

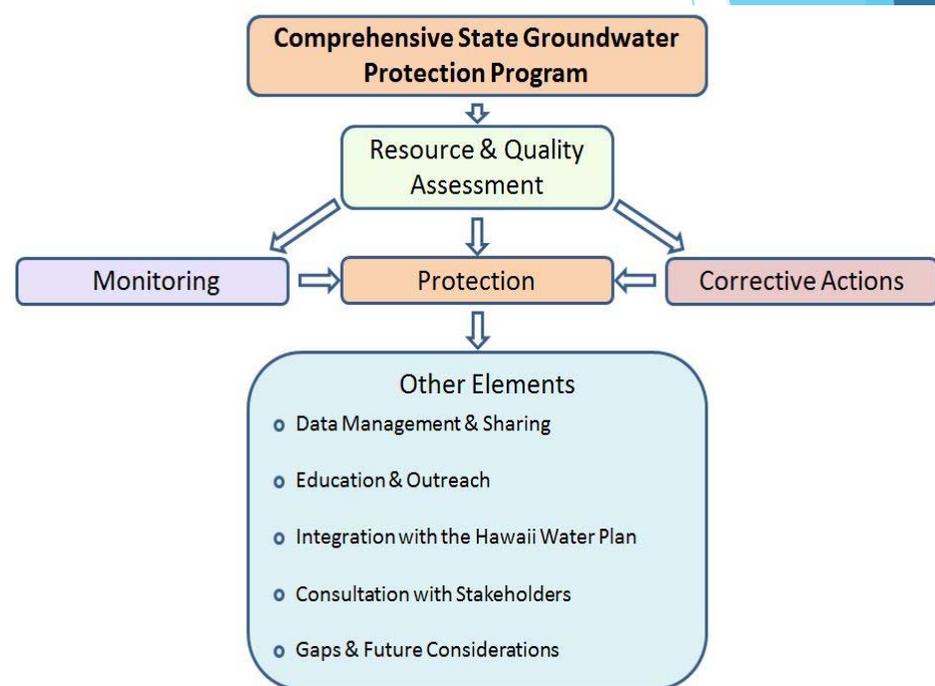
# PROTECTING HAWAII'S GROUNDWATER

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Monitoring and Analysis Section  
Safe Drinking Water Branch*

*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

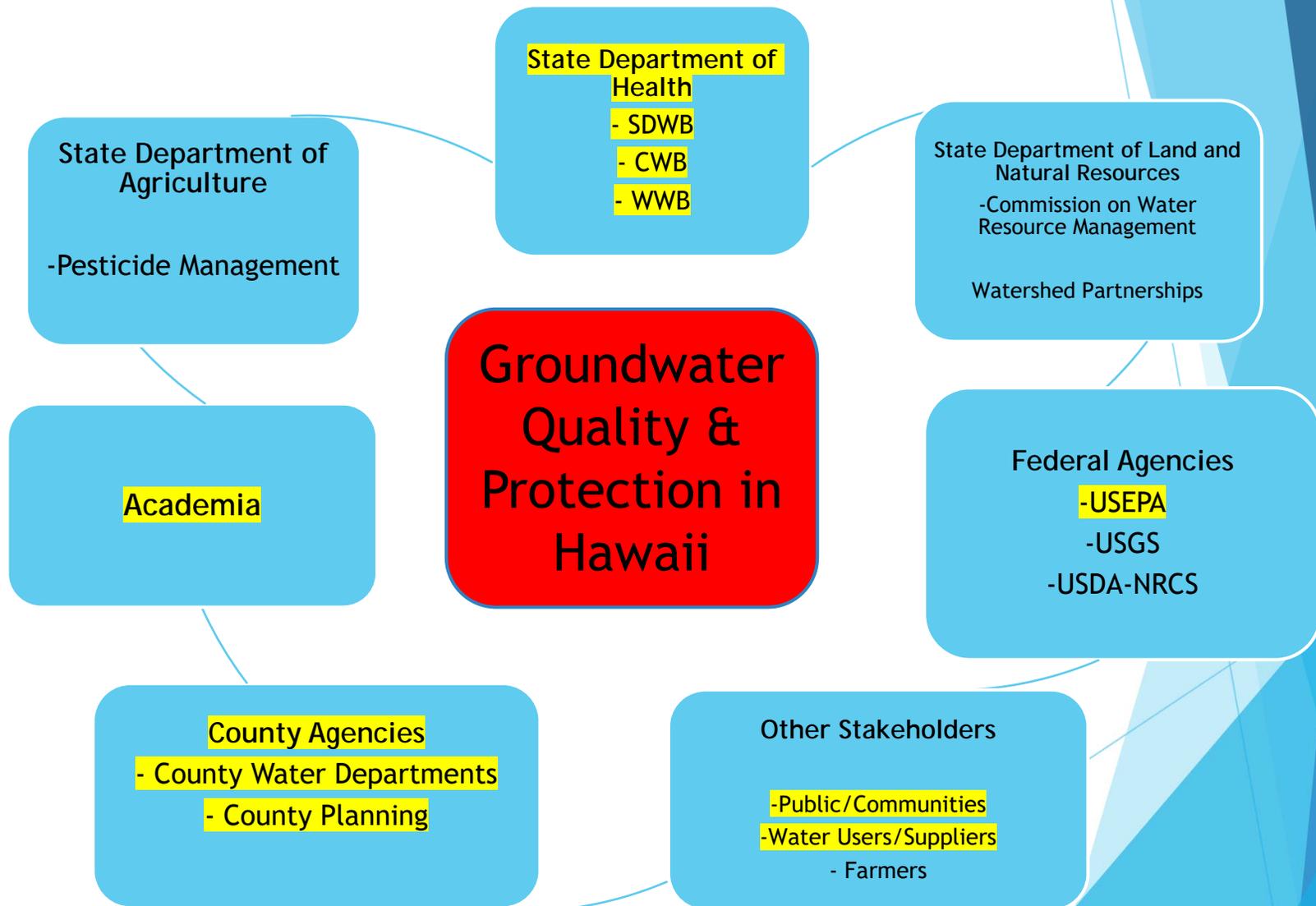
# GOAL 3: Mitigate Priority Contamination Threats and Prevent Contamination

- ▶ 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:

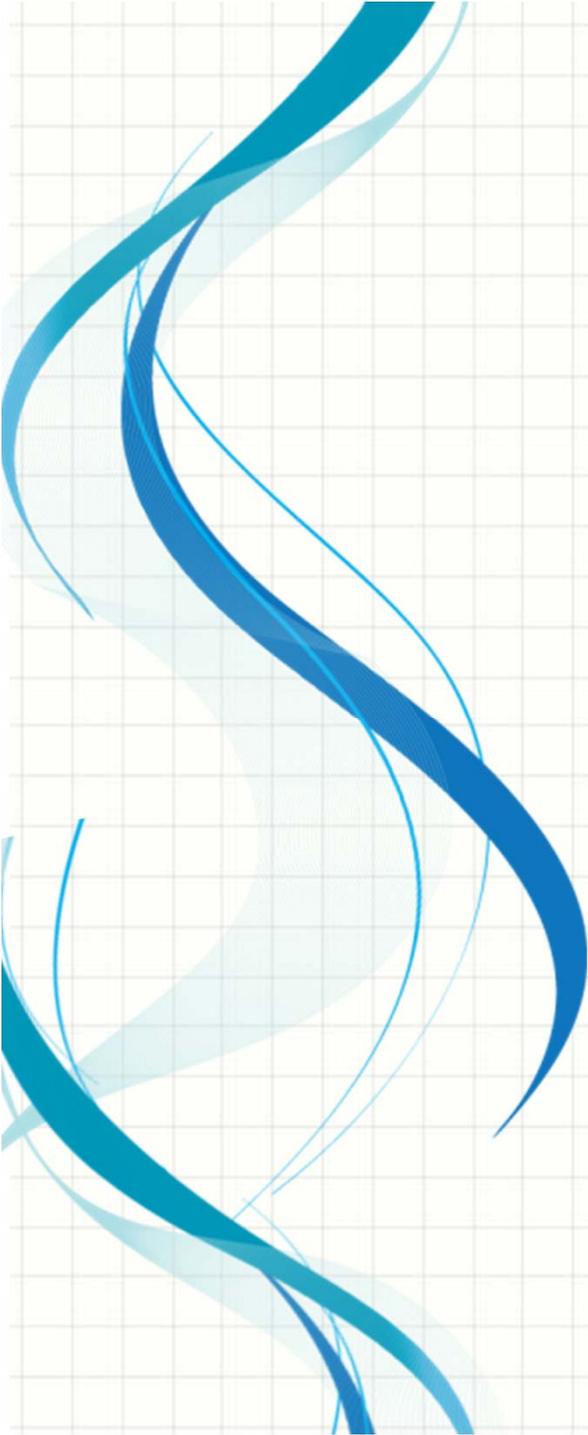
- Key element to a successful program is the education and awareness of our children.
- Providing opportunities to educate students about our environment and water resources;
- Provide opportunities for educators through workshops and availability of resources.



# 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