains	\$ 2,096,294.00
Wailua Houselots Main Replacement, Phase I	\$ 4,671,000.00
Waikamoi Flume Repair/Replacement	\$ 8,362,760.00
<b>DWSRF SFY 2013 TOTAL for 10 Projects</b>	<b>\$ 27,692,905.65</b>
<b>Drinking Water State Revolving Fund (DWSRF) SFY 2014</b>	
<b>Project Description</b>	<b>Loan Amount</b>
Olinda Water Treatment Plant - Relining of the 8.5 MG Sedimentation Basin	\$ 1,492,502.00
Piiholo Water Treatment Plant Improvements - Organic Carbon Removal	\$ 4,960,519.00
Paia-Kuau Water System Improvements	\$ 815,447.00
Maui Meadows Booster Pump Station #18 Improvements	\$ 1,100,000.00
Wailuku Well Development	\$ 2,000,000.00
Foster Village Water System Improvements, Part III	\$ 1,382,569.00
Mapunapuna Water System Improvements, Part I	\$ 5,727,070.00
Kamehameha Highway 16-Inch and 8-Inch Mains (Heeia)	\$ 6,253,645.60
Kapiolani Boulevard 12-Inch Main	\$ 5,472,724.00
Woodlawn Drive 8-Inch Main	\$ 3,720,373.00
<b>DWSRF SFY 2014 TOTAL for 10 projects</b>	<b>\$ 32,924,849.60</b>
<b>DWSRF SFY 2013 &amp; 2014 for 20 Projects</b>	<b>\$ 60,617,755.25</b>

## Wastewater Branch

The Wastewater Branch, <http://health.hawaii.gov/wastewater/>, administers the statewide engineering functions relating to water pollution control, the municipal and private wastewater treatment works program, and the individual wastewater systems program. The Branch's activities include review and approval of all new wastewater systems, monitoring of all existing wastewater systems, planning, design, and construction of several major wastewater treatment works projects, executing engineering and scientific contracts, and final project, operation, and maintenance inspection reports.

### Wastewater Treatment Plant Operation & Maintenance Compliance

In 2014, 84% of wastewater treatment plants (WTP) were in compliance with State standards.

#### Wastewater Treatment Plant Operations & Compliance

Calendar Year	Total Number of Plants	Number of Plants Inspected	Number of Plants Rated Unsatisfactory	Percentage in Compliance
2006	180	93	14	92%
2007	180	102	33	82%
2008	180	34	15	92%
2009	180	119	38	79%
2010	180	114	13	93%
2011	180	62	17	91%
2012	190	58	13	93%
2013	190	58	16	92%
2014	190	82	30	84%

Source: Department of Health, Wastewater Branch

### Percentage of Wastewater Recycled Annually

Wastewater recycling (or the reuse of water treated to a level appropriate for irrigation and other purposes) has been steadily increasing over the last few years, from only 13.93% in 2011 to 16.42% in 2014. The DOH will actively encourage reuse. The goal is 30 MGD statewide, or 20% by 2015.

#### Wastewater Recycled

Calendar Year	Total Wastewater Treated (MGD)*	Wastewater reused (MGD)	Percentage Reused
2006	150	24.60	16.40%
2007	150	24.40	16.27%
2008	150	23.91	15.94%
2009	150	23.91	15.94%
2010	145	22.98	15.85%
2011	141	19.64	13.93%
2012	141	21.14	14.99%
2013	133	21.12	15.88%
2014	134	22.00	16.42%

Source: Department of Health, Wastewater Branch

**R-1 System at Waimea WTP, Kauai****Ultraviolet disinfection channel in West Maui**

In 2016, the Wastewater Branch will finalize the guidelines for the treatment and use of recycled water. They are currently finished with the irrigation guidelines and are making final edits to the technical appendix. In early 2016, the Wastewater branch will put the document out for public comment, particularly to the wastewater treatment plant operators for comments. After comments are reviewed and incorporated, the Wastewater will put out a final version of the Guidelines for the Treatment and Use of Recycled Water before the end of 2016. The May 15, 2002 version of the guidelines are available at: <http://health.hawaii.gov/wastewater/files/2013/06/reuse-final.pdf>

### **Cesspool Ban**

The Wastewater Branch is finalizing revisions to Chapter 62 of the *Hawaii Administrative Rules* to ban new cesspools throughout the state and provide tax credits to upgrade certain qualified cesspools.

**Table Approximate Number of Cesspools by Island (2013)**

Island	Number of Cesspools	Percent of State
Hawaii	50,000	57%
Kauai	14,000	16%
Maui	12,000	14%
Oahu	11,000	12%
Molokai	1,400	2%
<b>TOTAL</b>	<b>88,400</b>	<b>100%</b>

Source: Department of Health, Wastewater Branch



## Clean Water State Revolving Fund (CWSRF)

The CWSRF was established by the Clean Water Act (CWA) to support construction of publicly owned wastewater treatment works by providing financial assistance in the form of low-interest loans. The CWSRF executed a total of \$13,249,797 in final loans in State Fiscal Year 2013 and 39,401,728 in State Fiscal Year 2014 for a variety of wastewater projects and improvements.

<b>Clean Water State Revolving Fund (CWSRF) SFY 2013</b>	
<b>Project Description</b>	<b>Loan Amount</b>
Alamaha Force Main Replacement	\$ 1,260,000.00
Kalanianaole Avenue Interceptor System Rehabilitation	\$ 8,621,409.00
West Maui Recycled Water - Phase 1	\$ 3,368,388.00
<b>CWSRF SFY 2013 TOTAL for 3 projects</b>	<b>\$ 13,249,797.00</b>
<b>Clean Water State Revolving Fund (CWSRF) SFY 2014</b>	
<b>Project Description</b>	<b>Loan Amount</b>
Wailuku-Kahului Force Main Replacement	\$ 3,621,040.00
Countywide Pump Station Renovations	\$ 4,023,751.00
Lahaina No. 3 Force Main Replacement	\$ 4,719,660.00
Central Operations and Maintenance Facility	\$ 500,000.00
Wailua Wastewater Treatment Plant Improvements - Phase I	\$ 1,942,632.69
Lahaina Wastewater Pump Station No. 2 Modifications	\$ 4,478,103.00
Kauai County Cesspool Conversion Project	\$ 116,542.21
Ala Moana Wastewater Pump Station Force Mains #3 and #4	\$ 20,000,000.00
<b>CWSRF SFY 2014 TOTAL for 8 projects</b>	<b>\$ 39,401,728.90</b>
<b>CWSRF SFY 2013 &amp; 2014 for 11 Projects</b>	<b>\$ 52,651,525.90</b>

The CWSRF is required to allocate a minimum amount of funds to Green Project Reserve (GPR) projects, which are projects that contribute to energy efficiency, water efficiency, and/or sustainable infrastructure.

The Waimea Wastewater Treatment Plant Expansion, a multi-year GPR project, was completed in May 2013 with assistance from the CWSRF. It includes new 124 kW photovoltaic and UV disinfection systems that help with energy efficiency and water reuse.

**Photo: Waimea Wastewater Treatment Plant photovoltaic panels, Kauai**



The CWSRF also provided assistance for the Kalanianaole Avenue Interceptor Sewer Rehabilitation project in the County of Hawaii that rehabilitated 4,800 feet of sewers.



Waikiki Beach, August 2015



## Solid & Hazardous Waste Branch

The Solid and Hazardous Waste Branch (SHWB), <http://health.hawaii.gov/shwb/>, operates under the Federal Resource Conservation and Recovery Act (RCRA), HRS chapters 342G, 342H, 342I, 342J, 342L, and 342N, and relevant sections of HAR Title 11. The SHWB consists of the hazardous waste section, office of solid waste management, pollution prevention and waste minimization program, underground storage tank section, Hawaii electronic device recycling program, and Hi-5 deposit beverage container (DBC) recycling program. The hazardous waste section regulates the generation, transportation, treatment, storage, and disposal of hazardous waste. Solid waste management regulates landfills, incinerators, transfer stations, recycling, composting facilities, and illegal dumping.

### Activities

SHWB encouraged the recycling of solid waste, drafted E-waste recycling legislation, helped to clean up leaking underground storage tanks, and helped properly dispose of solid waste.

SHWB noted that participation in the HI-5 recycling program remains strong.



### Enforcement

From July 2014 to June 2015, SHWB investigated over 159 solid and hazardous waste complaints, conducted 708 related inspections, sent 139 warning notices and issued 22 field citations.

### Solid Waste Indicators

The SHWB tracks several key indicators including the amount of solid waste recycled, the number of leaking underground storage tanks (LUST), and the Hi-5 DBC redemption rate.

### Solid Waste Recycled in Hawaii

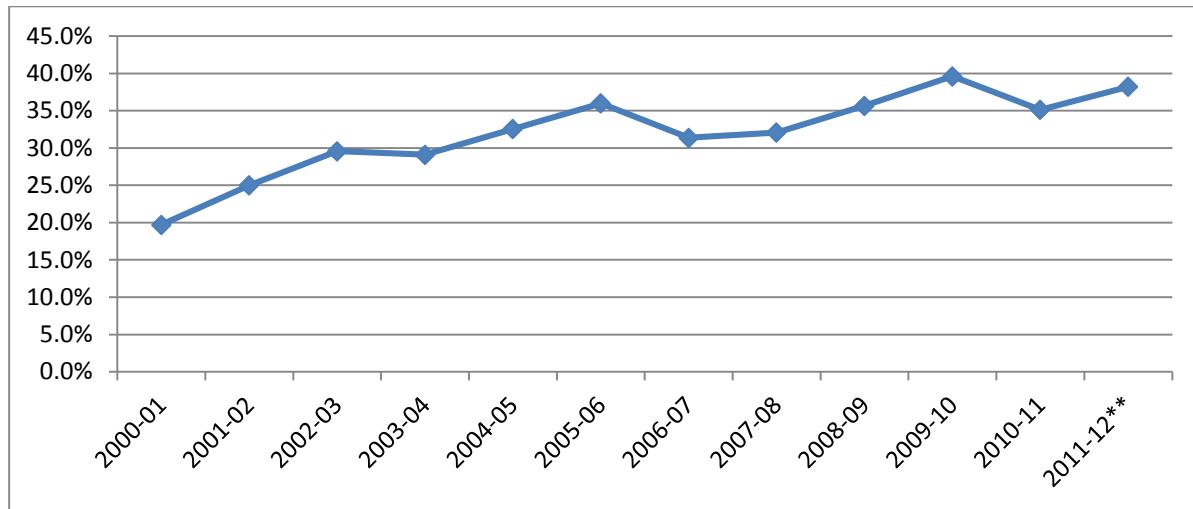
As a result of increases in Hawaii's population, the amount of waste being produced, land-filled, and recycled has increased. The addition of a third boiler, mass burn at the H-POWER facility was completed in May 2012. By calendar year end, the expanded facility is expected to be fully operational, with the capacity to process an additional 300,000 tons of waste per year and to divert bulky combustible waste from landfills. The combined H-POWER facilities will have the total capacity to process 2,900 tons per day and sell 73 megawatts of renewable energy to HECO.

**Solid Waste Recycled in Hawaii (in tons)**

<b>State Fiscal Year</b>	<b>Generated</b>	<b>Disposed</b>	<b>Diverted</b>	<b>Percent Diverted</b>
2000-01	1,794,496	1,441,000	353,496	19.7%
2001-02	1,971,336	1,478,668	492,668	25.0%
2002-03	2,115,313	1,489,974	625,339	29.6%
2003-04	2,140,648	1,517,915	622,733	29.1%
2004-05	2,116,724	1,427,904	688,820	32.5%
2005-06	2,227,124	1,425,752	801,373	36.0%
2006-07	2,526,134	1,733,889	792,245	31.4%
2007-08	2,617,350	1,778,009	839,341	32.1%
2008-09	2,532,370	1,629,397	902,973	35.7%
2009-10	1,636,298	988,444	647,854	39.6%
2010-11	1,786,343	1,159,027	627,316	35.1%
2011-12**	1,593,887	1,147,194	608,857	38.2%

Source: Department of Health, Solid & Hazardous Waste Branch

\*\* Incomplete: Statistics for diversion and generation from the County of Maui are currently unavailable.

**Percent of Solid Waste Diverted****Diversion Rates by County (FY 2008-2012)**

<b>State Fiscal Year</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
Hawaii	29.2%	30.9%	35.9%	28.9%	38.1%
Maui	33.1%	34.2%	35.3%	36.6%	na
Oahu	33.4%	37.2%	39.2%	36.9%	38.6%
Kauai	29.6%	26.3%	25.0%	23.8%	32.5%
<b>State</b>	<b>32.3%</b>	<b>35.7%</b>	<b>39.6%</b>	<b>35.1%</b>	<b>38.2%*</b>

Source: Department of Health, Solid & Hazardous Waste Branch

## Deposit Beverage Container Redemption Rate



Each year, over 900 million beverage containers are sold in Hawaii. Consumers can help to recycle as many beverage containers as possible to prevent these containers from ending up in the waste stream or as litter. As an incentive, the Hawaii Deposit Beverage Container (DBC) Program places a 5 cent redeemable deposit on each beverage container. Consumers get back their 5 cents when they return their containers to a redemption center. Over 4.7 billion

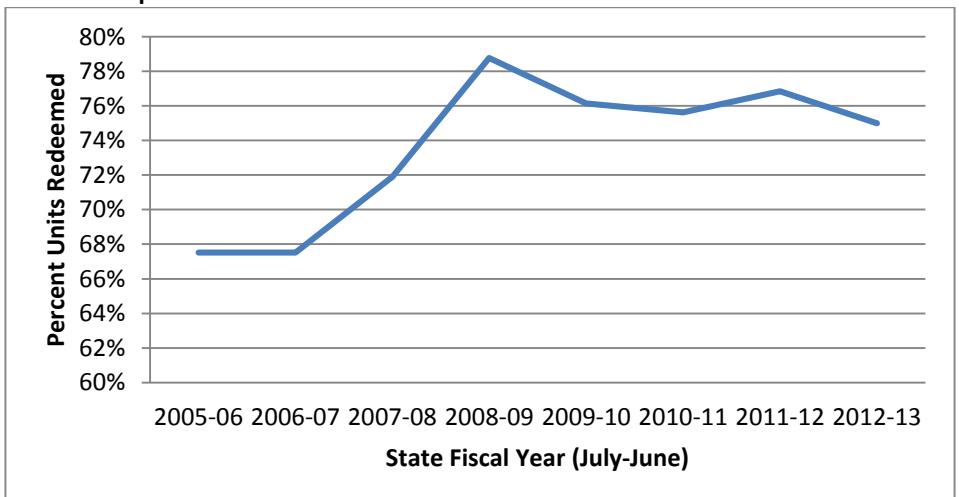
beverage containers have been recycled since the program began in January 2005. The redemption rate continues to remain high. For the last four years, more than three out of every four beverage containers have been recycled.

**Deposit Beverage Container Redemption (DBC) Rate**

State Fiscal Year	Units Sold (in millions)	Units Redeemed (in millions)	DBC Redemption Rate
2005-06	930	628	68%
2006-07	936	632	68%
2007-08	947	681	72%
2008-09	895	705	79%
2009-10	901	686	76%
2010-11	907	686	76%
2011-12	907	697	77%
2012-13	912	684	75%

Source: Department of Health, Solid & Hazardous Waste Branch

**DBC Redemption Rate\***



### Number of Leaking Underground Storage Tanks (LUST)

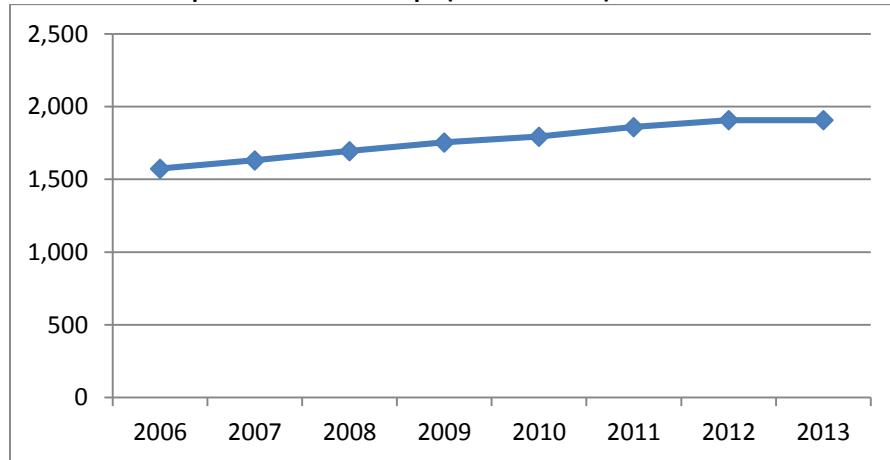
There were 1,961 cumulative LUST clean-ups between 2006 and 2014.

#### Leaking Underground Storage Tanks

Calendar Year	Total Tanks	Active Tanks	Closed Tanks	Confirmed Releases	Clean-ups Partially Addressed	Clean-ups Not Initiated	Cumulative Completed Clean-ups
2006	7,832	2,001	5,831	1,875	206	94	1,574
2007	7,916	1,895	6,021	1,909	192	86	1,631
2008	7,845	1,770	6,075	1,955	184	76	1,695
2009	7,873	1,701	6,172	1,989	154	80	1,755
2010	7,897	1,679	6,248	2,019	180	45	1,794
2011	7,904	1,639	6,265	2,037	142	35	1,860
2012	7,974	1,653	6,321	2,052	109	36	1,907
2013	7,990	1,657	6,333	2,053	109	37	1,907
2014	8,020	1,604	6,416	2,103	96	46	1,961

Source: Department of Health, Solid & Hazardous Waste Branch

#### Cumulative Completed LUST Clean-ups (CY 2006-2013)



Removal of an underground storage tank



## Environmental Health Services Division

The Environmental Health Services Division (EHSD) operations are governed by the federal Food, Drug, and Cosmetic Act (FDCA); HRS chapters 321, 322, 328, 328C-E, 330, 330C, 342F, 342P, 466J, 469; and relevant HAR Title 11 chapters. EHSD currently has three branches: Food and Drug, Sanitation, and Indoor and Radiological Health.

### Food Safety & Sanitation Branch

The Food Safety & Vector Control Branch administers Hawaii sanitation laws in the areas of inspection and enforcement, permit and license issuance, licensing of professionals, and education. The branch is one of the core public health programs that affect the broadest range of health-related activities. Its programs are statewide, as established by statute and administrative rules. The Branch's purpose is to promote and maintain a sanitary and healthful environment for the people and visitors of Hawaii by implementing legally-required programs for food protection, assessing and assuring that hospitals and medical facilities meet sanitation requirements, licensing of tattoo artists and embalmers, and regulating barber shops, beauty parlors, massage parlors, tattoo shops, mortuaries, and public swimming pools.

One of the Branch's primary focuses is food protection, which has evolved into a complex program that consists of public health practices through education, partnerships, prevention, assessment, and compliance. In July 2014, new food safety rules went into effect, which launched inspections of food establishments with a color-coded placard system. Green placards are issued for those establishments with no more than one critical violation that must be corrected at the time of inspection; yellow cards are issued to those with two or more critical violations; and red placards are used for those food establishments that need to be immediately closed because they pose an imminent health hazard to the community.

By December 2015, virtually all of Hawaii's more than 10,000 food establishments statewide had been inspected. This covered about 6,000 such establishments on Oahu, 1,800 on Hawaii Island, 1,700 in Maui County, and 690 on Kauai. The food code requires inspections of restaurants, hotels, caterers, food warehouses, markets, convenience stores, lunch wagons, push carts, and institutional kitchens for healthcare facilities, preschools, elementary schools, adult and child day care centers, and prisons.

Of all the establishments that were inspected since the program began, the Hawaii Department of Health has issued only three red placards with monetary fines – all on Oahu – that required the suspension of their permit and were ordered to temporarily close their operations. The Department of Health issued 2,105 yellow placards or conditional passes that require the establishments to address violations. Establishments that received yellow placards were motivated to address any shortcomings and change their practices to come into compliance. The average time for corrections is two to three days. There has been a voluntary compliance rate of over 99.8% for those food facilities that were issued a yellow placard. This confirms that the placarding program has been a huge success in terms of influencing rapid and voluntary correction of food safety violations.

An online portal that will allow the public to access the inspection results is targeted to be operational in the first quarter of 2016. The system, which also allows food establishments to apply and pay for permits, is also scheduled to be ready in 2016. A total of 45 Hawaii Department of Health inspectors

completed the inspections. On Oahu, there are currently 30 Hawaii Department of Health inspectors in the field; seven on Hawaii Island; four for Maui County; and three on Kauai. The Sanitation Branch focuses on its food protection program which has evolved into a complex program focusing on public health practices through education, partnerships, prevention, assessment and compliance.

Food is a significant element of Hawaii's multi-ethnic culture and is a principal attraction for visitors to Hawaii. Food contamination presents the greatest risk to public health. The Sanitation Branch protects residents and visitors from exposure to food borne illnesses by conducting inspections and assessments of food service establishments to ensure that the food served is safe to eat. Inspections are discussed later in this report. The branch is responsible for over 10,000 permits statewide for restaurants and other food establishments.

In addition, the branch promotes food protection through education. The Food Safety Consultation and Education Program plays a vital role in preventing food borne illnesses by developing and implementing food safety surveillance and control plans, and conducting educational activities to assist the food service industry and food handlers. The last year bore the fruits of legislation (Act176/SL2010) and new Hawaii Administrative Rules that allowed the food safety program to complete 3 major accomplishments for the food safety program.

#### **Increased Staffing Levels.**

The 13 food inspector positions on Oahu in 2011 have been increased over the past few years to 31 at present. The long sought after staffing increase allows the Sanitation program to make more frequent inspections of the food establishments with the greatest number of food-borne illness risk factors. The ratio of restaurants to inspectors went from 650/1 in 2011 to about 190/1 at present. This ratio is closer to the FDA recommended level of 150/1 for world class food regulatory jurisdictions. The staffing levels will allow inspection frequency to increase from once every 2½ years to at least three times/year for high risk food facilities, 1-2 times/year for medium risk establishments and annually for low risk establishments. This will bring us in line with the best food safety programs in the U.S. The improved staffing levels will also improve the sanitarians response to their multi- function role in food safety, community sanitation, and emergency preparation and response as we are now seeing with the Dengue outbreak on the Big Isle.

#### **Transparency - Move to a paperless web-based inspection system**

The DOH contracted with Digital Health Department Inc. (DHD) in July 2015 to establish a web-based permitting and inspection program. The program is currently bench testing the program and should go live in the first quarter of 2016. The vendor chosen will set up a web based system that will bring us up to par with top performing food regulatory jurisdictions nationwide, by achieving the following goals:

- a) Allow the regulated community to pay for permit renewals on-line.
- b) Allow existing permit holders to access their records. (Permit expiration dates and fees, previous inspection results, etc.)
- c) Allow the general public to access the most recent inspection results of any of our permitted food establishments.
- d) Allows the general public to access any legal enforcement results.
- e) Allows the departments to more efficiently manage and track the work of DOH employees.

- f) Reduce the volume of clerical work due to the capability of automatically downloading inspection results directly into the database. No keypunch entry needed by the existing clerical staff which will allow them more time towards customer service.

### High Profile Restaurant Grading Program

The goals of the placard program are to:

1. Reduce the incidence of major violations in the Food Establishment, thus reducing the risk of the public contracting food-borne illnesses or being exposed to harmful contamination.
2. Increase compliance w/ food safety laws.
3. Convey meaningful inspection results to the public and food service industry using a system that is simple to understand.
4. Reward the Food Establishment for “Excellence in Food Safety”

Scope: All retail food establishments will be required to post a placard once issued. Restaurants, liquor establishments, coffee houses, schools, bakeries, markets etc.

Placards: The same criteria are used for all food establishments

A Major violation is one that is recognized by the FDA and the CDC (Centers for Disease Control) as a major contributing cause of food-borne illness, food contamination, or environmental health hazards.

**PASS – A GREEN PLACARD** is issued when no more than one major violation is observed. The major violation must be corrected or mitigated at the time of the inspection. Minor violations must be corrected within the time frame given on the inspection report. A re-inspection may be conducted if any of the violations are not permanently corrected in a timely matter.

**CONDITIONAL PASS – A YELLOW PLACARD** – a Yellow Conditional Pass Placard is issued when two or more major violations are observed; when any uncorrected major violation is observed during a follow-up inspection, or when a “Notice of Violation and Order” has been filed. These violations must be corrected or mitigated at the time of inspection. A re-inspection WILL be conducted within 24-72 hours to ensure that ALL major violations remain corrected. Minor violations must be corrected within the time frame given on the inspection report. If all major violations are corrected during the re-inspection, a GREEN PASS placard will be issued at the re-inspection.

**CLOSED – A RED PLACARD** – A Red Closed placard is issued when an imminent threat to public health and safety is observed and/or if the Food Establishment Permit has been suspended/revoked. Examples of imminent health hazards include: Food borne illness outbreak determined by State Epidemiologists, presence of surfacing or overflowing sewage within the establishment, no water available, no power available, severe rodent/insect infestation, or severe unsanitary conditions. The Red CLOSED Placard must remain posted and the facility closed until a re-inspection is conducted to confirm that the imminent health hazard no longer exists or the permit has been re-instated. A GREEN placard will be issued at the re-inspection if all is well.

Since the inception of the placarding program in 2014 the food safety program has conducted over 11,000 inspections statewide and have issued over 2100 Yellow CONDITIONAL PASS placards for multiple major violations. All but 3 food establishments voluntarily corrected the violations in an

average of 2-4 days which results in an astonishing 99.8% VOLUNTARY COMPLIANCE rate for major violations.

Those 3 food establishments were closed and later fined for willful disregard of DOH HAR governing food safety. The Placarding program was also featured in a peer reviewed article in the Hawaii Journal of Medicine and Public Health in August of 2015. The article is titled: **“Protecting Public Health Through Governmental Transparency: How the Department of Health’s new “Stoplight” Placarding Program is Attempting to Influence Behavioral Change in Hawaii’s Food Industry”**

Resources for the three major goals above were provided for with no General Fund Increase requests. The food safety program was able to convince the regulated industry (Hawaii Restaurant Assoc., Hawaii Hotel and Lodging Assoc., Hawaii Food Manufacturers Assoc. and the Hawaii Food Industry Association, and others special interest groups) to support restaurant permit fee increases to provide the necessary funding for long-term support of the food safety program. This in itself was a major accomplishment achieved by working closely with the regulated industry prior to public hearings. Revenues from fees collected for fiscal year 2014 and deposited into the fund totaled \$772,016. In FY 2015 the amount increased to \$1.67 Million and this is projected to increase and level off to about \$2 Million annually by FY16.

#### MOVE TOWARDS “WORLD CLASS STATUS”

The statewide Sanitation program has sought and achieved tremendous internal improvements in the past five years. The program has gone from having no standards of inspection, no program quality control, lack of consistent field inspections, enforcement and education; to having a fully standardized staff with explicit, consistent and documented protocols in all areas, a uniform statewide food safety education program, and statewide participation in the FDA Voluntary National Retail Food Program Standards (VNRFPS) program. The Big Island staff have each met 2 of the 9 “Gold” standards, and the Oahu program has met 3 of the 9 “Gold” standards. The goal is to have the food safety program under continuous quality improvement and to strive to meet at least 6 of the 9 “Gold Standards” for food safety inspection programs. Achieving that milestone will place us in the upper 10% of all 600+ food regulatory programs nation-wide which will make us a “world class” food regulatory program.

Third Party Verification audits are required to confirm that the program has met the requirements for these standards.

#### Continued Growth of Hawaii’s Shellfish Industry

The Department of Health issued the second commercial Oyster farming operation permits to The Four Seasons Resort in Hualalai. The permits approve the growing waters and the sale of the oysters. This is the fourth permit issued since 2013 when the State DOH revived the molluscan shellfish program which resulted in allowing Sunshine Capitol Inc, dba Limaloa Farms in Kauai to farm clams. Kualoa Ranch was the first company to successfully receive a permit for oyster farming which was followed by the UH-Hilo research center as a research farm. These were the first shellfish operations approved in the State in 16 years. The last shellfish operation in the State closed in 1997 for financial reasons which also was the last year that the State DOH Lab was certified by the FDA. Interest by industry to revive the State Shellfish program had been brewing for a number of years, but the State DOH Lab had long since been removed as a certified FDA shellfish testing lab due to the disappearance of the local shellfish industry.

In recent years, however, the DOH had been receiving numerous requests from industry to revive the State's shellfish program. Since then, the DOH Food Safety Program, the State DOH Lab, and the fledgling shellfish industry embarked on an aggressive collaborative effort to bring the DOH Food Safety program and Lab capabilities back up to where it was 16 years ago. This required the DOH lab to undergo recertification by the FDA, which meant retraining microbiologists. The food safety program staff also went through intense training to complete Shellfish Growing water survey classifications to comply with existing State regulations that would allow for the growing and sale of shellfish in Hawaii. The State DOH is also working closely with industry to ensure that regulatory standards are met.

The availability of "Hawaii Grown" oysters and clams would be a huge boost to the culinary industry in Hawaii. It is not hard to imagine that restaurants throughout the State would be clamoring (pardon the pun) for fresh Hawaii Grown shellfish. The industry has a potential do very well as new growing techniques have been developed over the past 26 years, which include artificial growing areas as well as traditional shoreline growing areas.

More information about the Food and Drug Safety is available at:

[http://hawaii.gov/health/environmental/food\\_drug/index.html](http://hawaii.gov/health/environmental/food_drug/index.html)

More information about Sanitation is available at:

<http://hawaii.gov/health/environmental/sanitation/index.html>

The Branch permits over 10,044 food establishments statewide.

#### Food Establishment Permitting & Plan Reviews (SFY 2014-15)

Type	2014-15
Food Establishment (renewals)*	9,441
Food Establishment (new)**	711
Temporary Food Permits	4,655
Building Plan reviews*** (Restaurants etc.)	583

Source: Environmental Health Services Division, Sanitation Branch

State Fiscal Year (July 1 to June 30)

\*2014-15 data is for the entire State (not just Oahu as reported in previously)

\*\* Food Permit approval inspections are done within 24 hours of a request

\*\*\* Plans are reviewed within 48 hours of complete submittal

#### Food Establishments\* requiring permits (SFY 2013 - 2015)

Island	2013-14	No. of inspectors 2013-14	2014-15	No. of inspectors 2014-15
Oahu	6,000	31	5,929	31
Hawaii	1,800	8	1,783	8
Maui	1,600	8	1,750	8
Kauai	690	3	700	3
<b>Total</b>	<b>10,090</b>	<b>50</b>	<b>10,162</b>	<b>50</b>

Source: Environmental Health Services Division, Sanitation Branch

State Fiscal Year (July 1 to June 30)

\* Includes restaurants, hotels, caterers, food warehouses, markets, convenience stores, lunch wagons, push carts, and institutional kitchens for healthcare facilities, preschools, elementary schools, adult and child day care centers, and prisons.

**Food Establishments by Risk Category (SFY 2013-15)**

Risk Category	2013-14	2014-15
Category 1*- high risk level	3,363	3,045
Category 2**- mid risk level	3,363	3,350
Category 3***- low risk level	3,364	3,757
<b>Total</b>	<b>10,090</b>	<b>10,152</b>

Source: Environmental Health Services Division, Sanitation Branch

State Fiscal Year (July 1 to June 30)

Note: Risk category is determined based on the number of food handling or procedures

\* Category 1 - a full-service establishment that has six to eight different food procedures, including receiving, cold storage, hot storage, thermal processing, transportation, cooling, reheating and display. Category 1 establishments are inspected three times a year.

\*\* Category 2 - typically fast food establishments, which have three to five procedures, are inspected twice a year.

\*\*\* Category 3 - have up to two procedures, such as cookie or ice cream shops, are inspected once a year.



PLACARD ISSUANCE RESULTS

DATE	OAHU				BIG ISLE				MAUI				KAUAI			
	G	Y	R	% Y	G	Y	R	% Y	G	Y	R	% Y	G	Y	R	% Y
2014																
7/23-AUG	336	143	0	30												
SEP	298	161	0	35												
OCT	283	130	0	31												
NOV	240	58	0	19												
DEC	421	80	0	16	335	51	0	13	494	66	0	12	95	36	0	27
2015																
JAN	257	76	0	23				0				0				0
FEB	322	112	0	26				0				0				0
MAR	387	130	0	25	466	65	0	12	391	19	0	5	115	40	0	26
APR	379	120	0	24												
MAY	349	104	0	23												
JUN	306	138	0	24	335	51	0	13	332	41	0	11	280	50	0	15
JUL	324	131	0	29												
AUG	339	90	0	21												
SEP	319	129	0	29	458	33	0	7	301	17	0	5	196	23	0	11
OCT	377	141	2	27												
NOV	395	158	1	29												
TOTAL	5332	1771	3	25	1594	200	0	11	1518	143	0	9	686	149	0	18

Statewide                    8735 Green  
2105 Yellow                =      100% completed Statewide

TOTAL                        10840

10,840/10,152 permits Statewide = >100% complete

Oahu                        6550/5919 = >100% Complete

## Vector Control

DOH, Environmental Health Services Division (EHSD), Vector Control, is primarily concerned with preventing epidemics of vector-borne diseases and the establishment of new vector species in Hawaii. Towards this goal, DOH has been re-establishing its vector control capabilities after they were significantly scaled back in 2009. DOH received funding for four general funded vector control positions in 2013. These four positions were established and filled in 2015. These new hires are currently being trained and acquiring the necessary security clearances to enter restricted areas at the airport and harbors. These four positions will be primarily focused on disease vectors that may impact human or environmental health at ports of entry on Oahu. They report to the DOH Chief Entomologist VI within Vector Control. DOH is ensuring that there are no Aedes aegypti mosquitos at the Honolulu International Airport (HNL).

DOH received an additional four vector positions in 2015. These four positions will be established and filled in 2016. Two of these positions will be based on Maui and primarily focused on disease vectors that may impact human or environmental health at ports of entry. These two positions will report to the District Health Office (DHO) Maui, Chief Sanitarian. The other two new 2016 positions will be based on Hawaii Island and will also focus on disease vectors that may impact human or environmental health at ports of entry. These two positions will report to the DHO Hawaii, Chief Sanitarian.

In the future, DOH, along with partners, plan to:

- Control/remove established populations of Aedes aegypti (the mosquito that can spread dengue fever, chikungunya, yellow fever viruses, and other diseases) that are known to exist on Maui and the Island of Hawaii;
- Expand education about the dangers of mosquitos and encourage landscapes that do not include plants that hold stagnant water (e.g. bromeliads); and
- We are very fortunate here in Hawaii; many diseases that afflict millions in tropical and subtropical regions around the world pose little immediate risk to us here in the islands. However, Hawaii is uniquely vulnerable to the introduction of invasive species; some invasive species are vectors for human diseases.

*A vector is any organism that actively transmits a pathogen from an infected reservoir host animal to another individual. It can be a vertebrate animal (e.g. mice, birds), an insect (e.g. mosquito, cockroach) or another kind of arthropod (e.g. ticks, mites).*

The **Department of Health** (DOH) works with state and federal partners to ensure that new human diseases and potential vectors for those diseases do not become established in the islands. Our **Disease**

**Outbreak Control Division** (DOCD) has a wealth of information on various diseases and conditions. Its **Disease Investigation Branch** has more information on various ailments and [diseases](#).

For an update on the 2015 Dengue Fever outbreak on the Island of Hawaii please see:  
<http://health.hawaii.gov/docd/dengue-outbreak-2015> The Hawaii Department of Health (HDOH) is investigating locally-acquired cases of dengue fever on Hawaii Island (the Big Island). Dengue is not endemic to Hawaii. However, it is intermittently imported from endemic areas by infected travelers. This is the first cluster of locally-acquired dengue fever since the 2011 outbreak on Oahu. As of December 18, 2015, there were 163 confirmed cases; 145 residents and 18 are visitors.

The Aedes aegypti and Aedes albopictus mosquitoes can transmit the viruses that cause dengue fever.



### **Indoor and Radiological Health Branch**

The Indoor and Radiological Health Branch, (IRHB), consists of the Community Noise, Radiation Control, Air-Conditioning/Ventilation, Asbestos, Lead-Based Paint, and Indoor Air Quality programs. In addition, the Branch operates the State Radiological Response Team under State Civil Defense, conducts community health assessments for noise, radiation, and indoor air pollution, provides for access to essential services, and directs its resources towards problems that pose the greatest risk to public health and the environment.

The Branch conducts investigations of health- and environment-related problems, and performs regulatory functions to monitor compliance with applicable statutes and rules. These functions include permit issuance, monitoring, and enforcement. The Branch also provides consultative services, works toward building partnerships, and participates in programs for public outreach and education. More information on the Branch is available at: <http://hawaii.gov/health/environmental/noise/index>

## State Laboratories Division

Consistent with Federal and State regulatory agencies and partners, the EHA State Laboratories Division (SLD) provides a wide range of public health and environmental analytical services, as well as some oversight of community laboratory quality. For all of its successes, Hawaii still faces many challenges, ranging from unpredictable disease burdens to keeping current with technological advances. The Division tests for an ever-growing number of known and emerging health risks. The Division supports Hawaii's efforts to reach and maintain health-based Federal and State environmental quality standards. Test results are used to protect the public from exposure to dangers and toxins. Analyses conducted under vigorous quality management produce data that ensure the State can make informed and evidence-based decisions.

The State Laboratories facility on Oahu and the three District Health Laboratories on Hawaii, Kauai, and Maui, are all certified by the Centers for Medicare and Medicaid Services to perform human diagnostic testing, and by the EPA to test drinking water for microbial contaminants. SLD is EPA certified to conduct Chemical Analysis of Safe Drinking Water and by the FDA to inspect shellfish. The Oahu State Laboratories are a member of the Centers for Disease Control and Prevention Laboratory Response Network for antiterrorism testing, the U.S. Department of Agriculture National Animal Health Laboratory Network for animal diseases that affect human health, and the Food Emergency Response Network for food defense and emergency response.

To learn more about SLD, please visit: <http://hawaii.gov/health/laboratories/index.html>

### Activities

SLD continues to be a leader in public health labs. SLD is a member laboratory in the Association of Public Health Laboratories (APHL), and hosted Emerging Infectious Disease Fellowships, Environmental Public Health Fellowships, and undergraduate internships.

### Testing

SLD continues to conduct a wide variety of tests for potentially harmful substances, often in response to need and/or potential threats. For instance, in 2014 SLD conducted received certification to test for Ebola and in 2015 tested over 600 samples and confirmed over 160 for dengue fever virus.

#### Air

SLD continues to increase the number of air samples tested. SLD analyzed over 753,600 air samples in 2014.

#### Number of Air Samples (Tests) Performed (CY 2013-2014\*)

Number of Sampling Tests	2013	2014	Average
Oahu	289,320	289,320	296,533
Kauai**	52,560	52,560	52,560
Maui****	70,080	105,120	50,654
Hawaii Island****	315,360	306,600	282,273
TOTAL	727,320	753,600	653,430

Source: Department of Health, State Laboratories (SLD)

\* Calendar year

### Ocean and Stream Water Testing

SLD conducted over 9,927 microbiology ocean and stream water tests in 2014.

#### **Regulatory Microbiology representative Ocean Water and Stream Tests (CY 2014\*)**

<b>Island(s)</b>	<b>Number of Tests</b>
Oahu	5,773
Kauai	1,670
Maui, Molokai & Lanai	1,964
Hawaii	520
<b>Total</b>	<b>9,927</b>

Source: Department of Health, State Laboratories (SLD)

\* Calendar year

\*\* SLD tests a wide variety of samples as needed. Not all tests of SLD's tests are reflected above.

SLD conducted 58% of Ocean Water and Stream tests on Oahu, 17% on Kauai, 20% in Maui County and 5% on the Island of Hawaii.

#### **Regulatory Microbiology Ocean Water and Stream Tests\* (CY 2014)**

<b>Island(s)</b>	<b>Percent of Total</b>	<b>Number of 2014 Tests</b>
Oahu	58%	5,773
Kauai	17%	1,670
Maui, Molokai & Lanai	20%	1,964
Hawaii	5%	520
<b>Total</b>	<b>100%</b>	<b>9,927</b>

Source: Department of Health, State Laboratories (SLD)

\* SLD tests a wide variety of samples as needed. Not all tests of SLD's tests are reflected above.

SLD also conducted 1,830 chemistry related tests on ocean and stream water.

#### **Chemistry Testing for Ocean and Stream Water Samples (CY 2014)**

<b>Type</b>	<b>Number of Samples</b>	<b>Number of Tests</b>
Regulatory	259	1,764
Specials	10	66
<b>Total</b>	<b>269</b>	<b>1,830</b>

Source: Department of Health, State Laboratories (SLD)

### Drinking Water Testing

The State Laboratories Division's (SLD's) Environmental Health Analytical Services Branch (EHASB) and District Health Laboratories (Maui, Kauai, and Big Island of Hawaii) provide the Department of Health programs various types of analytical support related to water quality, including both routine regulatory monitoring and special projects support to DOH's Safe Drinking Water Branch and Clean Water Branch. The laboratories are credentialed by US EPA directly (EHASB) or through the SLD's primacy to certify laboratories (District Health Labs), which is a prerequisite to performing regulatory analyses of drinking water. Regulatory and investigative sample analyses adhere to available EPA-approved methods and strict quality assurance protocols.

In an effort to automate some of the pre- and post-analytical processes for EHASB and water purveyors, the SDWB funded a Sample Analyses Tracking System (SATS) and Sample Reservation Collection System (SCRS) (available at: <http://eha-web.doh.hawaii.gov/scrs>) which are also used by SLD. The SATS allows the water systems to track their submissions once drinking water samples arrive at EHASB to be analyzed for contamination, and went live in early 2012.



Sample results are directly uploaded into the results database at DOH SDWB, and are available to the water systems the next morning. The SCRS went live in mid-2013 with Kauai Department of Water and County of Hawaii Department of Water Supply spearheading the transition. Operations slowly expanded to include most of the water systems on all islands over the following 6 months. The SCRS contains the sampling calendar and produces chain-of-custody forms that accompany all drinking water samples sent to EHASB for analysis.

New chemistry instrumentation has been scheduled for purchase within the next year. These



instruments will replace aging or obsolete instrumentation. The acquisition of a new purge-trap-gas chromatograph-mass spectrometer (PT-GC-MS) will provide faster turn-around times with definitive identification of contaminant volatile organic compounds in potable water samples. Definitive identification of volatile organic compounds (VOC) is not possible with the existing PT-GC method.

Other anticipated replacement instruments include ICP-MS for heavy metals and HPLC for carbamates analyses. Within the past 18 months, EHASB has filled water chemist and microbiologist positions that had remained vacant for up to three years, including a Water Quality Assurance Microbiologist position that is vital to the laboratory. The new staff will allow the Branch to meet the program needs.

The SLD and EHASB administer the Drinking Water Lab Certification Program, which provides drinking water laboratory certification for laboratories performing regulatory analyses. There are currently 4 chemistry and 12 microbiology laboratories that are inspected, audited, and certified annually. There are 37 mainland laboratories approved for analytical chemistry using a combination of state reciprocity, third-party certification, and documentation audits. No out-of-state laboratories are approved for microbiology analyses because of transportation limitations. This certification program performs admirably on annual EPA audits.

The EHASB and District Health Laboratories provide both routine regulatory monitoring and special projects support to DOH's SDWB and CWB. In 2014, the State Laboratory examined 7,399 samples and conducted 27,433 tests. SLD conducted over 2,000 drinking water related microbiology tests in 2014.

#### **Drinking Water (Microbiology) Tests by Island and State Total (CY 2014)**

<b>Island(s)</b>	<b>Number of Tests</b>	<b>Percent of Total</b>
Oahu	804	39%
Kauai	228	11%
Maui, Molokai & Lanai	561	28%
Hawaii	444	22%
<b>Total</b>	<b>2,037</b>	<b>100%</b>

Source: Department of Health, State Laboratories (SLD)

\* Calendar year

\*\* SLD tests a wide variety of samples as needed. Not all tests of SLD's tests are reflected above.

The more detailed testing statistics for 2014 are as follows:

#### 2014 Testing Statistics for Safe Drinking Water Branch Samples

Sample Analyzed to Determine:	CY 2014	
	# of Samples	# of Tests
<b>Chemistry</b>		
Regulatory	1,717	12,912
Specials	273	727
TOTAL	1,990	13,639
<b>Microbiology</b>		
Regulatory	1,873	1,921
Specials	92	116
TOTAL	1,937	2,037
<b>TOTAL for SDWB</b>	<b>3,927</b>	<b>15,676</b>

Source: Department of Health, State Laboratories (SLD)

#### 2014 Testing Statistics for Clean Water Branch Samples

Sample Analyzed to Determine:	CY 2014	
	# of Samples	# of Tests
<b>Chemistry</b>		
Regulatory	259	1,764
Specials	10	66
TOTAL	269	1,830
<b>Microbiology</b>		
Regulatory	2,941	8,228
Specials	262	1,699
TOTAL	3,203	9,927
<b>TOTAL for CWB</b>	<b>3,472</b>	<b>11,757</b>

Source: Department of Health, State Laboratories (SLD)

#### Sanitation and Health Testing

SLD conducts a wide range of other sanitation and health related tests. A small selection is presented in the Table below. SLD received approval in 2014 to test for Ebola as a precautionary and emergency preparedness measure. In 2015, SLD tested over 600 samples and confirmed 160 cases of dengue fever.

#### Representative State Laboratory Tests (CY 2013-2014\*)

Number of Selected** Samples Tested	2013	2014
Salmonella DNA fingerprinted	347	337
Birds for Avian Influenza	103	37
Norovirus outbreak specimens	143	37

Source: Department of Health, State Laboratories (SLD)

\* Calendar year

\*\* SLD tests a wide variety of samples as needed. Not all tests by SLD are shown above.

## Offices

In addition to the Divisions discussed above, EHA has a number of Offices, including the Hazard Evaluation and Emergency Response (HEER) Office, Environmental Resource Office (ERO), Environmental Planning Office (EPO), Compliance Assistance Office (CAO), and the Environmental Information Manager.

### Hazard Evaluation and Emergency Response Office

In line with the Federal Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) (commonly known as Superfund); HRS 128D; and HAR Title 11, Chapter 11-451, the Hazard Evaluation and Emergency Response (HEER) Office works to clean up hazardous waste spills and sites. More information on the HEER office is available at:

<http://hawaii.gov/health/environmental/hazard/index.html>

## Activities

HEER monitors many contaminated sites in Hawaii. When a contaminated site is discovered and confirmed, HEER takes immediate action to ensure public safety. Over the past few years HEER has helped to clean up a former pesticide mixing area in a residential community in Kilauea, Kauai.

### Hazard Indicators

The HEER office tracks several indicators including toxic, oil, and chemical releases.

### Toxics Release Inventory (TRI)

The EPA provides TRI State Fact Sheets. Calendar Year 2013 data was released by EPA in March 2015. A summary of information is provided in the TRI Table and additional information is available at:

[http://iaspub.epa.gov/triexplorer/tri\\_release.chemical](http://iaspub.epa.gov/triexplorer/tri_release.chemical)

#### Hawaii Toxic Release Inventory ( Calendar Year 2013\*)

Category	Amount in pounds
Recycled On-site	8,068
Recycled Off-site	51,195
Energy Recovery On-site	16,000
Energy Recovery Off-site	271
Treated On-site	2,740,538
Treated Off-site	69,804
Total On-site Disposal to Class 1 Underground Injection Wells	0
Total other On-site Disposal or other releases	2,399,350
Total Off-site Disposal to Class 1 Underground Injection Wells	620,348
Total other Off-site Disposal or Other Releases	746
<b>Total Production-related Waste Managed</b>	<b>5,906,320</b>

Source: EPA, TRI Explorer State of Hawaii Fact Sheets (Hawaii Department of Health, HEER)

\* 2013 Calendar Year data as of EPA update released March 2015

## Oil and Chemical Releases to Land and Water

Any release of oil, chemicals, or other potentially toxic substances must be reported to DOH. Between 2006 and 2011, the HEER office crews respond to an average of 370 oil and chemical spills per year. Most are minor, a few are major, and some are false alarms.

**Oil and Chemical Releases (CY 2006-2014)**

Calendar Year	Oil Releases to Land	Oil Releases to Water	Total Oil Releases	Chemical Releases to Water	Chemical Releases to Land	Total Chemical Releases	Total Oil & Chemical Releases
2006	--	--	<b>206</b>	--	--	<b>178</b>	<b>384</b>
2007	--	--	<b>289</b>	--	--	<b>200</b>	<b>489</b>
2008	--	--	<b>198</b>	--	--	<b>107</b>	<b>305</b>
2009	56	87	<b>143</b>	62	63	<b>125</b>	<b>268</b>
2010	126	92	<b>218</b>	65	131	<b>196</b>	<b>414</b>
2011	185	72	<b>257</b>	63	51	<b>114</b>	<b>371</b>
2012	203	65	<b>268</b>	38	70	<b>108</b>	<b>376</b>
2013	178	78	<b>256</b>	49	83	<b>132</b>	<b>388</b>
2014	159	71	<b>230</b>	32	104	<b>136</b>	<b>366</b>

Source: Department of Health, HEER



## Environmental Planning Office

The Environmental Planning Office (EPO) provides assistance to all of EHA. Detailed information on EPO is available at: <http://health.hawaii.gov/epo>

EPO primarily assists with:

- EHA Strategic Planning and Coordination;
- Land Use Planning Reviews for DOH;
- Developing and Distributing the Environmental Health Management Report;
- Gathering, Tracking and Communicating Key Environmental Indicators;
- Coordinating Legislative Activities for EHA;
- Providing Information on EHA's Climate Change related Initiatives;
- Informing the Public; and
- Environmental Justice Activities.

EPO also participates in a number of other initiatives led by others, including:

- The Ocean Resources Management Plan (ORMP), led by DBEDT OP CZM;
- The Hawaii Invasive Species Council (HISC) lead by DLNR;
- The Hawaii Interagency Climate Adaptation Committee (ICAC) lead by DLNR and DBEDT OP; and
- The Aloha+ Challenge and related Hawaii Green Growth initiative.

## Activities

### Land Use:

Typically, EPO reviews on average over 250 land use documents a year. This includes:

- Pre-consultation, draft, and final environmental assessments;
- Pre-consultation, draft, and final environmental impact statements; and
- Programmatic or Supplemental notification, draft, and final environmental assessments and environmental impact statements.

**Number of Land Use Documents Reviewed\* (CY 2006-2014)**

Calendar Year	2006	2007	2008	2009	2010	2011	2012	2013	2014
All Land Use Documents reviewed	220	244	143	174	na**	285	236	246	275

Source: Environmental Planning Office

\* Includes PCEA, DEA, FEA, PCEIS, DEIS, FEIS, SEIS, NEPA, Master Plans, Management Plans etc.

\*\* na = not available as three general funded positions in EPO were RIFed (2 Planners and 1 EHS)

\*\*\* 2015 data is for the first 6 months of 2015 (Jan-June 2015)

## EHA State Legislative Efforts

EPO helps coordinate EHA's Legislative activities.

In 2015, EHA submitted over 10 Legislative Reports and testified at least once on 122 Measures and tracked another 45 for information.

**Number of EHA related Legislative Measures (CY 2015\*)**

	CAB	CWB	SDWB	WWB	SHWB	EMD	SAN	IRHB	EHSD	HEER	ERO	EPO	CAO	<b>TOTAL</b>
Testimony	2	10	5	11	39	67	19	3	22	29	1	3	0	<b>122</b>
Information	0	1	0	1	11	13	4	6	10	7	0	15	0	<b>45</b>
<b>TOTAL</b>	<b>2</b>	<b>11</b>	<b>5</b>	<b>12</b>	<b>50</b>	<b>80</b>	<b>23</b>	<b>9</b>	<b>32</b>	<b>36</b>	<b>1</b>	<b>18</b>	<b>0</b>	<b>167</b>

Source: EPO (LTS)

\* Calendar year

Note: Does not include internal or external coordination activity

In 2014, EHA submitted over 10 Legislative Reports and testified at least once on 239 Measures and tracked another 156 for information.

**Number of EHA related Legislative Measures (CY 2014\*)**

	CAB	CWB	SDWB	WWB	SHWB	EMD	SAN	IRHB	EHSD	HEER	ERO	EPO	CAO	<b>TOTAL</b>
Testimony	10	5	8	7	71	101	74	13	87	19	1	31	0	<b>239</b>
Information	49	4	5	3	12	73	34	11	45	13	0	24	1	<b>156</b>
<b>TOTAL</b>	<b>59</b>	<b>9</b>	<b>13</b>	<b>10</b>	<b>83</b>	<b>174</b>	<b>108</b>	<b>24</b>	<b>132</b>	<b>32</b>	<b>1</b>	<b>55</b>	<b>1</b>	<b>395</b>

Source: EPO (LTS)

\* Calendar year

Note: Does not include internal or external coordination activity

In 2013, EHA submitted over 10 Legislative Reports and testified at least once on 145 Measures and tracked another 60 for information.

**Number of EHA related Legislative Measures (CY 2013\*)**

	CAB	CWB	SDWB	WWB	SHWB	EMD	SAN	IRHB	EHSD	HEER	ERO	EPO	CAO	<b>TOTAL</b>
Testimony	5	1	3	1	42	52	44	9	53	13	1	13	0	<b>145</b>
Information	0	3	1	1	6	11	7	5	12	12	0	12	1	<b>60</b>
<b>TOTAL</b>	<b>5</b>	<b>4</b>	<b>4</b>	<b>2</b>	<b>48</b>	<b>63</b>	<b>51</b>	<b>14</b>	<b>65</b>	<b>25</b>	<b>1</b>	<b>25</b>	<b>1</b>	<b>205</b>

Source: EPO (LTS)

\* Calendar year

Note: Does not include internal or external coordination activity

On average EHA testified, at least once, on over 140 measures and tracks another 100 for information.

#### Number of EHA related Legislative Measures (CY 2010-2015\*)

	2010	2011	2012	2013	2014	2015	AVG
Testimony	69	101	162	145	239	122	140
Information	181	63	102	60	156	45	101
TOTAL	250	164	264	205	395	167	241

Source: DOH LTS

\* Calendar year



EHA regularly provides a wide range of Legislative Reports including:

#### EHA Legislative Report Summary\*

Lead	Bill, HRS, HAR	Summary and Frequency
CAB	HB 226	Update on GHG emission estimates. Every 5 years
SDWB	340E-33(j) 342D-	DOH Drinking Water Treatment Revolving Loan Fund. Annually
WWB	82(a)(3)	State Water Pollution Control Revolving Fund. Annually Board of Certification of Operating Personnel in Wastewater Treatment Facilities.
WWB	340B-12	Annually.
SHWB	342G-15(a)	Activities of the Office of Solid Waste Management. Annually.
EHSD	321-27(d)	Status of the Environmental Health Education Fund. Annually.
SAN	321-27.5	Sanitation Branch Summary, Annually.
HEER	128D-13	Environmental Response Law, Annually.
HEER	128E-8(c)	Hawaii Emergency Planning, Annually.
EPO	321-1.1	Development of Environmental Goals and Objective. Bi-annually.

\* This Summary does not include a complete list of all Legislative Reports as some reports are Special one off reports or Taskforce related.

EHA regularly interacts with various boards and commissions. **Appendix D** provides details on relevant Environmental Health Boards and Commissions. All of State Government follows the procedures outlined in the Uniform Information Practices Act (UIPA). In FY 2015, EHA received 7,022 formal information requests, spent 73,914 days fulfilling these requests, and incurred an internal, non-reimbursed costs of \$1,805,312.

EHA Information Requests	FY 2015
Number of FOI's received	7,022
Number of days to gather data	73,914
Total cost* of searching for data	\$1,773,936
Total gross delivery fees not reimbursed	\$31,376
<b>Total internal cost of FOI requests to EHA</b>	<b>\$1,805,312</b>

Source: Environmental Planning Office

\* Estimated average hour labor costs for Professional staff to gather data

## Compliance Assistance Office

In accordance with HRS 342B-63, the Compliance Assistance Office (CAO) is a one-stop, non-regulatory office that can assist small businesses understand and comply with the environmental regulations that DOH administers. CAO services are confidential, free of charge, and provide a point of access to government, thereby facilitating the exchange of information and communication. As a neutral party and mediator, CAO can help by investigating and resolving disputes, and increase DOH's and other government agencies' understanding of small business concerns. The CAO works with government and business representatives to develop proposals which remove unwarranted hurdles to small businesses. CAO conducts voluntary site assessments of businesses to determine compliance with applicable environmental regulations; provides regulatory guides and other documents; and assists businesses which have exhausted readily available dispute resolution mechanisms within DOH.

In 2014, CAO held 80 meetings with members of the business community to improve their understanding of environmental regulations and laws.

### Business Assistance Indicators

Type of Meeting	2013	2014
Workshops	6	8
Association - contractors	12	12
Meeting for permits	50	60
<b>Total</b>	<b>68</b>	<b>80</b>

Source: Compliance Assistance Office

\* Calendar year

## Environmental Resources Office

The Environmental Resources Office (ERO) is tasked with managing grants and State Revolving Fund (SRF) loans, as well as tracking enforcement payments.

**Number of Grants Managed (CY 2013-2014\*)**

Type of Grant	2013	2014
Air Pollution	3	3
Lead	1	1
Asbestos Removal	1	1
Surface Water Pollution Control	15	18
Drinking Water Protection	11	12
Solid Waste Management & Protection	4	3
Wastewater Treatment	5	8
Hazard Evaluation, Emergency Response	2	3
Environmental Information	5	5
Total	47	54

Source: Environmental Resources Office

\* Calendar year



## Environmental Information Manager

The Environmental Information Manager (EIM) oversees the coordination, strategic planning, and facilitation of EHA's information management and information technology (IM/IT) activities. EIM's primary and most challenging goal is to provide data integration across all programs within the EHA, thereby facilitating better, more-informed decisions.

### Activities

In 2013, a soft-launch of the new e-Permitting Portal application was made available to the regulated community and public for all environmental permit applications. This is a central web site where one can learn about, find, complete, and submit EHA's environmental permit applications online. It also allows for applicants to pay online for the permit application fees and track the status of their submitted application(s). This e-Permitting Portal was developed to streamline the environmental permitting process. In August 2014, the Environmental Council of States (ECOS) Executive Committee selected Hawaii's E-Permitting Portal Implementation to receive an ECOS State Program Innovation Award.

Another online tool, the Environmental Health Warehouse (EHW), was developed and implemented to provide EHA programs with integrated access to environmental facilities and sites in geospatial mapping and tabular formats. The EHW identifies facilities with National Pollutant Discharge Elimination System (NPDES) permits, underground storage tank (UST), and hazardous waste sites. EIM's goal is to include all facilities regulated by EHA program in the EHW, which would enable EHA to make better environmental decisions by sharing information across programs. After quality review, this data will be provided to the public. The Environmental Health Warehouse can be accessed at the EHA Portal: <http://eha-cloud.doh.hawaii.gov/>.

The EIM has assisted the following programs with new IT systems:

### Clean Air Branch

- Air Quality System (AQS) Data Flow to the EPA
- Integrated System Assessment
- Integrated System Design (In-progress)

### Clean Water Branch

- Water Quality Data Viewer (Beach & Stream Warnings, Advisories, Postings)
- Water Pollution Control (WPC) System Assessment
- WPC System Implementation
- Beach Notification Data Exchange Flow to EPA
- Mobile Field Inspection
- Integrated Compliance Information System (ICIS)-NPDES Data Exchange Flow to EPA
- WPC and e-Permitting Integration

### Safe Drinking Water Branch

- Safe Drinking Water Information System (SDWIS) Viewer
- GPS Unit Location Coordinate Capture Application
- Sample Analysis Tracking System (SATS)
- Sample Collection & Reservations System (SCRS)

**Solid and Hazardous Waste Branch**

- Publicly-accessible Environmental Health Warehouse (EHW) that identifies all Leaking Underground Storage Tank (LUST) facilities in mapping or tabular formats

**Hazard Evaluation and Emergency Response Office**

- Website Redesign & Content Management Application (CMA)
- iHEER System (In-progress)
- Homeland Emergency Response Exchange (HERE) Application

**State Laboratories Division: Environmental Health Analytical Services Branch**

- Sample Analysis Tracking System (SATS)
- Sample Collection & Reservations System (SCRS)

**Office of Environmental Quality Control**

- System Assessment Project (for the submission and management of Environmental Impact Statements {EIS} and Environmental Assessments {EA} documents and its process)



## Guidance Documents



- Appendix A: Public Trust Doctrine – Article XI of the Hawaii State Constitution
- Appendix B: DOH and EHA Organizational Chart
- Appendix C: Federal and State Statutes and Rules
- Appendix D: Environmental Health Boards and Commissions
- Appendix E: Driving Forces and State Forecasts

## Appendix A – State of Hawaii Public Trust Doctrine

The State has an obligation to protect, control, and conserve natural resources for the benefit of its people. This Doctrine has a long history dating back to the Mahele and the Principles of the Land Commission (1847) and Kuleana Act (1851).

In 1978, the State added two critical provisions to the State Constitution:

Article 11, Section 1 states...

*For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals, energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State. All public natural resources are held in trust by the State for the benefit of the people.*

Article 11, Section 7 states...

*The State has an obligation to protect, control and regulate the use of Hawaii's water resources for the benefit of its people.*

*The legislature shall provide for a water resources agency which, as provided by law, shall set overall water conservation, quality and use policies; defined beneficial and reasonable uses; protect ground and surface water resources, watersheds and natural stream environments; establish criteria for water use priorities while assuring appurtenant rights and existing correlative and riparian uses and establish procedures for regulating all uses of Hawaii's water resources.*

Relevant case law:

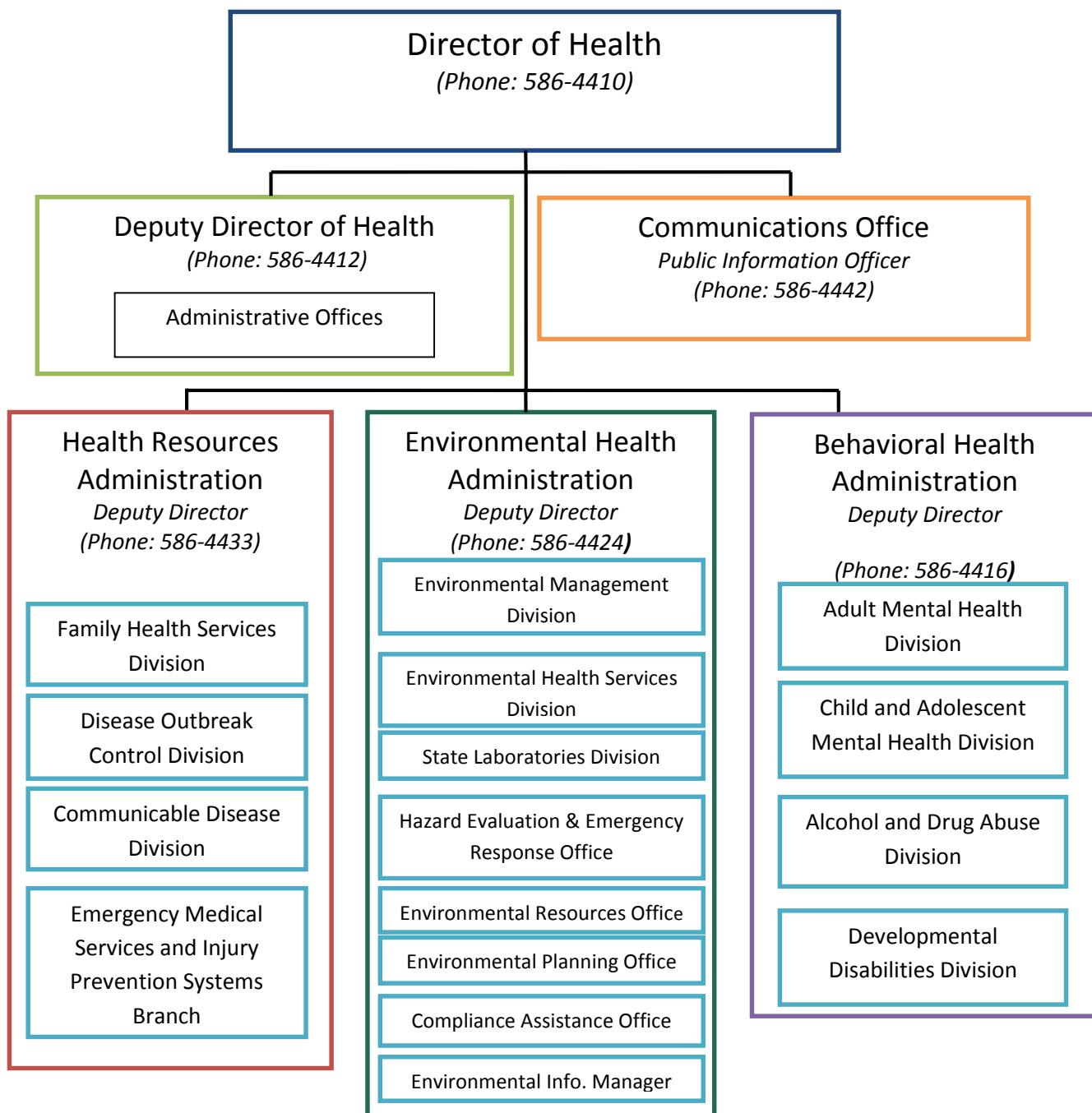
- McBryde v. Robinson, Kauai
- Waiahole Ditch Case, Oahu

## Appendix B – Organization Chart

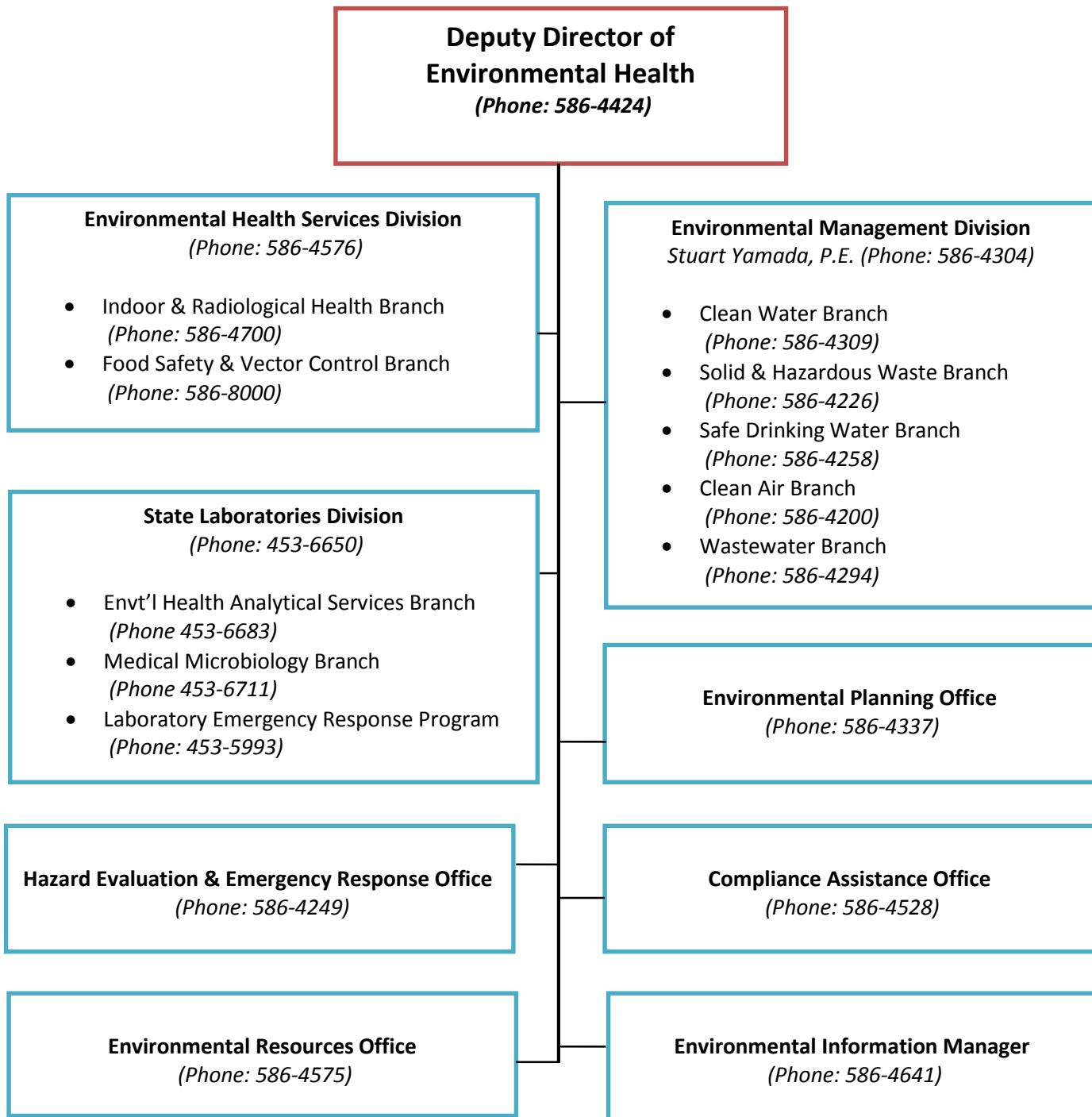
DOH is one of the largest, most diverse, and multifaceted agencies in Hawaii. DOH has a broad mandate to monitor, protect, and enhance the health and environment of Hawaii. It covers such areas as environmental health, behavioral health, health promotion and wellness, disease outbreak and control, infectious disease management, and primary prevention for all of the diverse populations and communities on every island.

DOH is comprised of four administrations, including Environmental Health; Health Resources; Behavioral Health; and General Administration. DOH has four neighbor island district health offices located on Hawaii, Maui, and Kauai.

### DOH Organization



## Environmental Health Administration Organization



## Appendix C –Statutes and Rules

### Relevant Federal Statutes

Statute	Citation
Clean Water Act (CWA)	33 U.S.C. § 1251 et seq.
Safe Drinking Water Act (SDWA)	42 U.S.C. § 300f et seq.
Clean Air Act (CAA)	42 U.S.C. § 7401 et seq.
Federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)	42 U.S.C. § 9601 et seq.
Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)	7 U.S.C. § 136 et seq.
Federal Resource Conservation and Recovery Act	42 U.S.C. § 6901 et seq.

### State Laws

Title 19 of the Hawaii Revised Statutes (HRS) focuses on Health. Chapters 321 – 344 provide the general and administrative provisions in greater depth. These HRS Chapters can be accessed at:

[http://www.capitol.hawaii.gov/hrscurrent/Vol06\\_Ch0321-0344/](http://www.capitol.hawaii.gov/hrscurrent/Vol06_Ch0321-0344/)

### Relevant Hawaii Revised Statutes (HRS)

DOH EHA Branch, Office, or Division	Chapter
Clean Water	342D, 342E
Safe Drinking Water	340E, 340F
Wastewater	321, 322, 340B, 340E, 342D
Clean Air	342B
Solid and Hazardous Waste	339D, 340A, 342H, 342I, 342J
Food Safety & Vector Control	328D, 342P
Hazard Evaluation	128D
State Laboratories	321, 329B
Environmental Planning Office	321-1.1
OEQC (Attached Office)	341, 343

### State Administrative Rules

Hawaii Administrative Rules (HAR) that pertain to health programs can be found at:

<http://hawaii.gov/health/about/rules/index.html>

**Hawaii Administrative Rules (HAR)**

<b>Branch/Office</b>	<b>Chapter</b>	<b>Description</b>
Clean Water	11-54	Water Quality Standards
	11-55	Water Pollution Control (NPDES Permits)
Safe Drinking Water Branch	11-19	Emergency Plan for Safe Drinking Water
	11-20	Rules Relating to Potable Water Systems
	11-21	Cross-Connection and Backflow Control
	11-23	Underground Injection Control
	11-25	Certification of Public Water System Operators
	11-65	Environmental State Revolving Fund
Wastewater	11-57	Private Wastewater Treatment Works and Individual Wastewater Systems
	11-61	Mandatory Certification of Wastewater Treatment
	11-62	Wastewater Systems
	11-65	Clean Water State Revolving Fund (Water Pollution Control Revolving Fund)
Clean Air	11-59	Ambient Air Quality Standards
	11-60.1	Air Pollution Control (Dust)
Solid and Hazardous Waste	11-58.1	Solid Waste Management Control
	11-68	Litter Control
	11-260	Hazardous Water Mgt. General Provisions
	11-261	Hazardous Water Mgt. Identification & Listing of Haz. Waste
	11-262	Hazardous Waste Management Standards Applicable to Generators of Hazardous Waste
	11-263	Hazardous Waste Management Standards Applicable to Transporters of Hazardous Waste
	11-264	Hazardous Waste Mgt. Standards for Owners and Operators of Hazardous Waste Treatment, Storage & Disposal Facilities
	11-265	Hazardous Waste Management Interim Status Standards for Owners and Operators of Hazardous Waste Treatment, Storage & Disposal Facilities
	11-266	Hazardous Waste Mgt. Standards for the Mgt. of Specific Hazardous Wastes and Specific Types of Hazardous Waste Mgt. Facilities
	11-268	Hazardous Waste Mgt. Land Disposal Restrictions
	11-270	Hazardous Waste Management State Administrative Permits
	11-271	Hazardous Waste Management Procedures for Decision Making
	11-273	Hazardous Waste Management Standards for Universal Waste Mgt.
	11-279	Standards for the Management of Used Oil
	11-280	Hazardous Waste Management Public Information
	11-281	Underground Storage Tanks (USTs)
	11-282	Deposit Beverage Container Recycling
Food Safety and Vector Control (Sanitation)	11-10	Swimming Pools
	11-11	Sanitation
	11-12	Food Service and Food Establishment Sanitation Code
	11-15	Milk
	11-17	Tattoo Artists
	11-18	Licensing of Sanitarians
	11-22	Mortuaries, Cemetaries, Embalmers, Undertakers, and Mortuary Authorities

	11-26	Vector Control
	11-29	Food and Food Products
	11-33	Hawaii Drug Formulary of Equivalent Drug Products
	11-35	Shellfish Sanitation
	11-36	Sale of Prophylactics Through Vending Machines
	11-50	Food Safety Code
Hazard Evaluation and Emergency Response	11-5	Environmentally-Related Illness and Injury Reporting
	11-451	State Contingency Plan
	11-452	Requirements for Decontamination and Cleanup of Methamphetamine Manufacturing Sites
	11-453	Hawaii Emergency Plan (Community Right-To-Know Act)
Indoor and Radiological Health	11-39	Air Conditioning and Ventilating
	11-41	Lead-Based Paint Activities
	11-45	Radiation Control
	11-46	Community Noise Control
	11-501	Asbestos Requirements
	11-502	Asbestos Containing Materials in Schools
	11-503	Fees for Asbestos Removal & Certification
	11-504	Asbestos Abatement Certification Program
State Laboratories Division	11-110.1	Clinical Laboratories and Laboratory Personnel
	11-113	Substance Abuse Testing by Laboratories
	11-114	Testing of Blood, Breath, and Other Bodily Substances for Alcohol Concentration
OEQC (Attached Office)	11-200	Environmental Impact Statement Rules
	11-201	Environmental Council Rules of Practice and Procedure



## Environmental Health Legislative Reports

<b>2016 Environmental Health Legislative Reports</b>			
<b>LEAD</b>	<b>Measure</b>	<b>Regarding</b>	<b>Description</b>
SDWB	340E-33(j)	Drinking Water Treatment Revolving Loan Fund of the Dept of Health	A financial report addressing the operations of the drinking water fund during the last completed fiscal year, including information on each grant, loan, or other financial assistance made during that year
WWB	342D-82(a)(3)	State Water Pollution Control Revolving Fund	Financial report addressing the operations of the revolving fund during the last completed fiscal year.
WWB	340B-12	Board of Certification of Operating Personnel in Wastewater Treatment Facilities	Report summarizing the actions taken under Chapter 340B, and the effectiveness of such actions and such information and recommendations, including legislative recommendations, as deemed
SHWB			Requests the Director of Health to develop and implement a course of action that emphasizes collaboration, openness, and strengthening of the long-term relationship between the State and the United States Navy in addressing and resolving the issues relating to the leakage of fuel from the Red Hill Underground Fuel Storage Facility. Further requests the Director to submit a report of findings and
SHWB	342G-15(a)	Annual report on the Activities of the Office of Solid Waste Management	The coordinator shall prepare and submit an annual report to each county, the director, the governor, and the legislature, twenty days prior to the convening of each regular session of the legislature,
EHSD	321-27(d)	Status of the Environmental Health Education Fund	The status of the sanitation and environmental health special fund
EHSD			Requires the Department of Health and Department of Transportation enter into a memorandum of agreement for increased surveillance at state ports specifying: (1) The duties to be conducted by the personnel occupying the Department of Health's positions; (2) The payment by the Department of Transportation from its pertinent special fund to the Department of Health for the services of those personnel; and (3) Any other terms and conditions mutually agreeable
SAN	321-27.5	Sanitation Branch	Audit includes fees collected, no. & results of sanitation inspections, no. of training seminars held, & cost of training personnel
HEER	128D-13	Environmental Response Law	The department shall submit to the legislature an annual report, including a comprehensive budget to implement remedial action plans requiring funding by the environmental response revolving fund. This report shall identify those sites eligible for remedial action under
HEER	128E-8(c)	Hawaii Emergency Planning	The department of health, with the assistance of the department of budget and finance and department of accounting and general services, shall prepare a report for the legislature concerning the amount of moneys collected during the preceding fiscal year, the amount of moneys collected to date during the current fiscal year, and
EPO	321-1.1	Development of environmental goals and objectives	Environmental goals and objectives to ensure natural resources are protected: air quality; land; coastal waters; inland waters; and groundwater. Organize environmental protection programs to improve

## Appendix D – Environmental Health Boards and Commissions

### SDWB: Board of Certification of Public Water System Operators

#### Board Member and Seat Records

Seat
Individual Duly Qualified in the Fields of Sanitary Engineering or Public Water System Operation (§340F-4(a)(1))
Individual Duly Qualified in the Fields of Sanitary Engineering or Public Water System Operation (§340F-4(a)(1))
Individual Duly Qualified in the Fields of Sanitary Engineering or Public Water System Operation (§340F-4(a)(1))
Individual Duly Qualified in the Fields of Sanitary Engineering or Public Water System Operation (§340F-4(a)(1))
Individual from the State Agency Responsible for the State's Safe Drinking Water Program (§340F-4(a)(2))

### WWB: Board of Certification of Operating Personnel in Wastewater Treatment Plants

#### Board Member and Seat Records

Seat
Individual Employed at a Wastewater Treatment Plant Either as a Certified Operator or Certified Supervisor of a Wastewater Treatment Plant (§340B-4(a)(1))
Individual Employed at a Wastewater Treatment Plant Either as a Certified Operator or a Certified Supervisor of a Wastewater Treatment Plan employed by the County of Hawai'i (§340B-4(a)(1))
Individual Employed at a Wastewater Treatment Plant Either as a Certified Operator or Certified Supervisor of a Wastewater Treatment Plant employed by the County of Kaua'i (§340B-4(a)(1))
Individual Employed at a Wastewater Treatment Plant Either as a Certified Operator or Certified Supervisor of a Wastewater Treatment Plant Employed by the County of Maui (§340B-4(a)(1))
Individual who is an Active Member of the Hawai'i Water Pollution Control Association (§340B-4(a)(2))
Individual who is a Professional Engineer in Private Practice, Preferably Specializing in Sanitation Engineering (§340B-4(a)(3))
Individual who is a Member of the Engineering (Environmental or Sanitary) Faculty of a University or College in the State (§340B-4(a)(4)) (Vice Chair)
Individual from the State Agency Responsible for the State's Water Quality Program (§340B-4(a)(5))
Individual from the Private Sector Interested in the Field of Water Pollution Control (§340B-4(a)(6))

## **EHSD: IRHB - Radiologic Technology Board**

### Board Member and Seat Records

Seat
Person Licensed to Practice Medicine or Osteopathic Medicine Pursuant to Chapter 453 and Certified by the American Board of Radiology (§466J-2(b)(1))
Person Licensed to Practice Medicine or Osteopathic Medicine Pursuant to Chapter 453 and Certified by the American Board of Radiology (§466J-2(b)(1))
Person with at Least Five Years' Experience and Certified in the Practice of Radiography (§466J-2(b)(2))
Person with at Least Five Years' Experience and Certified in the Practice of Radiography (§466J-2(b)(2))
Person with at Least Five Years' Experience and Certified in the Practice of Radiography and is Engaged in the Hospital Practice of Radiography (§466J-2(b)(2))
Person with at Least Five Years' Experience and Certified in the Practice of Radiography and Engaged in the Hospital Practice of Radiography (§466J-2(b)(2))
Person with at Least Five Years' Experience, who is Certified and Engaged in the Practice of Radiation Therapy Technology (§466J-2(b)(3))
Person with at least Five Years' Experience who is Certified and Engaged in the Practice of Nuclear Medicine (§466J-2(b)(4))
Person from the General Public (§466J-2(b)(5))
Director of Health or Director's Designated Representative (§466J-2(b)(6))

## **OEQC: Environmental Council**

### Board Member and Seat Records

Seat
Member Representing Architecture (Chair)
Member Representing Engineering
Member Representing Environmental Consulting
Member Representing Environmental Consulting (Vice Chair)
Member Representing Environmental Planning
Member Representing Urban Planning*
Member Representing Educational and Research Institutions with Environmental Competence
Member Representing Agriculture
Member Representing Real Estate
Member Representing a Voluntary Community and Environmental Group
Member Representing a Voluntary Community and Environmental Group
Land Management Specialist*
Sustainability Coordinator*
Attorney*
Director of Environmental Quality Control

## Appendix E – Driving Forces

### ACTUAL AND FORECAST OF KEY ECONOMIC INDICATORS FOR HAWAII: 2013 TO 2018

<b>Economic Indicators</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>
	<b>Actual</b>		<b>Forecast</b>			
Total population (thousands)	1,409	1,420	1,434	1,448	1,463	1,477
Visitor arrivals (thousands) <sup>1</sup>	8,174	8,283	8,486	8,636	8,782	8,931
Visitor days (thousands) <sup>1</sup>	74,942	75,498	77,542	78,855	80,174	81,531
Visitor expenditures (million dollars) <sup>1</sup>	14,521	14,857	15,149	15,847	16,499	17,178
Honolulu CPI-U (1982-84=100)	253.9	257.6	261.5	267.2	273.9	281.3
Personal income (million dollars)	63,468	65,861	68,693	71,853	75,446	79,218
Real personal income (millions of 2008\$) <sup>2</sup>	50,794	52,013	53,313	54,699	56,176	57,468
Non-agricultural wage & salary jobs (thousands)	618.6	625.3	632.2	639.8	646.2	653.3
Civilian unemployment rate	4.8	4.4	3.9	3.6	3.4	3.3
Gross domestic product (million dollars) <sup>3</sup>	75,235	78,095	81,409	84,733	87,919	91,692
Real gross domestic product (millions of 2009\$) <sup>3</sup>	70,110	71,615	73,406	75,163	76,837	78,640
Gross domestic product deflator (2009=100) <sup>3</sup>	107.3	109.0	110.9	112.7	114.4	116.6
<b>Annual Percentage Change</b>						
Total population	1.2	0.8	1.0	1.0	1.0	1.0
Visitor arrivals <sup>1</sup>	1.8	1.3	2.5	1.8	1.7	1.7
Visitor days <sup>1</sup>	0.6	0.7	2.7	1.7	1.7	1.7

Visitor expenditures <sup>1</sup>	1.1	2.3	2.0	4.6	4.1	4.1
Honolulu CPI-U	1.8	1.4	1.5	2.2	2.5	2.7
Personal income	2.4	3.8	4.3	4.6	5.0	5.0
Real personal income <sup>2</sup>	1.1	2.4	2.5	2.6	2.7	2.3
Non-agricultural wage & salary jobs	2.0	1.1	1.1	1.2	1.0	1.1
Civilian unemployment rate <sup>4</sup>	-1.2	-0.4	-0.5	-0.3	-0.2	-0.1
Gross domestic product <sup>3</sup>	3.8	3.8	4.2	4.1	3.8	4.3
Real gross domestic product <sup>3</sup>	1.9	2.1	2.5	2.4	2.2	2.3
Gross domestic product deflator (2009=100) <sup>3</sup>	1.9	1.6	1.7	1.7	1.5	1.9

1/ Visitors who came to Hawaii by air or by cruise ship. Expenditures includes supplementary expenditures estimated by HTA for 2013 and DBEDT thereafter.

2/ Using personal income deflator developed by the U.S. Bureau of Economic Analysis and estimated by DBEDT.

3/ 2014 and later years are estimated by DBEDT, data for earlier years from U.S. Bureau of Economic Analysis.

4/ Absolute change from previous year.

Source: Hawaii State Department of Business, Economic Development & Tourism, May 7, 2015.