



UNIVERSITY OF HAWAII SYSTEM

‘ŌNAEHANA KULANUI O HAWAII

Legislative Testimony

Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
House Committee on Higher Education
Wednesday, March 12, 2025 at 2:00 p.m.

By

Tao Yan

Director, UH Water Resources Research Center

And

Michael Bruno, Provost

University of Hawai'i at Mānoa

SB 1232 SD2 – RELATING TO WASTEWATER SYSTEMS

Chair Garrett, Vice Chair Amato, and Members of the Committee:

The University of Hawai'i Water Resources Research Center (WRRC) **stands in strong support of SB 1232 SD2**, 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:
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Director, OPSD

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Chair, Senate WTL
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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 House Committee on
HIGHER EDUCATION**

**Wednesday, March 12, 2025
2:00 PM**

State Capitol, Conference Room 309 & Videoconference

**In consideration of
SENATE BILL 1232, SENATE DRAFT 2
RELATING TO WASTEWATER SYSTEMS**

Senate Bill 1232 SD2 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'i 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'i Climate Change Mitigation and Adaptation Commission consists of a multijurisdictional effort between 20 different departments, committees, and counties.

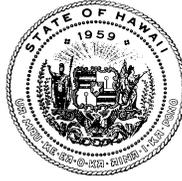
Removal of cesspools for all properties within the Sea Level Rise Exposure Area (SLR-XA), is imperative to the health of nearshore waters and for members of the public accessing coastal resources. Removal may not be achievable by 2050 as directed by state law without viable alternatives for replacement. 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.



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

**Testimony in SUPPORT of SB1232 SD2
RELATING TO WASTEWATER SYSTEMS.**

REPRESENTATIVE ANDREW TAKUYA GARRETT, CHAIR
HOUSE COMMITTEE ON HIGHER EDUCATION

March 12, 2025; 2:00 pm, Room Number: 309

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
6 (EMD-WWB) provides the following testimony on behalf of the Department.

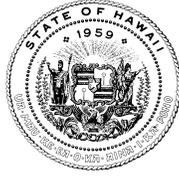
7 The Department supports this measure to establish a three-year new wastewater
8 technology testing pilot program in Hawai'i within the University of Hawai'i Water Resources
9 Research Center.

10 **Offered Amendments:** None.

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

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

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



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 Hawai'i

P. O. BOX 1879
HONOLULU, HAWAII 96805

TESTIMONY OF KALI WATSON, CHAIR
HAWAIIAN HOMES COMMISSION
BEFORE THE HOUSE COMMITTEE ON HIGHER EDUCATION
HEARING ON MARCH 12, 2025 AT 2:00PM IN CR 309

SB 1232, SD 2, RELATING TO WASTEWATER SYSTEMS

March 11, 2025

Aloha Chair Garrett, Vice Chair Amato, 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.



To: The Honorable Chair Andrew Takuya Garrett, the Honorable Terez Amato, Vice Chair, and Members of the Committee on Higher Education.

From: Hawai'i Reef and Ocean Coalition (by Ted Bohlen)

Re: Hearing **SB1232 SD2 RELATING TO WASTEWATER SYSTEMS**

Hearing: Wednesday March 12, 2025, 2:00 p.m. Rm.309

Aloha Chair Garrett, Vice Chair Amato, and Higher Education Committee Members:

The Hawai'i Reef and Ocean Coalition (HIROC) is a group of scientists, educators, filmmakers and environmental advocates who have been working since 2017 to protect Hawaii's coral reefs and ocean.

The Hawai'i Reef and Ocean Coalition STRONGLY SUPPORTS SB1232 SD2!

There are about 83,000 cesspools in Hawaii that are dumping about 50 million gallons **every day** into Hawaii's groundwater, drinking water, streams, and ocean and harming our coral reefs. By law (the mandate of section 342D-72, Hawaii Revised Statutes), all 83,000 cesspools must be upgraded to a system approved by the Department by 2050.

Cesspool upgrades are expensive. The cost depends on site-specific conditions, but the cost to convert a cesspool to a septic system or an aerobic treatment unit system is often over \$30,000. We need to try to find ways to make upgrades more **affordable** to homeowners and governments.

At a time when many residents of Hawaii are struggling to make ends meet, our State has an excellent opportunity to **save cesspool owners and governments money by introducing new wastewater technologies**. There are new wastewater technologies in cluster sewers, in individual wastewater systems, and in other wastewater systems that can potentially reduce the costs of cesspool upgrades substantially without harming water quality and protect coral reefs by reducing nutrients.

The Department of Health must certify the new technology systems. The Department does not have sufficient resources and expertise to perform those certifications promptly and effectively, however.

The University of Hawaii's Water Resources Research Center (WRRC) has previously had a testing program for wastewater systems. **Guidance and studies by a revived UH WRRC testing program for new technologies can facilitate and accelerate DOH's certification of new technologies. The cost of the testing program is modest (estimated at under \$1 million) and the benefits in reducing costs will be many times larger.**

The bill funds a three-year pilot program to test wastewater systems and individual wastewater systems technology at UH WRRC. UH WRRC, in coordination with other departments at UH, DOH, county agencies and others will review, document, and evaluate the affordability, feasibility, and efficiency of treatment technologies, perform tests and studies and submit results to the Department.

This bill will enable Hawaii to achieve its goal of upgrading cesspools more affordably without compromising water quality.

Please pass this bill!

Mahalo!

Hawai'i Reef and Ocean Coalition (by Ted Bohlen)



Testimony of the Hawai'i Climate Change and Health Working Group: SB 1232

Wednesday, March 12, 2025

2PM

Room 309

Aloha Chair Garrett, Vice Chair Amato, and fellow members of the committee,

The Climate Change and Health Working Group (CCHWG) is a cross-sector collaborative interested in strengthening climate and health resiliency in Hawai'i **in support of SB1232**.

Cesspools in Hawai'i pose serious health threats 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. We urge you to pass SB1232 and help to ensure a future where everyone has access to clean and safe environments.

The climate crisis is a health crisis.

Sincerely,

The Climate Change and Health Working Group

**Testimony of The Nature Conservancy
Supporting SB1232 SD2, Relating to Wastewater Systems.
Committee on Higher Education
March 12, 2025 at 2:00 pm
Conference Room 309 and via Videoconference**

Dear Chair Garrett, Vice Chair Amato, and Members of the Committee:

The Nature Conservancy (TNC), Hawai'i and Palmyra supports SB1232 SD2, which would establish a 3-year New Wastewater Technology Testing Pilot Program within the University of Hawai'i Water Resources Research Center to test and evaluate new wastewater technology systems in coordination with University of Hawai'i Sea Grant College Program, University of Hawai'i College of Engineering, Department of Health, Department of Hawaiian Home Lands, and appropriate county agencies. This bill also requires reports to the Legislature.

Science conducted by TNC and partners has shown that wastewater are detrimental to the coral reefs which protect our coastlines and underpin our economy. Without clean coastal waters reef ecosystems are put at even greater risk in the face of growing global stressors including climate change.

Wastewater can cause harm to water quality within adjacent groundwater, anchialine, coral reef systems and fisheries by introducing elevated amounts of organic nitrogen and phosphorus, pathogens, and other contaminants. Contaminants emitted from cesspools can harm aquatic ecosystems by encouraging excess algal and bacterial growth and can also pose a threat to human health. Our research in He'eia, Maunaloa, Olowalu, Hana and South Kohala has shown direct evidence of cesspool contamination in streams and coastal waters using a variety of bioindicators and chemical signatures.

The Water Resources Research Center (WRRC) at the University of Hawai'i at Manoa has historically provided technical support to creating advanced onsite wastewater systems. This bill would allow the WRRC to support new innovative technologies to be permitted in the State through advanced testing and pilot measures. New technologies could potentially offer substantial cost savings by clustering adjacent homes, or reducing the amount of excavation needed. The cost of the program would be small compared to the potential savings.

Mahalo for the opportunity to testify in support of SB1232 SD2.

Guided by science, TNC is a non-profit organization dedicated to the preservation of the lands and waters upon which all life depends. The Conservancy has helped protect more than 200,000 acres of natural lands in Hawai'i and Palmyra Atoll. We manage 40,000 acres in 13 nature preserves and have supported over 50 coastal communities to help protect and restore the nearshore reefs and fisheries of the main Hawaiian Islands.

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TO: House Committee Higher Education
Rep. Andrew Takuya Garrett, Chair
Rep. Terez Amato, Vice Chair

FROM: Lynn Miyahira representing Public Access to SunScreens (PASS) Coalition
DATE: March 11, 2025

Re: SB1232 SD2

Position: SUPPORT

The [Public Access to SunScreens](#) (PASS) Coalition is a multi-stakeholder coalition composed of public health groups, dermatologists, sunscreen manufacturers, and leading advocates for skin cancer patients. We also support efforts that protect our coral reefs.

We support this measure.

Hawaii faces a severe cesspool pollution problem, with over 83,000 cesspools discharging approximately 50 million gallons of raw sewage daily into our groundwater, streams, and oceans. This not only threatens our drinking water but also harms coral reefs that are vital to Hawaii's ecosystem and tourism economy.

Cesspool upgrades are expensive, creating significant financial challenges for both homeowners and governments. This bill addresses this issue by encouraging the development and adoption of innovative wastewater technologies that can reduce the costs of cesspool upgrades while maintaining high water quality standards.

This bill establishes a three-year pilot program at the University of Hawaii Water Resources Research Center to test new wastewater technologies, including cluster sewers, individual wastewater systems, and other innovative approaches.

The cost of the testing program is reasonable, especially when compared to the potential benefits of reducing the financial burden on residents and ensuring cleaner water for future generations. Investing in this program is a proactive step toward solving Hawaii's cesspool pollution crisis.

We urge your support for SB 1232.

Mahalo you for the opportunity to testify.

Sincerely,

Lynn Miyahira
Public Access to SunScreens (PASS) Coalition



March 11, 2025

House Committee on Higher Education
Hawai'i State Legislature
Via Electronic Transmission

Re: Testimony in SUPPORT of Senate Bill 1232, Relating to Wastewater Systems
Hearing: March 12, 2025 at 2:00 PM, CR 309 via Videoconference

To: The Honorable Chair Garrett, Vice Chair Amato, and Members of the Committee

Surfrider Foundation Hawai'i Region strongly supports SB1232 which would establish a pilot program to test new wastewater technologies at the University of Hawai'i's Water Resources Research Center. Surfrider Foundation is a grassroots activist network dedicated to the protection of our oceans, waves, and beaches. We support research on new wastewater technologies for the following reasons:

- (1) **Protecting our Reefs** - 83,000 cesspools in Hawai'i discharge over 50 million gallons per day of sewage into our oceans, polluting our coral reefs and threatening the health of our marine ecosystems. Our reefs desperately need action to avoid further degradation.
- (2) **Protecting the Health of Recreational Ocean Users** - As part of our water quality initiative, we maintain a citizen-science water quality monitoring program called the Blue Water Task Force (BWTF) on Kaua'i, Maui, and O'ahu that tests for enterococcus, a fecal indicator bacteria at 80 sites regularly. BWTF sites are often selected to monitor water quality around sites with high concentrations of coastal cesspools. We have data that shows areas with high cesspool concentrations regularly exceed state public health standards. This is unhealthy for our members, many of whom regularly use the ocean for recreational purposes.
- (3) **Promoting Science-Based Policy Solutions** - To ensure our oceans are adequately protected from wastewater pollution, we need solutions that incorporate scientific research into policy plans. This bill would appropriate the necessary funding to support ongoing research on wastewater alternatives and cesspool conversion, informing future policy to support Hawai'i's transition from cesspools to more sustainable alternatives.

Your committee's support of SB1232 would provide the Department of Health with the resources it needs to explore alternative solutions to our state's wastewater problems. Thank you for your consideration of this testimony in support of SB1232, submitted on the behalf of the Surfrider Foundation's three Chapters in Hawai'i and all of our members who live in the state and visit to enjoy the many coastal recreational opportunities offered by all of the islands' coastline.

Mahalo for your consideration and leadership on this vital issue.

Sincerely,

Hanna Lilley
Hawai'i Regional Manager
Surfrider Foundation



March 11, 2025

In Support of **SB1232 SD2 Relating to Wastewater Systems**
House Comm. on Higher Education (HED)
Hearing on Wed., March 12, 2025, 2:00pm, CR309

Aloha, Chair Garrett, Vice-Chair Amato, and Committee Members:

On behalf of the non-profit WAI: Wastewater Alternatives & Innovations, I am writing in **strong support of SB1232 SD2**. This bill funds a three-year pilot program to test wastewater technology at the University of Hawaii Water Resources Research Center (WRRC). The goal is to introduce more efficient and affordable sanitation technologies to the state. WRRC will work in coordination with other departments at UH and the Dept. of Health to evaluate the efficiency of treatment technologies, perform tests and submit results to the Department for approval.

The Department of Health must certify any new technology systems, but the Department doesn't have sufficient resources and expertise to perform those certifications promptly and effectively. Research and studies by the WRRC testing program can facilitate and accelerate DOH's certification of new technologies. The costs are modest, and the benefits in reducing costs will be many times larger. Based on a previous program run by WRRC, the pilot program will build on existing resources and staff at WRRC and UH. Once the program is up and running again, it will generate revenues from companies that pay testing fees to get their treatment systems approved in Hawai'i. This will bring revenues to the state, be self-sustaining and help solve our cesspool crisis.

Hawaii has more than 83,000 cesspools across the state, discharging 52 million gallons of raw sewage each day into Hawaii's waters. Along with threats to public health and drinking water resources, new research shows that polluted wastewater poses significant harm to coral reefs and the near-shore environment. The people of Hawaii need this law to make sure their wastewater systems aren't polluting the groundwater or nearby surface waters.

WAI is an environmental non-profit dedicated to protecting our water resources by reducing sewage pollution from cesspools. We support more innovative, affordable, and eco-friendly solutions to wastewater management. Better sanitation systems protect public health and valuable natural resources like groundwater, streams, coral reefs and coastal areas.

Hawaii is struggling with serious sewage pollution, and the state has a mandate to make sure all cesspools are converted in the next two decades. This bill will provide the necessary testing of new treatment technologies that are needed to convert cesspools across the state more efficiently and affordably. Mahalo for your leadership on this issue and support of this bill.

Aloha,

Stuart Coleman

Stuart H. Coleman, Executive Director

SB-1232-SD-2

Submitted on: 3/7/2025 12:30:03 PM

Testimony for HED on 3/12/2025 2:00:00 PM

Submitted By	Organization	Testifier Position	Testify
JONATHAN LOTT	Individual	Support	Written Testimony Only

Comments:

Aloha members of the committee,

It seems to me (a Civil Engineer with some knowledge of wastewater treatment) that tackling the huge problem we have with so many old-tech cesspools leaking into our nearshore waters and waterways is a GOOD thing. This bill will help in that effort, it seems.

Mahalo,

Jon

SB-1232-SD-2

Submitted on: 3/7/2025 6:31:35 PM

Testimony for HED on 3/12/2025 2:00:00 PM

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

Comments:

I strongly support SB1232. This bill will facilitate DOH's certification of individual and neighborhood wastewater systems which are both more affordable and more environmentally friendly than the few choices which are currently available. This bill is a critical step towards Hawaii's ability to finally manage our wastewater in a responsible way.

SB-1232-SD-2

Submitted on: 3/10/2025 3:54:32 PM

Testimony for HED on 3/12/2025 2:00:00 PM

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

Comments:

In Support of SB1232 SD2

RELATING TO WASTEWATER SYSTEMS

Aloha Chair, Vice Chair and Members of the Committee

My name is Elizabeth Kiefer and I **support SB1232 SD2'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 SD2 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 SD2** 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 SD2**. Thank you for the opportunity to testify.

Sincerely,

Elizabeth Kiefer, MD MPH