



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 Energy & Environmental Protection
House Committee on Water & Land
Tuesday, February 13, 2024 at 9:05 a.m.

By

Darren T. Lerner, PhD

Director, University of Hawai'i (UH) Sea Grant College Program
School of Ocean and Earth Science and Technology

And

Thomas Giambelluca, PhD

Director, UH Water Resources Research Center

And

Michael Bruno, PhD

Provost

University of Hawai'i at Mānoa

HB 1691 – RELATING TO THE ENVIRONMENT

Chairs Lowen and Ichiyama, Vice Chairs Cochran and Poepoe, and Members of the Committees:

The University of Hawai'i Sea Grant College Program and UH Water Resources Research Center appreciate the positive intent behind HB 1691 while also identifying areas where **improvements can be made through suggested considerations or amendments.**

The impact of nutrient discharge from wastewater systems on coral reefs can be significant and long-lasting. Thus, implementing measures to mitigate excess nitrogen through denitrification is crucial for enhancing reef resilience, especially considering the ongoing impacts of climate change on coastal ecosystems. HB 1691 proposes requiring individual wastewater systems identified as high risk to nearshore waters to incorporate denitrification capacity.

However, we urge careful consideration regarding specific requirements outlined in the bill. The stipulation regarding elevation thresholds, particularly the 1500 ft elevation delineation, seems arbitrary and could inadvertently encompass a disproportionately large fraction of Onsite Sewage Disposal Systems (OSDS) in the state. Given that a significant portion of Hawai'i's population resides below this elevation, we recommend a more nuanced approach based on a scientifically sound methodology. Additionally, the current soil characteristic requirements lack clarity, potentially leading to inconsistent interpretation and implementation of the law.

Moreover, it's important to note that the majority of the State's shorelines are experiencing erosion, which may impact the viability of new, stationary, and costly systems within decades. While it's essential to mitigate harmful nutrients reaching shorelines from inadequate sewage treatment, implementing measures in this manner could add undesired complexity to sea-level rise-related management options, such as managed relocation.

To address these concerns, we propose striking the criteria outlined in subsections 1) and 2), pertaining to shoreline location, elevation, substrate age, and soil characteristics. Instead, we recommend utilizing the "Priority 1 cesspools" identification from the University of Hawai'i's most recent cesspool hazard assessment and prioritization tool. While this tool was not specifically designed to identify areas that would benefit from additional denitrification capacity, it does consider fifteen site-specific risk factors that control the movement of pollution, reduce capacity, or otherwise affect the overall level of impact onsite sewage disposal has on the land and also the water quality nearby. These include proximity to drinking water sources, distance to streams and wetlands, and sea-level rise zones, among others. This adjustment maintains the bill's intent while addressing practical considerations.

However, we acknowledge that this tool only tangentially identifies areas that would benefit from additional denitrification. Therefore, we suggest recommending and potentially allocating funding to conduct a more focused analysis to develop evidence-based thresholds that strike a reasonable balance between cost and benefit. Such an analysis could involve compiling and consolidating percolation tests, estimating groundwater travel time, and other relevant factors.

Thank you for considering our input on this matter. We appreciate the opportunity to contribute to the legislative process.