



# 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  
Friday, February 23, 2024 at 10:30 a.m.

By

Thomas Giambelluca, PhD  
Director, Water Resources Research Center

And

Darren T. Lerner, PhD  
Director, Sea Grant College Program,  
School of Ocean and Earth Science and Technology

And

Michael Bruno, Provost  
University of Hawai'i at Mānoa

#### SB 2513 SD1 – RELATING TO WASTEWATER SYSTEMS

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

The University of Hawai'i's Water Resources Research Center (WRRC) and Sea Grant College Program are in strong support of SB 2513 SD1.

The State of Hawai'i has demonstrated its commitment to enhancing water quality, addressing drinking water safety concerns, and aligning with national efforts to tackle the environmental impacts associated with cesspools. However, the 88,000 cesspool owners in Hawai'i are facing a tough choice. They can either opt for expensive systems like Aerobic Treatment Units (ATUs), which effectively reduce nutrients but come with a high price tag, or choose more affordable septic systems, which, unfortunately, don't efficiently remove nutrients in Hawai'i's coastal areas.

The dearth of affordable and efficient technology options poses a significant barrier to Hawai'i's water quality improvement objectives. Without viable alternatives, there's a risk of substantial investment yielding minimal returns. SB 2513 SD1 presents a strategic solution by harnessing the University of Hawai'i's extensive research capabilities to establish an innovative pilot program. This bill would promote the development of affordable on-site wastewater technologies and allow the state to quantify their safety and effectiveness. The bill supports research efforts focused on improving our understanding of which technologies are most suitable for Hawai'i's specific environmental conditions. Ultimately, this program will aid the Hawai'i Department of Health (DOH) in approving new, more efficient, and affordable technologies for widespread adoption.

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

Furthermore, entrusting WRRC with the responsibility outlined in this bill is prudent. WRRC boasts a rich history of providing the state with valuable research insights pertaining to

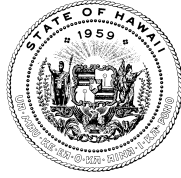
cesspools and wastewater management. Our collaborative efforts with DOH have yielded tools like the Hawai'i Cesspool Prioritization Tool. Additionally, our longstanding biomonitoring program with the City and County of Honolulu underscores our commitment to safeguarding water quality. The wealth of research and publications produced by our faculty serves as critical resources in understanding the environmental impacts of wastewater.

In addition to our support for SB 2513 SD1, we advocate for the allocation of funds for two full-time equivalent (2.0 FTE) positions within the DOH's Wastewater Branch. Expanding the department's personnel capacity is essential to facilitate 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.

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  
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*Ka Hope Luna Ho'okele*

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

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TESTIMONY OF KALI WATSON, CHAIRMAN  
HAWAIIAN HOMES COMMISSION  
THE SENATE COMMITTEE ON WAYS AND MEANS  
HEARING ON FEBRUARY 23, 2024 AT 10:30AM IN CR 211

**SB 2513, SD1, RELATING TO WASTEWATER SYSTEMS**

February 23, 2024

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

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)** implements 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)** establishes 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 annual reports to the Legislature; **5)** establishes positions; **6)** declares that the general fund expenditure ceiling is exceeded and **7)** makes appropriations.

Approximately 2,500 cesspools exist on Hawaiian Home Lands (HHL). 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 HHL. The DHHL supports fully comprehensive data and new technology demonstrations that will include the islands of Moloka'i, Lana'i, and Ni'ihau.

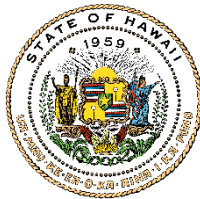
DHHL understands that there are approximately 88,000 cesspools statewide that will require cesspool conversion approvals. DHHL supports the appropriation of funds for FTE positions within the Department of Health's Wastewater Branch to support the approval of individual wastewater systems applications, 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.

JOSH GREEN, M.D.  
GOVERNOR | KE KIA'ĀINA

SYLVIA LUKE  
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAII'  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
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DAWN N. S. CHANG  
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ENGINEERING  
FORESTRY AND WILDLIFE  
HISTORIC PRESERVATION  
KAHOOLAWE ISLAND RESERVE COMMISSION  
LAND  
STATE PARKS

Testimony of  
DAWN N. S. CHANG  
Chairperson

Before the Senate Committee on  
WAYS AND MEANS

Friday, February 23, 2024  
10:30 AM

State Capitol, Conference Room 211 & Videoconference

In consideration of  
SENATE BILL 2513, SENATE DRAFT 1  
RELATING TO WASTEWATER SYSTEMS

Senate Bill 2513, Senate Draft 1 proposes to 1) establish 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; 2) 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; 3) establish a similar ranking system for prioritization levels for the islands of Moloka'i, Lāna'i, and Ni'ihau; 4) require the University of Hawai'i Water Resources Research Center to submit annual reports to the Legislature; 5) establish positions; and 6) make appropriations. **The Department of Land and Natural Resources (Department) supports this bill.**

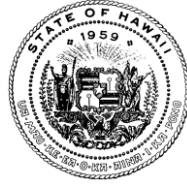
Clean nearshore waters are vital to both public health and the health of nearshore reefs and associated fisheries. Wastewater systems have the potential to pollute groundwater and nearshore waters by introducing elevated levels of contaminants such as nitrogen, phosphorus, and pathogens. A 2023 Hawai'i-based study<sup>1</sup> 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. Establishing a wastewater demonstration and implementation pilot program within the University of Hawai'i Water Resources Research Center will hopefully lead to new insights and methods for more efficient disposal of contaminating pollutants that

<sup>1</sup> Gove, J.M., Williams, G.J., Lecky, J. *et al.* Coral reefs benefit from reduced land-sea impacts under ocean warming. *Nature* **621**, 536–542 (2023). <https://doi.org/10.1038/s41586-023-06394-w>

damage Hawai'i's valuable reef ecosystems. By encouraging this project, the Department hopes that the University of Hawai'i's Water Resources Research Center will discover innovative methods to reduce the amount of contaminants entering Hawai'i's nearshore waters and support more resilient coral reef ecosystems.

Mahalo for the opportunity to provide testimony in support of this measure.

JOSH GREEN, M.D.  
GOVERNOR OF HAWAII  
KE KIA'AINA O KA MOKU'AINA 'O HAWAII



KENNETH S. FINK, MD, MGA, MPH  
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In reply, please refer to:  
File:

**Testimony COMMENTING on SB2513 SD1  
RELATING TO WASTEWATER SYSTEMS**

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

Hearing Date: 2/23/2024

Room Number: 211

- 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 supports this measure to establish and appropriate
- 5 funds to implement a three-year new wastewater system demonstration pilot program within the
- 6 university of Hawaii water resources research center and appropriate moneys for two full-time
- 7 equivalent (2.0 FTE) positions within the department of health's wastewater branch.
- 8 **Offered Amendments:** None.
- 9 Thank you for the opportunity to testify.



To: The Honorable Chair Donovan Dela Cruz, the Honorable Vice Chair Sharon Moriwaki, and Members of the Committee on Ways and Means.

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

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

Hearing: Friday February 23, 2024, 10:30 p.m., Decision-making CR208

Aloha Chair Dela Cruz, Vice Chair Sharon Moriwaki, and Members of the Committee on Ways and Means:

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)