



# Cesspool Strategy & Water Reuse

State of Hawaii  
Department of Health  
Wastewater Branch



# TOPICS OF DISCUSSION

- Cesspool Information and Current Legislation
- Water Reuse Legislation



# What is a Cesspool?

**Cesspools are little more than holes in the ground;**

**Cesspools discharge raw, untreated human waste into the subsoil;**

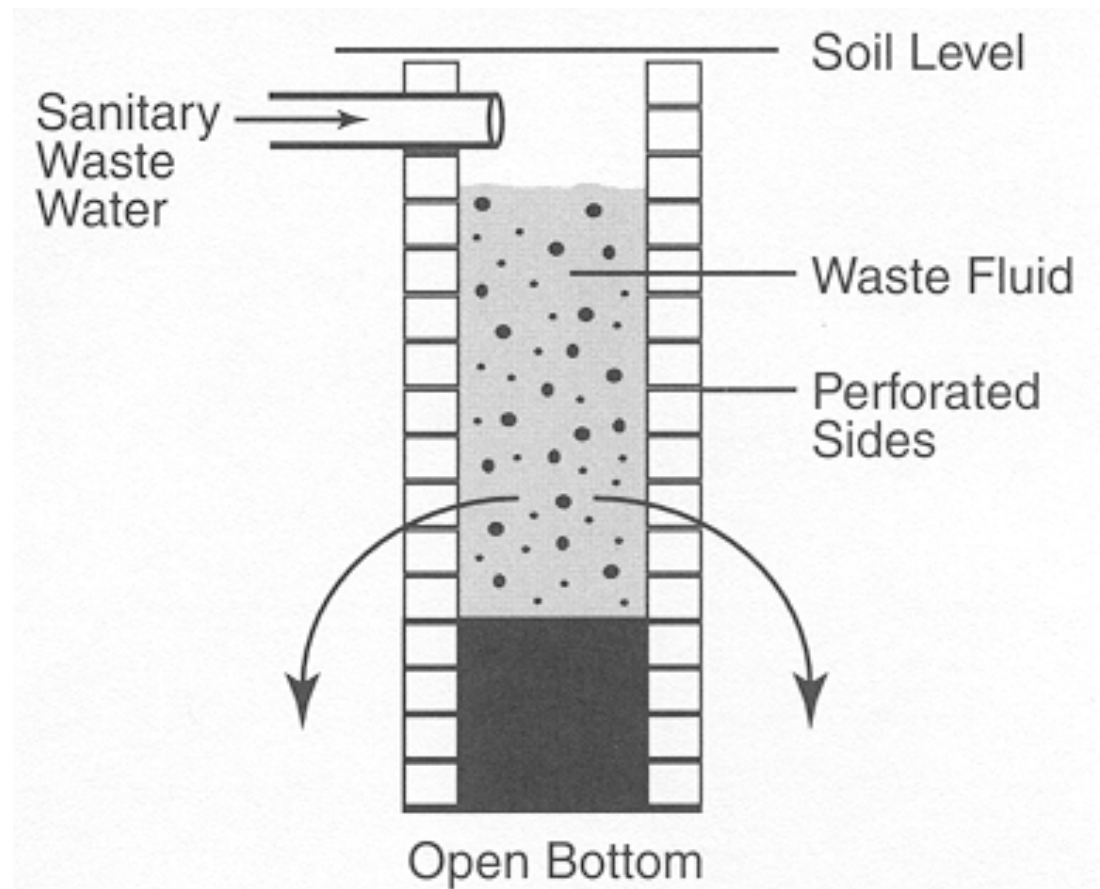
**Cesspools can contaminate ground water, drinking water sources and the ocean;**

**Presents risks to human health and the environment; and**

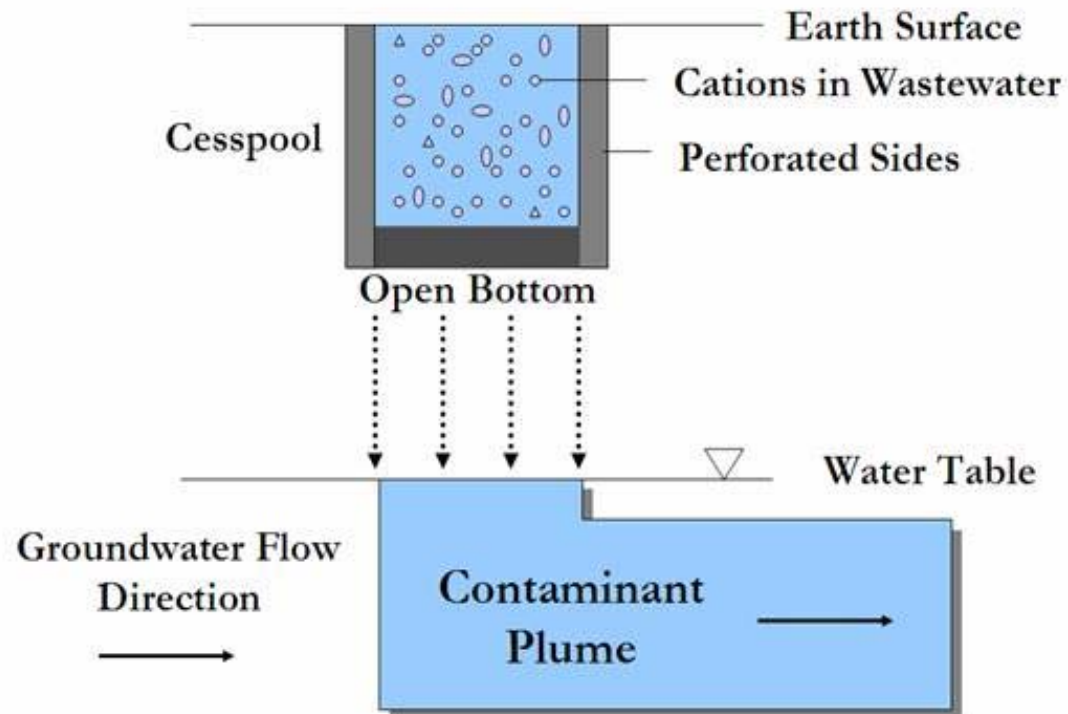
**Contains higher concentrations of nitrogen, phosphorus, and fecal coliform bacteria than septic tank systems.**



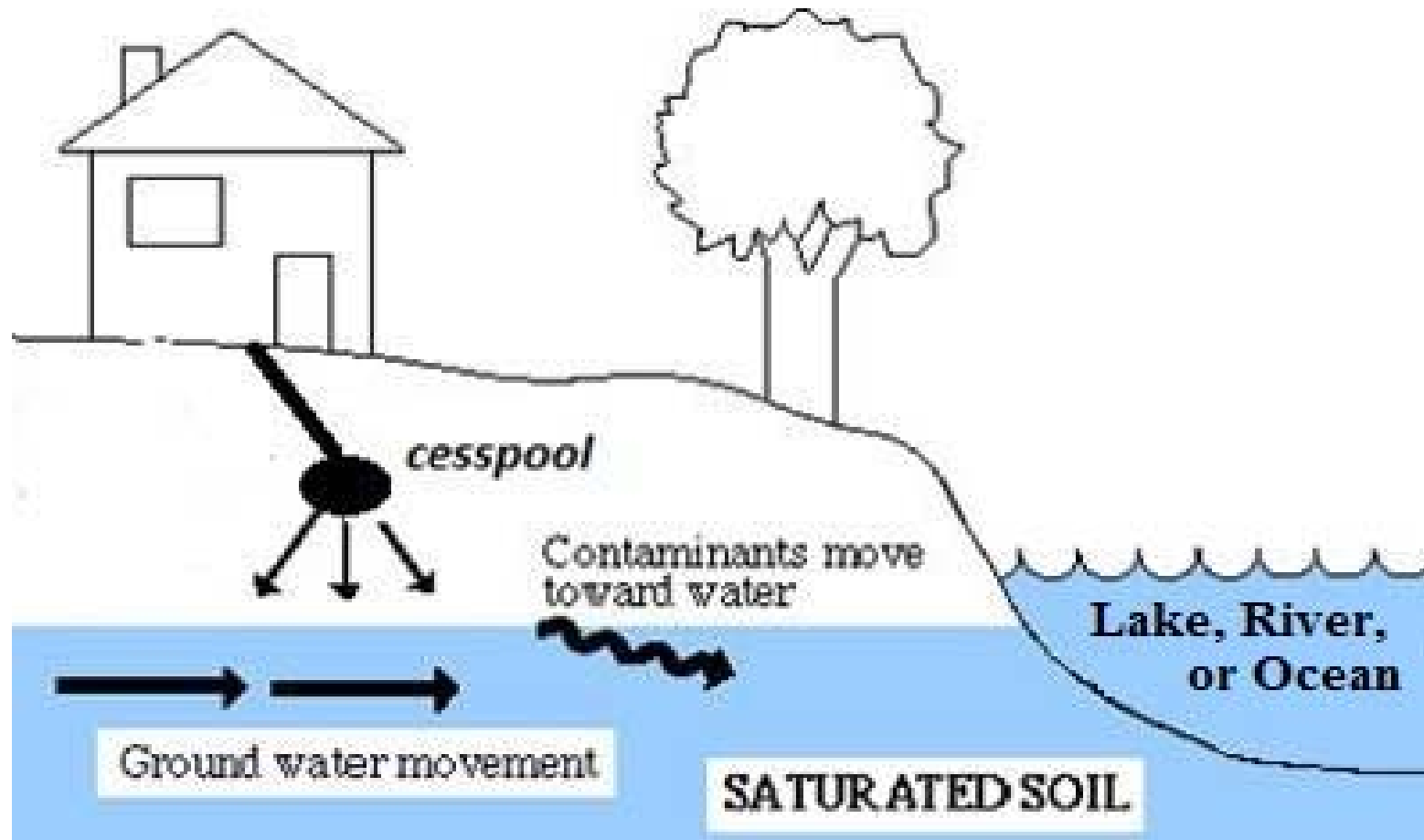
## Cesspools discharges raw, untreated human waste into the subsoil



# Cesspools contaminate Groundwater



# Cesspool contaminates ground and surface waters





**March 21, 2016**

**DOH passed rule amendments to ban the construction of new cesspools in the State.**

**Included language in rules to implement Act 120, income tax credit program for the upgrade of qualifying cesspools.**

## Act 120 of 2016

- Act 120 provides a temporary income tax credit for the cost of upgrading or converting a qualified cesspool to a septic tank system or an aerobic treatment unit system, or connecting to a sewer system.
- A taxpayer may apply for a tax credit of up to \$10,000 for each qualified cesspool. Tax credits are available for five years.
- The tax credit starts in tax year 2016 and ends in tax year 2020, December 31, 2020. There is a \$5,000,000 cap that is available for each tax year. Any taxpayer who is not eligible to claim the credit in a taxable year shall be eligible to claim the credit in the subsequent taxable years from 2017 to 2020.





# Act 120 of 2016

## What is a qualified cesspool covered under Act 120?

Qualified cesspools are cesspools that are: Located within 200 feet of a shoreline, perennial stream, wetland, or within a source water assessment program area (two year time of travel from a cesspool to a public drinking water source).



## **ACT 125 of 2017**

- Mandates the upgrade of all cesspools by 2050 except for cesspools that are granted an exemption from DOH.
- Required DOH to evaluate cesspools and develop a prioritization method for cesspool upgrades.
- Expanded the eligibility of qualifying cesspools from 200' to 500' from a shoreline, perennial stream, or wetland.



## Overview of the Prioritization Report

- Cesspools are a major source of water pollution in Hawaii
- 88,000 cesspools that discharges 53 million gallons of raw sewage
- Public health depends on clean drinking water.
- Report identifies 14 areas in the state that are priorities for cesspool upgrades to protect public health and environment.
- 43,000 cesspools located in the 14 areas

# **Prioritization Method and Priorities**

- **DOH analyzed data collected**
- **Report identifies 4 priority categories**

# Priority 1

**Areas where cesspools present a Significant Risk of Human Health Impacts, Drinking Water Impacts, or Draining to Sensitive Waters**

## **Two areas identified:**

- Upcountry Maui: 7,400 cesspools
- Kahalu'u: 740 cesspools



## **Priority 2**

**Areas where cesspools present a Potential to Impact Drinking Water.**

**Three areas identified:**

Kea'au – Island of Hawai'i

Kapaa/Wailua and Poipu/Koloa – Island of Kauai

## Priority 3

**Areas where cesspools have the potential to impact sensitive waters in our state.**

Nine areas identified:

- Hilo Bay, Coastal Kailua/Kona, Puako and Kapoho of Hawaii
- Hanalei of Kauai
- Diamond Head, Ewa, Waialua and Waimanalo of Oahu



## **Priority 4**

**Placeholder for all cesspools whose impact we have yet to fully analyze, which are the remainder of cesspools in the state.**





## **Next steps:**

- Upgrades are expensive, average about \$20,000
- Cost to upgrade 88,000 cesspools - \$1.75 billion
- Partnerships and need for early collaboration with communities.
- Complex problem that will involve multiple solutions
- DOH to work with communities, legislators, state and county agencies and stakeholder groups to find solutions.



## Act 132 of 2018

- Establishes a Cesspool Conversion Working Group to develop a comprehensive plan for the conversion of all statewide cesspools by 2050.
- Identified 14 tasks that need to be evaluated by the working group.
- Provides a \$1M appropriation to retain the services of a consultant to assist the work group with the evaluation of these 14 specific task items.
- Provides UH Water Resources Research Center with a \$0.5M appropriation to conduct a comprehensive statewide study of sewage contamination in nearshore marine areas
- Comprehensive report for cesspool comprehensive plan due to the Legislature in December 2020.



# Updates on Water Reuse



## **Water Reused in the State of Hawaii**

**2015 – 16.3 MGD**

**2016 – 17.2 MGD**

**2017 – 18.3 MGD**

Trends show that there is an increase in usage (~ 12% increase from 2015)



# **Reuse Goal for Hawaii**

**30 MGD by 2030**

**Goal was established by the Fresh Water Initiative under the Hawaii Community Foundation.**

One of three goals set by the Fresh Water Council.



## House Concurrent Resolution 86 SD1 of 2018

- Authorizes DOH to convene a task force to identify barriers and solutions to expand wastewater reuse in Hawaii.
- Recent findings have raised concerns about the long-term security of fresh water in Hawaii, and increasing the amount of water reuse in the State will help alleviate the pressure on fresh water drinking water supplies.
- DOH is working with Hawaii Community Foundation (HCF), facilitators of the Fresh Water Initiative.
- 1<sup>st</sup> Task Force Meeting held in June 2018.
- Water Reuse consultant, Dr. Bahman Sheikh, retained to assist with identifying the barriers.



## Water Reuse Task Force Members

Tim Johns and Dana Okano – HCF

Lori Kahikina, P.E., Director – CCH Department of Environmental Services

Bill Kucharski, P.E., Director, COH, Department of Environmental Management

Mike Miyamoto, P.E., Deputy Director, COM, DEM

Senator Karl Rhodes

Jason Kagimoto, P.E., Chief, COK, Wastewater Division

Jeff Pearson, P.E., Deputy Director, DLNR

Barry Usagawa, P.E., Board of Water Supply

Sina Pruder, P.E., Chief, Wastewater Branch

Denise Albano, Department of Agriculture



## **Report to the Legislature**

Task force is requested to report its findings and recommendations, including any proposed legislation, to the Legislature no later than twenty days prior to the convening of the Regular Session of 2019





# Contact Us

## Wastewater Branch

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**Mahalo!**