

CAR.Committee

From: Elizabeth Benyshek <elizabeth@waicleanwater.org>
Sent: Wednesday, August 12, 2020 4:34 PM
To: CAR.Committee
Subject: CAR-9 Presentation

Please see attached.



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WAI WASTEWATER ALTERNATIVES & INNOVATIONS





Photo: Star Advertiser

Moving Hawai'i Forward

'Oi ola wai honua

Life is at its prime when the earth has (clean) water

Each day, over **88,000** cesspools release **53 million** gallons of sewage into our groundwater risking public and environmental health.

Act 125 mandates the upgrade of all cesspools by **2050**, and the current workforce needs to expand **20x** to meet the required replacement rate.

Hanalei Flood
2018

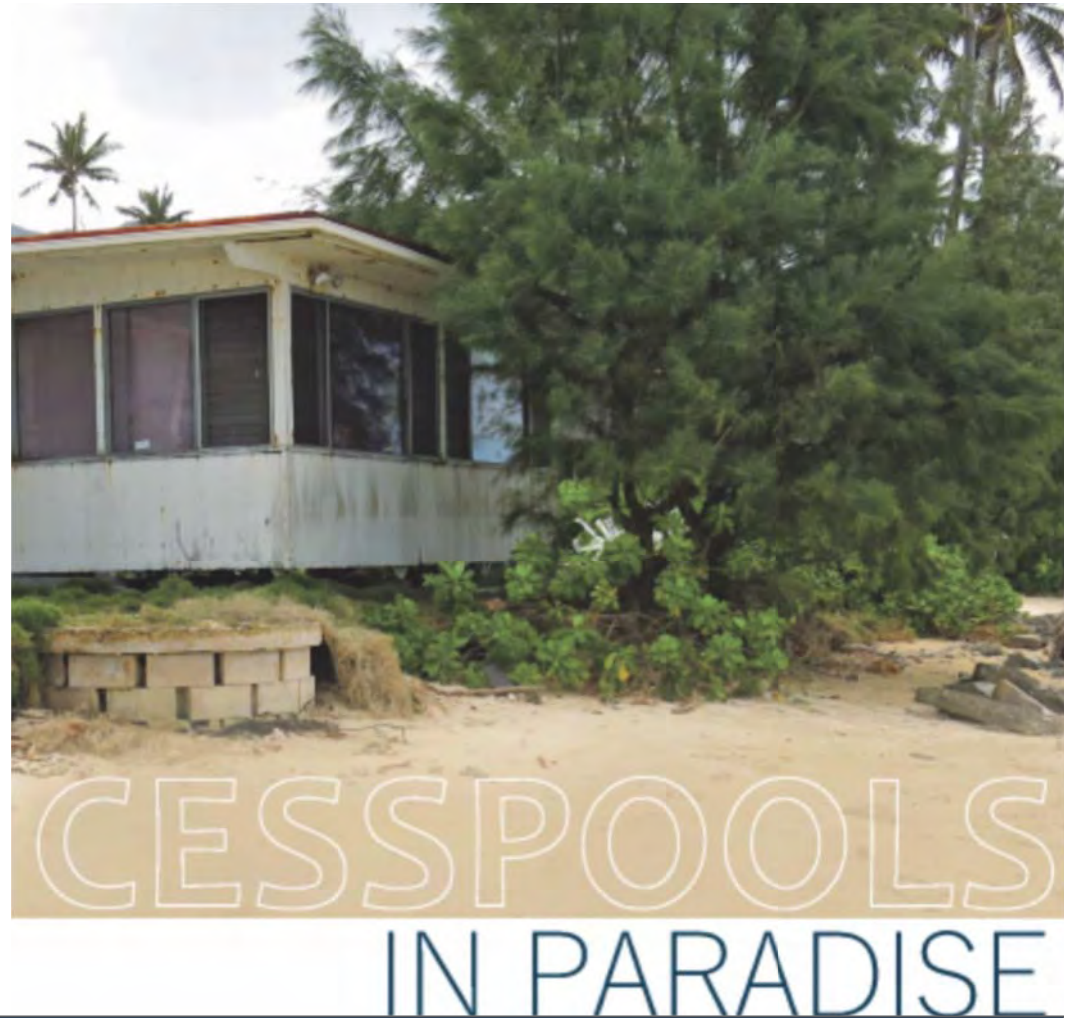


Waikiki Sewage
Spill 2006



Our Mission

To reduce sewage pollution and restore healthy watersheds by providing innovative, affordable and eco-friendly solutions to waste and wastewater management



Related Risks

Public Health

- Pathogens
 - Contaminated water exposure increases risk of gastroenteritis, Hepatitis A, conjunctivitis, Salmonellosis and cholera
 - 4x the rate of staph infections and 2x the rate of MRSA infections than rest of US
- Heavy Metals

Environmental

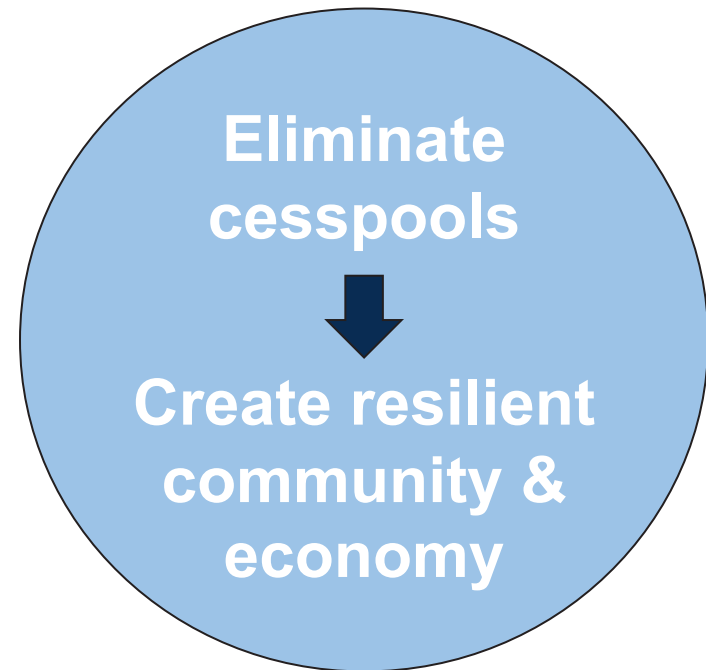
- Nutrient pollution
 - Nitrogen, Phosphorous, Potassium
 - Algae bloom leads to lack of oxygen in marine environments
- Sewage pollution
 - linked to reduced coral cover (measure of proportion of live stony coral)



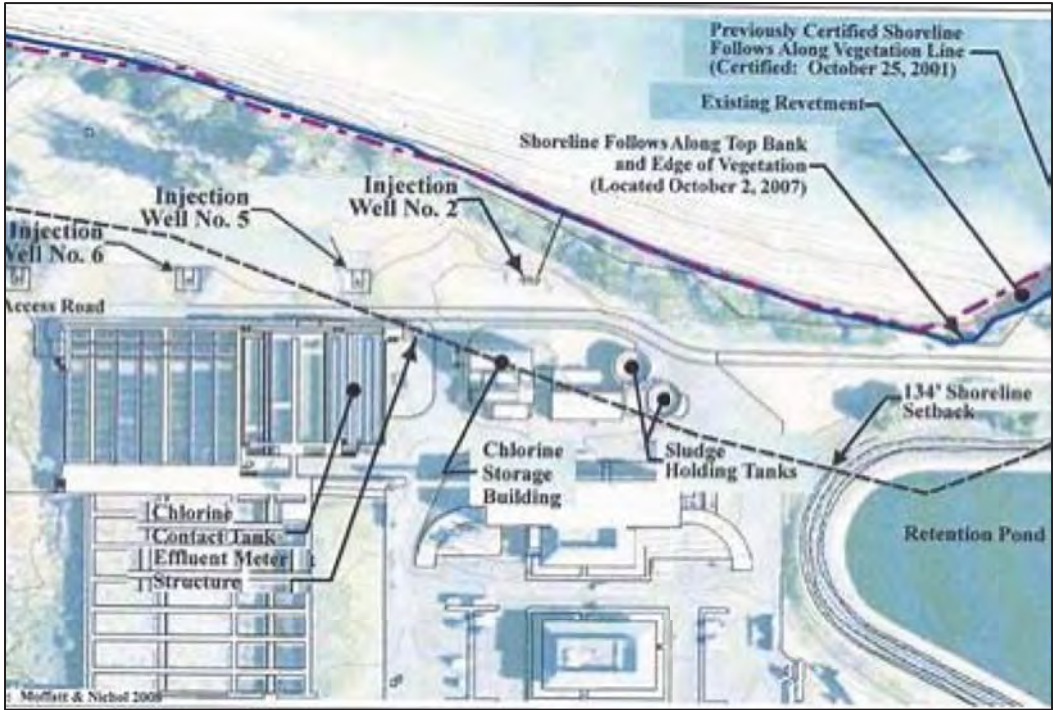
Covid-19

What we know:

- COVID-19 is present in the feces of infected persons
- COVID-19 survives and can be tracked in wastewater
- Infection is possible gastrointestinally, however, no known infections have been confirmed via the fecal-oral route
- Sewage has the potential to transmit many dangerous pathogens like Cholera, Hepatitis A, polio, and viral gastroenteritis

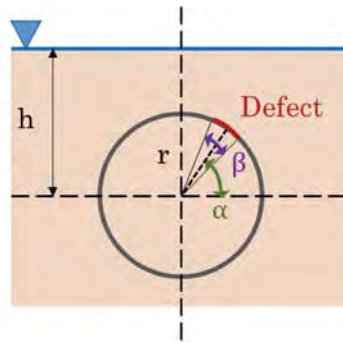
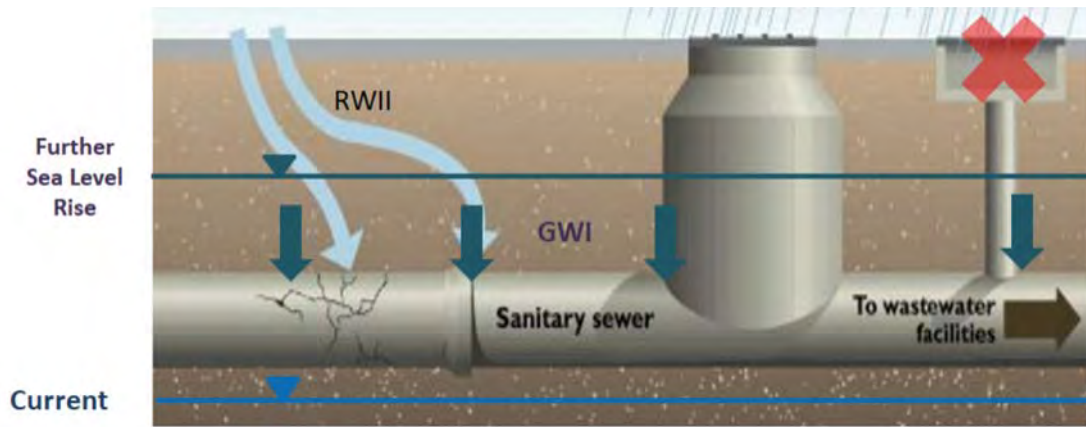


Wailuku-Kahului

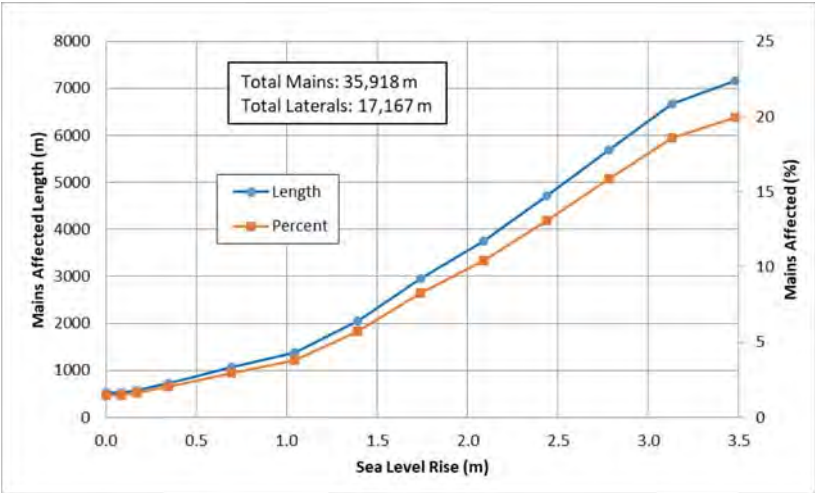


Proposed Shoreline Protection Extension

Groundwater Infiltration



Sewer Line Issues



Legislation Passed

ACT 120 PASSED
Banned construction of new cesspools & offered homeowners \$10k tax breaks to upgrade their systems

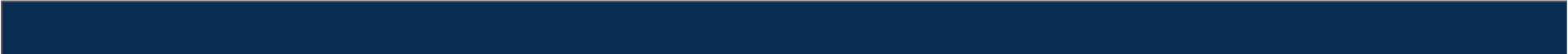
2016

2017

ACT 125 PASSED
Mandated upgrade of all cesspools by 2050 & required DOH to complete Priority Upgrade Areas Report

ACT 132 SIGNED
Creation of the Cesspool Conversion Working Group

2018





Work-4-Water

Workforce Development • Infrastructure Investment
Cesspool Replacement • Water Protection



UNIVERSITY of HAWAI'I®
**COMMUNITY
COLLEGES**



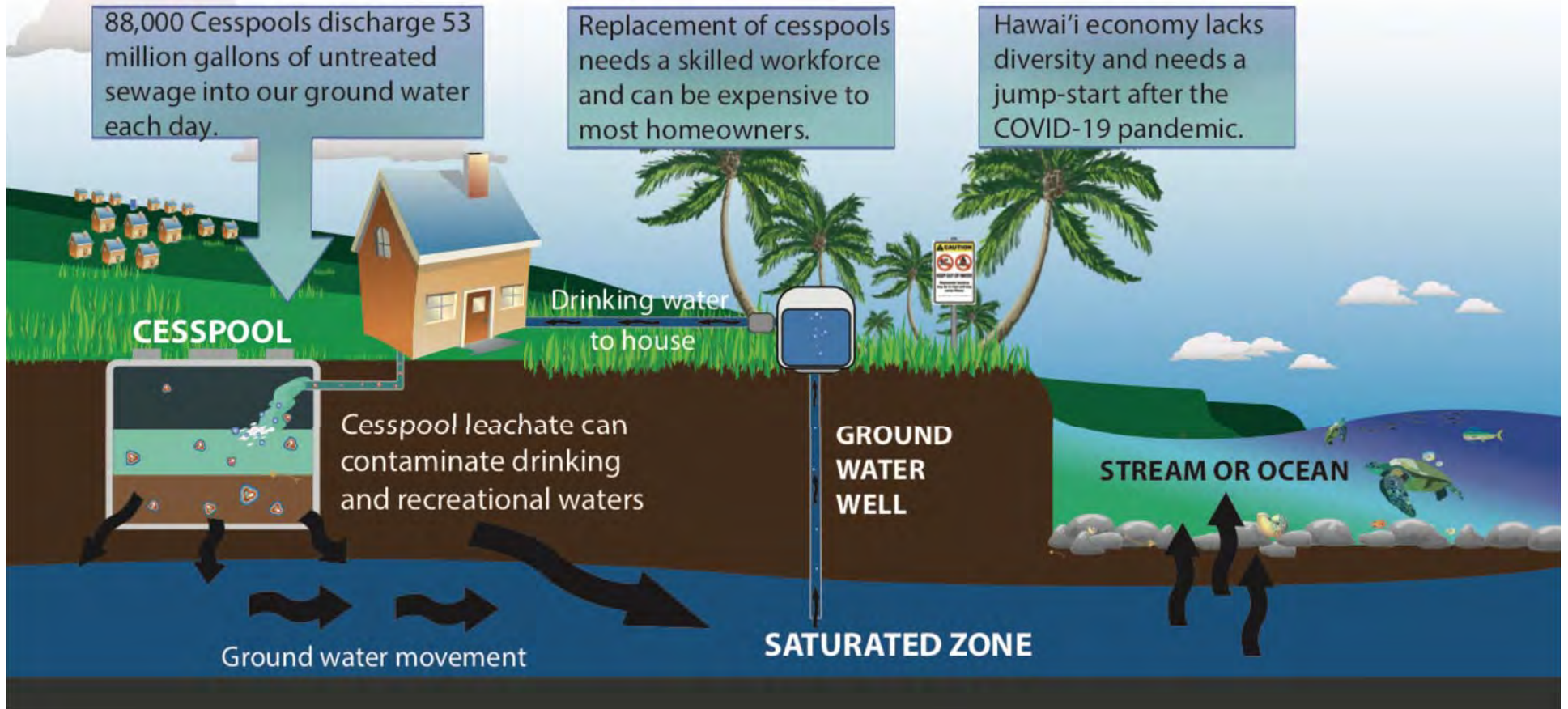
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PROBLEM:

88,000 Cesspools discharge 53 million gallons of untreated sewage into our ground water each day.

Replacement of cesspools needs a skilled workforce and can be expensive to most homeowners.

Hawai'i economy lacks diversity and needs a jump-start after the COVID-19 pandemic.



Overview

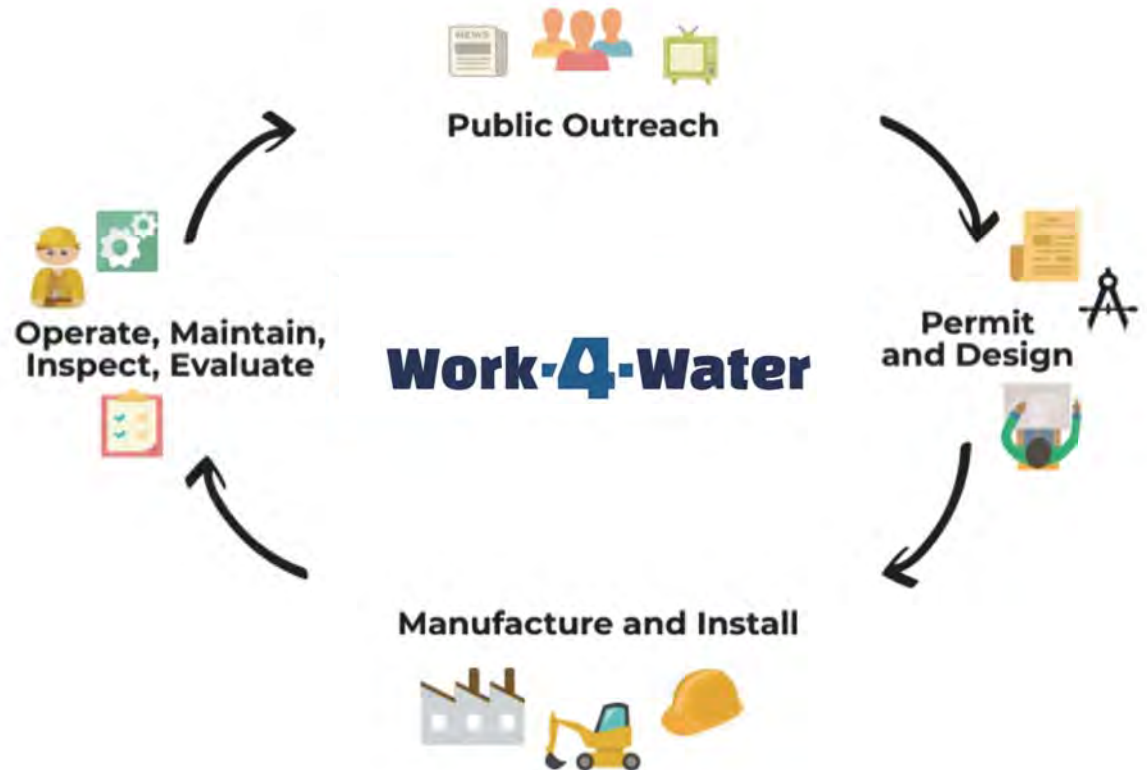
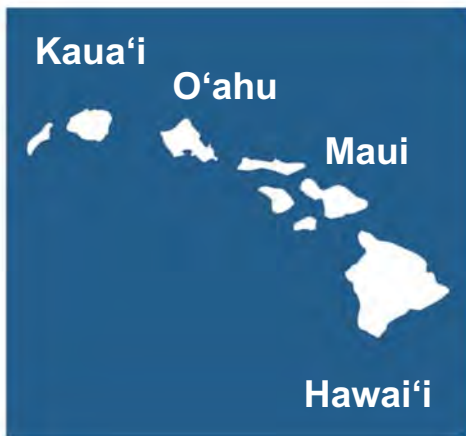
1. Reduce the public and environmental health risks associated with sewage pollution
2. Jump-start Hawai'i's economy by creating shovel-ready projects to convert cesspools in the most at-risk areas
3. Create a blueprint for each island of the state of Hawai'i to fulfill its mandate under Act 125 to convert all cesspools by 2050
4. Develop university training courses in wastewater sector while creating long-term, well-paid jobs that are not dependent on tourism
5. Contribute to state revenue through job creation and income tax revenues

The logo for 'Work-4-Water' is centered within a white circle. The circle is set against a dark blue vertical bar that runs down the right side of the slide. The text 'Work-4-Water' is written in a bold, dark blue font, with a stylized blue water drop icon replacing the number '4'.

Work-4-Water

The Solution

- Workforce Development
- Infrastructure Investment
- Cesspool Replacement
- Water Protection



Planning Proposal

1. Build a team of stakeholders to develop timelines, feasibilities, training needs and workforce needs.
2. Identify up to 100 eligible homesites on each island suitable for cesspool upgrades.
3. Create design criteria and standards with Department of Health.
4. Develop training programs at UH Community Colleges on each island.
5. Develop strategic statewide public outreach program.

Description	Amount (USD)
Wastewater Alternatives and Innovations	\$40,000
UH Manoa – WRRRC/Sea Grant	\$50,000
UH Hawaii CC	\$20,000
Engineering firms: Advanced Compliance Solutions, Inc Laulea Engineering, LLC	\$20,000 \$20,000
Total	\$150,000



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Mahalo

