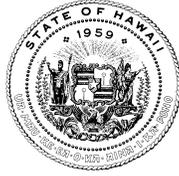


JOSH GREEN, M.D.
GOVERNOR
STATE OF HAWAII
*Ke Kia'āina o ka Moku'āina 'o
Hawaii*

SYLVIA J. LUKE
LT. GOVERNOR
STATE OF HAWAII
*Ka Hope Kia'āina o ka Moku'āina
'o Hawaii*



KALI WATSON
CHAIRPERSON, HHC
Ka Luna Ho'okele

KATIE L. LAMBERT
DEPUTY TO THE CHAIR
Ka Hope Luna Ho'okele

STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS
Ka 'Oihana 'Āina Ho'opulapula Hawaii'i

P. O. BOX 1879
HONOLULU, HAWAII 96805

TESTIMONY OF KALI WATSON, CHAIR
HAWAIIAN HOMES COMMISSION
BEFORE THE SENATE COMMITTEES ON WAYS AND MEANS
DECISION MAKING HEARING ON FEBRUARY 18, 2025 AT 10:01AM IN CR 211

SB 1232, SD 1, RELATING TO WASTEWATER SYSTEMS

February 17, 2025

Aloha Chair Dela Cruz, Vice Chair Moriwaki, and Members of the Committee:

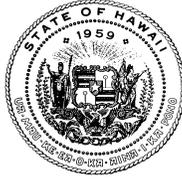
The Department of Hawaiian Home Lands (DHHL) **supports** this bill which establishes a three-year New Wastewater Technology Testing Pilot Program within the University of Hawaii Water Resources Research Center to test and evaluate new wastewater technology systems in coordination with the University of Hawaii Sea Grant College Program, College of Engineering, Department of Health, Department of Hawaiian Home Lands, and the appropriate county agencies 2) requires reports to the Legislature and 3) appropriates funds.

Approximately 2,500 cesspools exist on Hawaiian Home Lands. Pursuant to Act 125 (SLH 2017), these cesspools are required to be converted to a septic system or aerobic treatment unit system or connected to a sewerage system before January 1, 2050.

DHHL supports the establishment of a three-year New Wastewater Technology Testing Pilot Program within the University of Hawaii Water Resources Research Center because it will provide the opportunity to test new wastewater technology systems and review and evaluate the affordability, feasibility, and efficiency of the treatment technologies for DHHL, current lessees residing on Hawaiian Home Lands, and potential beneficiaries to understand the challenges and financial costs of cesspool conversions and wastewater technologies.

DHHL understands that there is no simple, one method fits all ahupua'a (land division) solution toward addressing the cesspool conversion and wastewater needs of the State of Hawaii and we stand ready to work collaboratively on this issue.

Thank you for your consideration of our testimony.



STATE OF HAWAII
DEPARTMENT OF HEALTH
KA 'OIHANA OLAKINO
P. O. Box 3378
Honolulu, HI 96801-3378
doh.testimony@doh.hawaii.gov

Testimony in SUPPORT of SB1232 SD1
RELATING TO WASTEWATER SYSTEMS.

SENATOR DONOVAN M. DELA CRUZ, CHAIR
SENATE COMMITTEE ON WAYS AND MEANS

February 18, 2025; 10:01 am, Room Number: 211

1 **Fiscal Implications:** The Department of Health (“Department”) requests that this measure be
2 considered as a vehicle to provide this needed funding so long as it does not supplant the
3 priorities and requests outlined in the Governors executive budget request.

4 **Department Position:** The Department supports this measure.

5 **Department Testimony:** The Environmental Management Division, Wastewater Branch (“EMD-
6 WWB”) provides the following testimony on behalf of the Department.

7 The Department supports this measure to establish a three-year new wastewater
8 technology testing pilot program in Hawai‘i within the University of Hawai‘i Water Resources
9 Research Center.

10 **Offered Amendments:** None.

11 Thank you for the opportunity to testify on this measure.



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
Senate Committee on Ways and Means
Tuesday, February 18, 2025 at 10:01 a.m.

By

Tao Yan

Director, UH Water Resources Research Center

And

Michael Bruno, Provost

University of Hawai'i at Mānoa

SB 1232 SD1 – RELATING TO WASTEWATER SYSTEMS

Chair Dela Cruz, Vice Chair Moriwaki, and Members of the Committee:

The University of Hawai'i Water Resources Research Center (WRRC) **stands in strong support of SB 1232 SD1**, which establishes a pilot program to evaluate and certify new wastewater treatment technologies in Hawai'i. This initiative is a critical step in addressing the State's cesspool conversion challenges by expanding affordable and effective treatment options.

Hawai'i's commitment to improving water quality and public health is evident in the legislative mandates requiring the transition away from cesspools. However, the currently approved replacement options pose challenges—advanced treatment units (ATUs) are highly effective but costly, while septic systems, though more affordable, have limited nutrient removal efficiency in Hawai'i's coastal environments. The lack of viable, cost-effective solutions is a major barrier to meeting the State's water quality goals and could lead to substantial investments with limited impact.

This bill leverages WRRC's expertise in wastewater research to implement a pilot program that will rigorously test and evaluate new wastewater treatment technologies. By identifying and validating solutions that are both effective and financially feasible, WRRC will provide the Hawai'i Department of Health with the necessary scientific basis for approving new, lower-cost alternatives for cesspool conversion. This research is essential to ensuring that the State's approach is data-driven, efficient, and tailored to Hawai'i's unique environmental conditions.

As the designated implementing entity, WRRC has extensive experience in wastewater research and policy development. Our previous work includes:

- The Hawai'i Cesspool Prioritization Tool, developed in collaboration with the Hawai'i Department of Health to assess cesspool risks statewide.

- A long-term wastewater outflow biomonitoring program conducted with the City and County of Honolulu, contributing critical data on wastewater impacts.
- Numerous faculty-led studies on wastewater treatment and its environmental effects, which inform local and national policy discussions.

The estimated total costs are \$745,325 for the three years.

We strongly support the appropriation of funds for WRRC to establish and implement this pilot program, including necessary infrastructure, equipment, and administrative support, provided its adoption does not impact priorities as indicated in our Board of Regents Approved Budget.

Thank you for the opportunity to testify on this measure.



STATE OF HAWAII
HAWAII CLIMATE CHANGE MITIGATION & ADAPTATION
COMMISSION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

Co-Chairs:
Chair, DLNR
Director, OPSD

Commissioners:
Chair, Senate AEN
Chair, Senate WTL
Chair, House EEP
Chair, House WAL
Chairperson, HTA
Chairperson, DOA
CEO, OHA
Chairperson, DHHL
Director, DBEDT
Director, DOT
Director, DOH
Chairperson, DOE
Director, C+C DPP
Director, Maui DP
Director, Hawaii DP
Director, Kauai DP
The Adjutant General
Manager, CZM

Testimony of
LEAH LARAMEE
Climate Change Coordinator on behalf of
Climate Change Mitigation and Adaptation Commission Co-Chair Mary Alice Evans and
Co-Chair Dawn N.S. Chang

Before the Senate Committees on
WAYS AND MEANS

Tuesday, February 18, 2025
10:01 AM
State Capitol, Conference Room 211 & Videoconference

In consideration of
SENATE BILL 1232 SENATE DRAFT 1
RELATING TO WASTEWATER SYSTEMS

Senate Bill 1232 Senate Draft 1 establishes a three-year New Wastewater Technology Testing Pilot Program within the University of Hawaii Water Resources Research Center to test and evaluate new wastewater technology systems in coordination with University of Hawaii Sea Grant College Program, College of Engineering, Department of Health, Department of Hawaiian Home Lands, and the appropriate county agencies, requires reports to the Legislature and appropriates funds. **The Hawaii Climate Change Mitigation and Adaptation Commission (Commission) supports this bill provided that its passage does not replace or adversely impact priorities indicated in the Executive Budget request.**

The Hawaii Climate Change Mitigation and Adaptation Commission consists of a multijurisdictional effort between 20 different departments, committees, and counties. Removal of cesspools for all properties within the Sea Level Rise Exposure Area (SLR-XA), is imperative to the health of nearshore waters and for members of the public accessing coastal resources. Removal may not be achievable by 2050 as directed by state law without viable alternatives for replacement. The Commission's 2022 update to the *Sea Level Rise Vulnerability and Adaptation Report* Recommended Action 6.1.1 states that the state should sponsor research and development efforts to expand affordable and actionable conversion options for shoreline property owners and options should account for SLR-XA projections of coastal erosion and associated land loss, and potential failure of sewage treatment systems due to sea level rise groundwater inundation. Cesspools in the coastal zone will be an increasing source of nonpoint source pollution as groundwater rises and coastal erosion accelerates. The *Sea Level Rise Vulnerability and Adaptation Report* Recommended Action 6.4 urges the state to expand policy directives beyond

the existing income tax credits and requirement for removal by 2050. Specifically, policy must address existing cesspools in the coastal zone in relation to enforcement of existing laws and regulations and removal of unpermitted shoreline hardening.

Connection to sewer lines is not always feasible and septic tanks while preferred to cesspools are not a perfect alternative. New innovative wastewater treatment systems designed for Hawai'i's unique landscape that are cost effective and protect our waters are needed. This bill will provide funding to ground truth this technology.

Mahalo for the opportunity to testify in support of this measure.



Testimony on SB1232 SD1

February 18, 2025

10:01 AM

Conference Room 211

The Climate Change and Health Working Group (CCHWG) is a cross-sector collaborative interested in strengthening climate and health resiliency in Hawai'i. CCHWG supports this measure's goal of establishing a three-year pilot program within the University of Hawai'i Water Resources Research Center (WRRC) to test new wastewater technology systems.

Testimony of the Hawai'i Climate Change and Health Working Group In Support of SB1232 SD1

RELATING TO WASTEWATER SYSTEMS

Aloha Chair Donovan M. Dela Cruz, Vice Chair Sharon Y. Moriwaki, and Members of the Ways and Means Committee:

The Climate Change and Health Working Group supports **SB1232 SD1's** goal of establishing a three-year pilot program within the WRRC to test new wastewater technology systems; review and evaluate the affordability, feasibility, and efficiency of the treatment technologies; document, validate, and summarize the various tests, research, and outcomes of each wastewater treatment works systems and individual wastewater systems; and submit the results of each test to the Hawai'i State Department of Health (DOH). This program would be instrumental in addressing the mandate of Hawai'i's Act 125 to convert all existing cesspools by 2050 in an effective and appropriate manner.

Clean nearshore waters are vital to both public health and the health of nearshore reefs and associated fisheries. Wastewater systems have the potential to pollute groundwater and nearshore waters by introducing elevated levels of contaminants such as nitrogen, phosphorus, and pathogens. Cesspools are at risk of overflow due to both sea-level rise and coastal erosion, as rising oceans also lift the contaminated groundwater and soil. These events put people in contact with infectious viruses and bacteria which can seriously harm their health. Cesspool

pathogens include hepatitis A, staphylococcus, and salmonella, as well as fecal indicators such as *E. coli* and enterococci. These pathogens put swimmers, paddlers, and beachgoers at risk of gastroenteritis, conjunctivitis, diarrhea, and skin infections. Our working group conducted a listening session at Hale Na‘au Pono in Wai‘anae on January 28th to understand health needs in the face of climate change. Community members told us that cesspools were a high priority due to cost, environmental impact, and infections from swimming in polluted water.

These concerns highlight the need to convert cesspools to another treatment system; however, the current approach of converting cesspools to septic tanks is problematic for several reasons, and cesspool owners and community members have expressed a need for a more appropriate wastewater solution than septic tanks. The primary concerns cited with septic tanks are that they are cost-prohibitive, do not treat chemical components harmful for ocean resources, and are not appropriate for space-constrained sites. Thus, there is a need for approval of alternative technologies that already exist, and the creation of the three-year pilot testing program at WRRRC proposed by **SB1232 SD1** is a crucial step towards achieving this goal, by allowing for the certification and implementation of such alternative technologies.

Septic tank systems do not treat the nitrogenous waste component of wastewater, and thus allow for introduction of this environmentally harmful component into our oceans and coral reefs. In addition to being a health concern, the nitrogenous waste threatens food security, as it is harmful to coral reef health, thereby reducing the abundance of our local fisheries. A 2023 Hawai‘i-based study found that septic and cesspool pollution is a major driver of coral reef decline along the West Hawai‘i coastline. When excess nutrients, such as nitrogen, from these wastewater systems enter nearshore waters, they stimulate the growth of algae, which can smother coral {1}.

While there is clearly a need for wastewater treatment technologies other than septic tanks, certification of such technologies currently would have to be run through the National Sanitation Foundation in Michigan. However, the price is up to \$70,000 per testing, and about \$10,000 annually for certification. This cost eventually falls upon end users in Hawai‘i. The pilot program proposed by **SB 1232 SD1** would facilitate evaluation of the performance of new technologies, so that DOH can use this information for certification, greatly accelerating the adaptation of new technologies at lower costs. After this initial pilot program supported by the State, other technology companies will be able to test their products and support the program onwards.

We would like to reiterate that the climate crisis is a health crisis. We urge support **SB1232 SD1**. Thank you for the opportunity to testify.

Sincerely,

The Climate Change and Health Working Group

{1} Gove, J.M., Williams, G.J., Lecky, J. et al. *Nature* 621, 536–542 (2023).
<https://doi.org/10.1038/s41586-023-06394-w>

SB-1232-SD-1

Submitted on: 2/15/2025 3:00:49 PM

Testimony for WAM on 2/18/2025 10:01:00 AM

Submitted By	Organization	Testifier Position	Testify
Douglas Perrine	Individual	Support	Written Testimony Only

Comments:

Ocean lovers in this state know that the "looming disaster of nearshore cesspools" is actually already upon us. On my own coastline in West Hawaii, the once-beautiful reef of Puako is now 90% dead due to cesspool runoff. The places I used to snorkel and swim, such as Kahalu'u Beach and Kailua Bay, I am afraid to use, since friends and others have suffered infections of flesh-eating antibiotic resistant bacteria from swimming there. At the same time, I am a cesspool owner with the financial means to convert to a safer form of wastewater processing, but have not done so simply because no superior technology has been approved by the DOH and been made available at a reasonable cost. Septic systems do not remove the nutrients that kill coral reefs (and are not practical for space-constrained areas, such as my lot.) This bill is essential to helping Hawaii move ahead into the enlightened era of wastewater treatment by identifying, and helping to make available, superior treatment methods. Please pass SB1232.

SB-1232-SD-1

Submitted on: 2/16/2025 6:28:17 PM

Testimony for WAM on 2/18/2025 10:01:00 AM

Submitted By	Organization	Testifier Position	Testify
James McCallen	Individual	Support	Written Testimony Only

Comments:

In Support of SB1232 SD1

RELATING TO WASTEWATER SYSTEMS

Aloha Chair Donovan M. Dela Cruz, Vice Chair Sharon Y. Moriwaki, and Members of the Ways and Means Committee:

My name is James McCallen and I am a public health professional in support **SB1232 SD1's** goal of establishing a three-year pilot program within the WRRC to test new wastewater technology systems; review and evaluate the affordability, feasibility, and efficiency of the treatment technologies; document, validate, and summarize the various tests, research, and outcomes of each wastewater treatment works systems and individual wastewater systems; and submit the results of each test to the Hawai'i State Department of Health (DOH).

This program would be instrumental in addressing the mandate of Hawai'i's Act 125 to convert all existing cesspools by 2050 in an effective and appropriate manner. Cesspools pose a public health threat: Clean nearshore waters are vital to both public health and the health of nearshore reefs and associated fisheries. Wastewater systems have the potential to pollute groundwater and nearshore waters by introducing elevated levels of contaminants such as nitrogen, phosphorus, and pathogens. Cesspools are at risk of overflow due to both sea-level rise and coastal erosion, as rising oceans also lift the contaminated groundwater and soil. These events put people in contact with infectious viruses and bacteria which can seriously harm their health. Cesspool pathogens include hepatitis A, staphylococcus, and salmonella, as well as fecal indicators such as *E. coli* and enterococci. These pathogens put swimmers, paddlers, and beachgoers at risk of gastroenteritis, conjunctivitis, diarrhea, and skin infections.

These concerns highlight the need to convert cesspools to another treatment system; however, the current approach of converting cesspools to septic tanks is problematic for several reasons, and cesspool owners and community members have expressed a need for a more appropriate wastewater solution than septic tanks. The primary concerns cited with septic tanks are that they are cost-prohibitive, do not treat chemical components harmful for ocean resources, and are not appropriate for space-constrained sites. **Thus, there is a need for approval of alternative technologies that already exist, and the creation of the three-year pilot testing program at**

WRRC proposed by SB1232 SD1 is a crucial step towards achieving this goal, by allowing for the certification and implementation of such alternative technologies.

Septic tank systems do not treat the nitrogenous waste component of wastewater, and thus allow for introduction of this environmentally harmful component into our oceans and coral reefs. In addition to being a health concern, the nitrogenous waste threatens food security, as it is harmful to coral reef health, thereby reducing the abundance of our local fisheries. A 2023 Hawai'i-based study found that septic and cesspool pollution is a major driver of coral reef decline along the West Hawai'i coastline. When excess nutrients, such as nitrogen, from these wastewater systems enter nearshore waters, they stimulate the growth of algae, which can smother coral.

While there is clearly a need for wastewater treatment technologies other than septic tanks, certification of such technologies currently would have to be run through the National Sanitation Foundation in Michigan. However, the price is up to \$70,000 per testing, and about \$10,000 annually for certification. This cost eventually falls upon end users in Hawai'i. The pilot program proposed by **SB 1232 SD1** would facilitate evaluation of the performance of new technologies, so that DOH can use this information for certification, greatly accelerating the adaptation of new technologies at lower costs. After this initial pilot program supported by the State, other technology companies will be able to test their products and support the program onwards.

I would like to reiterate that the climate crisis is a health crisis. I urge to support **SB1232 SD1**. Thank you for the opportunity to testify.

Sincerely,

James McCallen, MPH

SB-1232-SD-1

Submitted on: 2/16/2025 10:01:36 AM

Testimony for WAM on 2/18/2025 10:01:00 AM

Submitted By	Organization	Testifier Position	Testify
Elizabeth Kiefer	Individual	Support	Written Testimony Only

Comments:

Aloha Chair Donovan M. Dela Cruz, Vice Chair Sharon Y. Moriwaki, and Members of the Ways and Means Committee:

I support SB1232 SD1's goal of establishing a three-year pilot program within the WRRC to test new wastewater technology systems; review and evaluate the affordability, feasibility, and efficiency of the treatment technologies; document, validate, and summarize the various tests, research, and outcomes of each wastewater treatment works systems and individual wastewater systems; and submit the results of each test to the Hawai'i State Department of Health (DOH).

I am a member of the Climate Change and Health Working group - Our working group conducted a listening session at Hale Na'au Pono in Wai'anae on January 28th to understand health needs in the face of climate change. **Community members told us that cesspools were a high priority due to cost, environmental impact, and infections from swimming in polluted water.**

This program would be instrumental in addressing the mandate of Hawai'i's Act 125 to convert all existing cesspools by 2050 in an effective and appropriate manner.

Clean nearshore waters are vital to both public health and the health of nearshore reefs and associated fisheries. Wastewater systems have the potential to pollute groundwater and nearshore waters by introducing elevated levels of contaminants such as nitrogen, phosphorus, and pathogens. Cesspools are at risk of overflow due to both sea-level rise and coastal erosion, as rising oceans also lift the contaminated groundwater and soil. These events put people in contact with infectious viruses and bacteria which can seriously harm their health. Cesspool pathogens include hepatitis A, staphylococcus, and salmonella, as well as fecal indicators such as E. coli and enterococci. These pathogens put swimmers, paddlers, and beachgoers at risk of gastroenteritis, conjunctivitis, diarrhea, and skin infections.

These concerns highlight the need to convert cesspools to another treatment system; however, the current approach of converting cesspools to septic tanks is problematic for several reasons, and cesspool owners and community members have expressed a need for a more appropriate wastewater solution than septic tanks. The primary concerns cited with septic tanks are that they are cost-prohibitive, do not treat chemical components harmful for ocean resources, and are not appropriate for space-constrained sites. Thus, there is a need for approval of alternative technologies that already exist, and the creation of the three-year pilot testing program at WRRC

proposed by SB1232 SD1 is a crucial step towards achieving this goal, by allowing for the certification and implementation of such alternative technologies.

Septic tank systems do not treat the nitrogenous waste component of wastewater, and thus allow for introduction of this environmentally harmful component into our oceans and coral reefs. In addition to being a health concern, the nitrogenous waste threatens food security, as it is harmful to coral reef health, thereby reducing the abundance of our local fisheries. A 2023 Hawai'i-based study found that septic and cesspool pollution is a major driver of coral reef decline along the West Hawai'i coastline. When excess nutrients, such as nitrogen, from these wastewater systems enter nearshore waters, they stimulate the growth of algae, which can smother coral {1}.

I would like to reiterate that the climate crisis is a health crisis. I urge to support SB1232 SD1. Thank you for the opportunity to testify.

Sincerely,

Elizabeth Kiefer, MD MPH

Assistant Clinical Professor of Medicine, JABSOM

LATE

SB-1232-SD-1

Submitted on: 2/17/2025 11:47:35 AM

Testimony for WAM on 2/18/2025 10:01:00 AM

Submitted By	Organization	Testifier Position	Testify
Emily Werner	Individual	Support	Written Testimony Only

Comments:

Good after noon Chair, Vice Chair, and fellow members of the committee,

Thank you for the opportunity to testify in strong support for SB1232.

My name is Emily Werner. I am a student at University of Hawaii Manoa, studying Political Science and Sustainability. I am offering my testimony as an individual, and am also a member of the Climate Change and health working group.

Cesspools in Hawaii can pose a serious health threat by contaminating drinking water, groundwater, and recreational waters with disease-causing pathogens. Hawaii has 83,000 existing sewage cesspools that inject 52 million gallons of wastewater into the ground daily.

Due to sea level rise and coastal erosion, cesspools are at risk of overflow because rising oceans also lift the contaminated groundwater and soil. Overflow is also confounded by normally occurring tides that further push pathogens into the ocean. These events put people in contact with infectious viruses and bacteria which can seriously harm their health.

Cesspool pathogens include hepatitis A, staphylococcus, and salmonella, as well as fecal indicators such as E. coli and enterococci. These pathogens put swimmers, paddlers, and beachgoers at risk of gastroenteritis, conjunctivitis, diarrhea, and skin infections. Hawaii has been shown to have a higher prevalence of methicillin-resistant Staphylococcus aureus (MRSA) compared to the national average and studies also confirm increased bacterial concentrations with rainfall and flood water discharge.

Swimmers in Hawaii have a higher risk of staphylococcal skin infections compared to those who are not exposed to seawater. Recent studies demonstrate that coastal beaches, river waters, and sand in the state are contaminated with MRSA, posing a substantial health risk to all beach users.

The dangerous pathogens from cesspools also threaten our food system. Coral reefs and marine ecosystems are damaged from the toxic pollutants coming from cesspools. Marine animals and plants that rely on healthy reefs for food and shelter.

Cesspools are a human and environmental health crisis that threaten the wellbeing of our communities and future generations. This bill takes a crucial step towards safe solutions that are unique to the problems the Hawaiian Islands face. I urge you to pass SB1232 and help to ensure a future where everyone has access to clean and safe environments.

Thank you for your time and consideration.

Emily Werner