



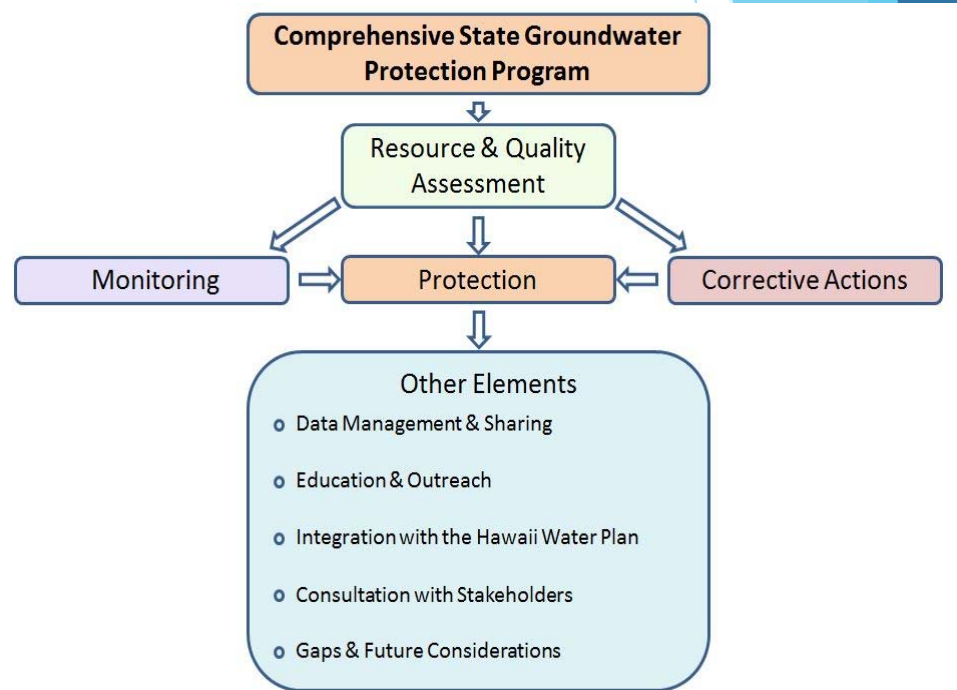
PROTECTING HAWAII'S GROUNDWATER

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*2018 Joint Government Water Conference(s)
July 26, 2018 (Oahu)
August 2, 2018 (Kauai)
August 7, 2018 (Maui)
August 15, 2018 (Hilo)
August 21, 2018 (Kona)*

MISSION: To safeguard groundwater quality and public health by protecting Hawaii’s groundwater from contamination.


- ▶ **GOAL 1:** Monitor and assess groundwater quality
- ▶ **GOAL 2:** Identify and Prioritize Groundwater Contamination threats
- ▶ **GOAL 3:** Mitigate Priority Contamination Threats and Prevent Contamination



Source: State of Hawaii Department of Health, Environmental Planning Office

PROTECTING HAWAII'S GROUNDWATER

**“Mitigate Priority
Contamination Threats and
Prevent Contamination
Through Coordination/
Collaboration and Outreach &
Education.”**



**COORDINATION
and
COLLABORATION**

GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

- ▶ OBJECTIVE 1: Coordinate protection efforts with other branches/offices/agencies:

Department of Health

- (1) Safe Drinking Water Branch UIC Program - issuing permits for discharge to wells
- (2) Wastewater Branch - protection from onsite disposal systems and cesspools
- (3) Clean Water Branch - surface water protection that also protects groundwater
- (4) Solid & Hazardous Waste Branch - leaking UST, landfills and other wastes that may contribute to groundwater contamination
- (5) Hazard Evaluation and Emergency Response Office - toxicology and health impacts of groundwater contamination and use of hazardous chemicals and pesticides

DOH Groundwater Activities

Safe Drinking Water Branch

- water samples
- Groundwater Protection Program
- Source Water Protection Program
- UIC Program

Clean Water Branch

- water samples
- Polluted Runoff Control Program

Environmental Resources Office

- Manages water grants
- Helps to manage DWSRF and CWSRF

Groundwater Quality & Protection in Hawaii

Solid and Hazardous Waste Branch

- UST program
- Solid & Hazardous Waste Management

Office of Environmental Quality Control

- Reviews land use documents, which often have the potential to affect water quality

HEER Office

- Prevents, plans for, and responds to hazardous substance releases into water
- Recently conducted statewide pesticide survey with CWB assistance

Wastewater Branch

- Wastewater System Management
- Wastewater Reuse
- Cesspools and OSDS

GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

- ▶ OBJECTIVE 1: Coordinate protection efforts with other branches/offices/agencies:

OTHERS

- (1) Department of Land and Natural Resources, Commission on Water Resource Management - Hawaii Water Plan, and DOFAW - Watersheds
- (2) Department of Agriculture - pesticide use and application.
- (3) Academia
- (4) Federal Agencies (USEPA, USGS, USDA-NRCS, ...)
- (5) County Agencies (Water, Public Works, Planning, ...)
- (6) Public/Community
- (7) Stakeholders
- (8) Others

Statewide Groundwater Activities



GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

▶ OBJECTIVE 2: Coordinate use of funding sources to support the HIGWPS:

- (1) Safe Drinking Water Branch (GW106/DWSRF 15%/DWSRF Fees)
- (2) Wastewater Branch (CWSRF)
- (3) Clean Water Branch (SW106/319)
- (4) Solid & Hazardous Waste Branch (SHWB)
- (5) Hazard Evaluation and Emergency Response Office (HEER)

GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

- ▶ OBJECTIVE 3: Coordinate the regulatory framework used by each branch/office/agency to protect groundwater from the prioritized contamination threats:

- (1) Code of Federal Regulations
- (2) Hawaii Revised Statutes
- (3) Hawaii Administrative Rules
- (4) EPA Guidance
- (5) Other online tools

GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

- ▶ Worked with County and Private Water System to develop and implement wellhead protection plans. (WMLC, MDWS, HDWS, HBWC, KPHA, ...)





**OUTREACH
and
EDUCATION**

OUTREACH and EDUCATION

- ▶ Important Component of the Hawaii Groundwater Protection Strategy.
 - Provides valuable information to:
 - General Public/Communities;
 - Affected Stakeholders; and
 - Students/Youths

OUTREACH and EDUCATION

▶ **Builds Awareness and Public Support by:**

- Providing a better understanding of our water resources;
- Better prepared public who may be involved with water issues;
- Public should be invited/encouraged to be involved, contribute local knowledge, and accept ownership of water issues such that measures needed to ensure water protection can be achieved.

OUTREACH and EDUCATION

▶ Assist Affected Stakeholders by:

- Better inform the regulated/affected community regarding water protection issues.
- Understand new and existing programs and requirements and allow them to participate in its development and implementation;
- Better partnerships and ensure compliance/ protection;
- Methods used may include: technical meetings/training and prepared printed materials,



OUTREACH and EDUCATION

▶ Educating Our Young People:

- Key element to a successful program is the education and awareness of our children.
- Providing opportunities to educate students about our environment and water resources;
- Provide opportunities for educators through workshops and availability of resources.



GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

- ▶ Public and outreach activities have included: Joint Government Water Conference, Project WET, State Science Fair, presentations at meetings, conferences, schools, workshops, County Fairs, Earth Day, and groundwater training.





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Proposed/Future Groundwater Contamination Prevention/ Protection Activities

DW/GW Contamination Prevention/Protection Activities

Priority Threats to Groundwater Quality - 2017

Onsite sewage disposal systems/cesspools/injection wells

Large scale use of recycled water

Large fuel storage facilities

Increasing nitrate concentrations

Agricultural chemicals

WHAT'S NEXT?

To implement the Hawaii Groundwater Protection Strategy in the coming years, the Groundwater Protection Program will be involved with the following:

MONITORING:

- Continue to monitor our water resources for PPCPs;
- Implement the Pesticides in Groundwater Monitoring; and
- Continue to support water quality monitoring activities

WHAT'S NEXT?

To implement the Hawaii Groundwater Protection Strategy in the coming years, the Groundwater Protection Program will be involved with the following:

PROTECTION ACTIVITIES:

- Work with Hawaii Department of Agriculture - Pesticides Branch on issues related to pesticides in groundwater (include groundwater/pesticides training, outreach and monitoring);
- Work with Wastewater Branch and other stakeholders to implement the Hawaii Cesspool Strategy and Water Reuse Guidelines; Develop programs to reduce the presence of PPCPs in raw and reuse wastewater. (PPCPs take-back/disposal programs with DEA, Drug Manufacturers, and pharmacies). (Treatment of reuse wastewater in SWPA using technologies such as reverse-osmosis).
- Work with UIC Program to full develop the injection well program and evaluate the UIC line.

WHAT'S NEXT?

To implement the Hawaii Groundwater Protection Strategy in the coming years, the Groundwater Protection Program will be involved with the following:

PROTECTION ACTIVITIES:

- Implement protection programs and utilize funding for protection projects affecting our drinking water resources; and
- Continue to implement outreach and education activities such as the Hawaii State Science and Engineering Fair and the Statewide Project WET program.

CHALLENGES

Intra-agency
collaboration

Inter-agency
collaboration

Funding
Issues

Groundwater Protection requires Intra- & Inter- Agency Coordination/Collaboration and Funding