

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
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In reply, please refer to:  
File:

**Testimony COMMENTING on SB2513  
RELATING TO WASTEWATER SYSTEMS**

SENATOR MIKE GABBARD, CHAIR  
SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT

SENATOR DONNA MERCADO KIM, CHAIR  
SENATE COMMITTEE ON HIGHER EDUCATION

Hearing Date: 2/14/2024

Room Number: 224

1 **Fiscal Implications:** This measure may impact the priorities identified in the Governor's  
2 Executive Budget Request for the Department of Health's (Department) appropriations and  
3 personnel priorities.

4 **Department Testimony:** The Department acknowledges the intent of this measure and offers  
5 comments.

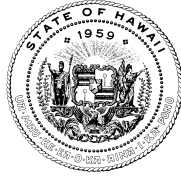
6 **Offered Amendments:** The Department respectfully suggests the following revisions to the  
7 proposed HRS amendments. Additions appear as underlined and deletions appear as strikeouts.

8 SECTION 5, Page 10, lines 4-20. "There is appropriated out of the ~~water pollution~~  
9 ~~control revolving fund~~ general revenues of the State of Hawaii the sum of: (1) ~~\$56,304~~ \$89,500 or  
10 so much thereof as may be necessary for fiscal year 2023-2024 and the same sum or so much  
11 thereof as may be necessary for fiscal year 2024-2025 to fund one full-time equivalent (1.0 FTE)  
12 engineer V position within the department of health's wastewater branch; and (2)  
13 ~~\$52,044~~ \$82,700 or so much thereof as may be necessary for fiscal year 2023-2024 and the same  
14 sum or so much thereof as may be necessary for fiscal year 2024-2025 to establish one full-time  
15 equivalent (1.0 FTE) ~~planner~~ engineer IV position within the department of health's wastewater  
16 branch. The sums appropriated shall be expended by the department of health to support the  
17 approval of individual wastewater systems applications and the demonstration pilot program."

18 Thank you for the opportunity to testify.

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  
CHAIRMAN, HHC  
*Ka Luna Ho'okele*

KATIE L. DUCATT  
DEPUTY TO THE CHAIRMAN  
*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, CHAIRMAN  
HAWAIIAN HOMES COMMISSION  
THE SENATE COMMITTEE ON AGRICULTURE AND ENVIRONMENT AND  
THE SENATE COMMITTEE ON HIGHER EDUCATION  
HEARING ON FEBRUARY 14, 2024 AT 1:00PM IN CR 224

**SB 2513, RELATING TO WASTEWATER SYSTEMS**

February 14, 2024

Aloha Chairs Gabbard and Kim, Vice Chairs Richards and Kidani, and Members of the Committees:

The Department of Hawaiian Home Lands (DHHL) supports this bill which **1)** establishes a 3-year new waste management solution and cesspool system demonstration pilot program within the University of Hawaii Water Resources Research Center to examine and demonstrate new wastewater and cesspool technology systems; **2)** implement those technologies in demonstration projects in areas across the State that are identified as priority level 1 in the 2021 Hawaii Cesspool Hazard Assessment and Prioritization Tool Report; **3)** establish a similar ranking system for prioritization levels for the islands of Molokai, Lanai, and Niihau; **4)** requires the University of Hawaii Water Resources Research Center to submit reports to the Legislature; **5)** appropriates moneys for the pilot program; **6)** appropriates moneys for 1 full-time equivalent (1.0 FTE) engineer position and 1 full-time equivalent (1.0 FTE) planner position within the Department of Health's Wastewater Branch; and **7)** declares that the general fund appropriation exceeds the state general fund expenditure ceiling for 2024-2025.

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 System Demonstration Pilot Program because it will provide the opportunity for alternative, financially feasible, and effective wastewater technologies to be evaluated and published in reports for DHHL, current lessees residing on HHL, and potential beneficiaries to understand the challenges and financial costs of cesspool conversions and wastewater technologies.

The pilot program will also require that these technologies be implemented in areas across the State that are identified as Priority Level 1 in the 2021 Hawaii Cesspool Hazard Assessment and Prioritization Tool Report, many of which are located on Hawaiian Home Lands. The department supports fully comprehensive data and new technology demonstrations that will include the islands of Moloka'i, Lana'i, and Ni'ihau.

DHHL understands that there are approximately 88,000 cesspools statewide that will require cesspool conversion approvals. DHHL supports the appropriation of funds for FTE positions within the Department of Health's Wastewater Branch to support the approval of individual wastewater systems applications, due to the administrative demand that this legislative requirement places on DOH for the 88,000 cesspools statewide. DHHL is also aware that the State currently has a shortage of licensed engineers to execute the design plans and final construction inspections required by Act 125 (SLH 2017).

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 support this measure that will initiate the implementation of the diverse and feasible ways in which the requirements outlined in Act 125 (SLH 2017) can be completed.

Thank you for your consideration of our testimony.



# 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 Agriculture and Environment  
Senate Committee on Higher Education  
Wednesday, February 14, 2024 at 1:00 p.m.

By

Thomas Giambelluca

Director, UH Water Resources Research Center

And

Darren T. Lerner, PhD

Director, University of Hawai'i (UH) Sea Grant College Program

School of Ocean and Earth Science and Technology

And

Michael Bruno, PhD

Provost

University of Hawai'i at Mānoa

#### SB 2513 – RELATING TO WASTEWATER SYSTEMS

Chairs Gabbard and Kim, Vice Chairs Richards and Kidani, and Members of the Committees:

The University of Hawai'i Water Resources Research Center (WRRC) and UH Sea Grant College Program (Hawai'i Sea Grant) stand in **strong support** of SB 2513.

The State of Hawai'i has shown its intention to improve water quality, mitigate drinking water risks, and join the other 49 states in addressing the known impacts of cesspools. However, Hawai'i's 88,000 cesspool owners are faced with a paradox, the State's approved list of replacement options includes systems such as ATU's, which are effective at reducing nutrients but are very costly, or septic systems, which are less expensive but have been shown to have limited nutrient removal efficiency in Hawai'i's coastal environments.

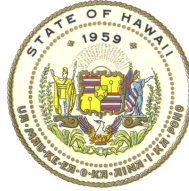
The lack of affordable, effective technology options is a major impediment to Hawai'i's water quality improvement goals, and has the potential to result in a huge investment yielding little in return. This bill would leverage the University of Hawai'i's extensive research expertise to create an innovative pilot program that would promote development of new less expensive on-site technologies and assess the safety and efficiency of new and emerging on-site wastewater options. Specifically, this bill would enable research to improve our understanding of which technologies are best suited for Hawai'i's unique conditions, and it will ultimately support the Hawai'i Department of Health in approving new, more effective and less costly technologies for large-scale implementation.

While we cannot delay the process of replacing cesspools, a multi-pronged approach including policy changes, creating new financing options, and technology development is needed to successfully address this complex and challenging issue.

Additionally, since the bill delegates responsibility to the WRRC, it is worth noting that WRRC has significant experience in providing the state with useful research specifically relating to the impacts of cesspools and wastewater. This is demonstrated by our recently developed Hawai'i Cesspool Prioritization Tool created with the Hawai'i Department of Health, our wastewater outflow biomonitoring program that has continued for more than a decade with the City and County of Honolulu, and our faculty's numerous reports and publications that provide critical information on the water quality impacts of wastewater on the environment.

Additionally, we strongly support the appropriation of funds for two full-time equivalent (2.0 FTE) positions within the Hawai'i Department of Health's Wastewater Branch, which is in critical need of expansion in their personnel capacity in order to support the statewide transition away from cesspools.

We support this bill, provided that its passage does not impact the 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, OPSPD

**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  
Coordinator, Hawai'i Climate Change Mitigation and Adaptation Commission**

**Before the Senate Committee on  
AGRICULTURE AND ENVIRONMENT  
AND  
HIGHER EDUCATION**

**Wednesday, February 14, 2024  
1:00 PM  
State Capitol, Via Videoconference, Conference Room 224**

**In support of  
Senate Bill 2513  
RELATING TO WASTEWATER SYSTEMS**

Senate Bill 2513 establishes a 3-year new waste management solution and cesspool system demonstration pilot program within the University of Hawai'i Water Resources Research Center to examine and demonstrate new wastewater and cesspool technology systems; implement those technologies in demonstration projects in areas across the State that are identified as priority level 1 in the 2021 Hawai'i Cesspool Hazard Assessment and Prioritization Tool Report; and establish a similar ranking system for prioritization levels for the islands of Molokai, Lāna'i, and Ni'ihau. The bill requires the University of Hawai'i Water Resources Research Center to submit reports to the Legislature. The bill also appropriates moneys for the pilot program and appropriates moneys for 1 full-time equivalent (1.0 FTE) engineer position and 1 full-time equivalent (1.0 FTE) planner position within the Department of Health's Wastewater Branch. **The Hawai'i Climate Change Mitigation and Adaptation Commission (Commission) supports this measure.**

The Commission consists of a multi-jurisdictional 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. Mahalo for the opportunity to testify in support of this measure.



To: The Honorable Chairs Mike Gabbard and Donna Mercado Kim, the Honorable Vice Chairs Tim Richards, III, and Michelle Kidani, and Members of the Committees on Agriculture and Environment and Water and Land.

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

Re: Hearing SB2513 **RELATING TO WASTEWATER SYSTEMS**

Hearing: Wednesday February 14, 2024, 1:00 p.m., CR224

Aloha Chairs Gabbard and Kim, Vice Chairs Richards and Kidani, and Members of the Committees on Agriculture and Environment and Water and Land:

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 SB2513 and proposes an amendment!**

HIROC is deeply concerned about the harm that cesspool pollution inflicts on our precious coral reefs and public health! Hawaii has over 80,000 cesspools that put



about 53 million gallons of raw sewage into our groundwater, streams and ocean every single day! This discharge **exposes people to sewage pathogens that can make them sick**. The release of **nutrients** from cesspools through groundwater and streams into the ocean causes algae growth, which can **smother the coral reefs that are essential to protecting our shorelines, nurturing our fisheries, preserving water quality and enabling our lucrative recreational economy**. Sea level rise will further exacerbate the public health and environmental problems as it will cause more cesspools to overflow onto the surface.

Hawaii's reefs will die in warmer, more acidic, and rising oceans if we don't reduce cesspool pollution and other harmful factors now! A study reported in Nature Journal last August found that coral reefs benefit from reduced land-sea impacts under ocean warming. It stated: "Coral reef ecosystems are being fundamentally restructured by local human impacts and climate-driven marine heatwaves that trigger mass coral bleaching and mortality." Gove, J.M., Williams, G.J., Lecky, J. *et al.*

*Nature* **621**, 536–542 (2023). <https://doi.org/10.1038/s41586-023-06394-w>.

**Hawai'i needs to reduce cesspool pollution now in order to give coral reefs a chance to survive in the face of ocean warming and other harmful factors!**

**This bill would establish and fund a three-year waste management solution and cesspool system demonstration pilot in the University of Hawai'i Water Resources Research Center. The pilot shall: Examine and demonstrate new wastewater technology systems, implement those technologies in demonstration projects in areas across the State that are identified as priority level 1 in the Hawaii Cesspool Hazard Assessment and Prioritization Tool and establish similar rankings for Mokokai, Lanai, and Niihau.**

The bill also **appropriates moneys for two full-time equivalent (2.0 FTE) positions at the Department of Health's Wastewater Branch**. These positions are critical to the department's ability to handle the additional work that will come with the thousands of cesspool conversions that will be necessary to comply with the law.

**This demonstration and implementation pilot is essential to determine the best and most affordable wastewater technologies to minimize the cost of cesspool**

**upgrades while maximizing environmental protection. This pilot is essential for Hawaii, as the cost of upgrading all the cesspools is estimated to be well over \$2 billion (83,000 cesspools, with upgrade average costs of at least \$30,000)!**

The pilot program's tasks will be broader than straight research. **HIROC suggests the following amendments to reflect this:**

**On page 6, line 19, through Page 7, line 4 , it should read "There is established a three-year new wastewater management and individual wastewater system technology demonstration and implementation pilot program within the university of Hawai'i sea grant college in coordination with the university of Hawai'i water resources research center.**

**(b) The university of Hawai'i sea grant college in coordination with the university of Hawai'i water resources research center, in consultation with the department of health ..."**

Please pass this bill with this minor amendment!

Mahalo!

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



Feb. 13, 2024

In Strong Support of **SB2513** Relating to Wastewater Systems  
Senate Committee on Agriculture & Environment (AEN) and Higher Education (HRE)  
Hearing on Feb. 14, 1:00pm, Rm. 224

Aloha, Chairs Gabbard & Kim, Vice-Chairs Richards & Kidani, and Committee Members:

On behalf of the non-profit WAI: Wastewater Alternatives & Innovations and the Cesspool Legislative Task Force, I am writing in **strong support of SB2513**. This bill would establish and fund a three-year waste management solution and cesspool system demonstration pilot in the University of Hawai'i Water Resources Research Center. The pilot will demonstrate new wastewater technology systems, implement those technologies in demonstration projects in Priority 1 Areas and establish similar rankings for Mokokai, Lanai, and Niihau. The bill also **appropriates moneys for two full-time equivalent (2.0 FTE) positions at the Department of Health's Wastewater Branch**. These positions are critical to the department's ability to handle the additional work that will come with the thousands of cesspool conversions that will be necessary to comply with the law.

Hawaii has more than 83,000 cesspools across the state, discharging 52 million gallons of raw sewage each day into Hawaii's waters. That's similar to a massive sewage spill every day! Along with threats to public health and drinking water resources, new research in *Nature* shows that this polluted wastewater poses significant harm to coral reefs and the near-shore environment (see also [my article in Hawaii Business Magazine](#)). The people of Hawaii need this law to make sure their wastewater systems aren't polluting the groundwater or nearby surface waters.

Under Act 125 (2017), all cesspools are mandated to be converted by 2050. To do this logistically, the state will need to explore more decentralized "package treatment" systems that can convert hundreds of cesspools, instead of trying to convert each of the 83,000 across the state. Darren Lerner, the head of UH Sea Grant, served as a member of the State's Cesspool Conversion Working Group, and his team has worked with WAI and a coalition of groups across the state to come up with the most efficient and affordable solutions to our wastewater management issues.

WAI is an environmental non-profit dedicated to protecting our drinking water, groundwater and near-shore ecosystems by reducing sewage pollution from cesspools and failing septic systems. Our goal is to help find more innovative, affordable, and eco-friendly solutions to wastewater management and help homeowners with the conversion process. Better sanitation systems reduce sewage and nutrient pollution and make properties more valuable, while also protecting public health and valuable natural resources like groundwater, streams, coral reefs and coastal areas.

Hawaii is struggling with serious sewage pollution problems, and the state has to ensure all cesspools are converted in the next 26 years. This bill will provide the necessary pilot projects to convert cesspools across the state. Mahalo for your leadership on this issue and support of this bill.

Aloha,

*Stuart Coleman*

Stuart H. Coleman, Executive Director

**SB-2513**

Submitted on: 2/13/2024 4:35:38 PM

Testimony for AEN on 2/14/2024 1:00:00 PM

<b>Submitted By</b>	<b>Organization</b>	<b>Testifier Position</b>	<b>Testify</b>
Mark Hixon	Individual	Support	Written Testimony Only

Comments:

Aloha AEN/HRE: As a professional marine biologist, I urge you to support SB2513 and all bills designed to avert our cesspool disaster. The scientific reality is clear: If Hawai'i is to have healthy coral reefs that protect our coasts from sea-level rise and erosion, feed us, and provide us income, recreation, tourism, and spiritual connection, then we must curtail the leaching of cesspool waters into our coastal ocean. There is no free lunch regarding this issue. If we don't invest in cleaning our coastal waters to save our reefs, our children and grandchildren will never forgive us. Mahalo--Mark Hixon (Honolulu)