



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 Government Operations
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By

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SB 509 – RELATING TO SEA LEVEL RISE ADAPTATION

Chair McKelvey, Vice Chair Gabbard, and Members of the Committee:

The University of Hawai'i Sea Grant College Program (Hawai'i Sea Grant) and the Climate Resilience Collaborative (CRC) support the intent of SB 509.

This measure requires each executive branch department to: identify existing and planned facilities that are vulnerable to sea level rise, flooding impacts, and natural hazards; assess options for mitigation impacts of sea level rise to existing and planned facilities; establish staff level points of contact to improve interagency coordination for sea level rise adaptation, flooding, and resilience; and submit annual reports to the Governor, Legislature, and Hawai'i Climate Change Mitigation and Adaptation Commission.

In the preamble of Senate Bill 509, there is a discussion of sea level rise based on 2017 projections. Hawai'i Sea Grant and CRC would like to begin by providing updated information about sea level rise science and projections. Research and modeling by a federal task force (Sweet et al., 2022) indicate the following:

1. Hawai'i will experience sea level rise that is 15% to 30% higher than the global average.
2. Sea level around Hawai'i is projected to rise about 1 foot by 2050 and about 4 feet by 2100.

In the Hawai'i State Climate Change Mitigation and Adaptation's 2022 update to the Hawai'i Sea Level Rise Vulnerability and Adaptation Report to the Legislature as required by Act 32 (2017), the Commission recommended that:

"...the state should set a revised planning and policy benchmark of 4 ft as the minimum scenario for all planning and design based on the report's Intermediate (mid-range) scenario for Hawai'i of 3.9 feet of sea level rise by 2100, and apply a 6 ft benchmark for planning and design of public infrastructure projects and other projects with low tolerance for risk based on the report's Intermediate High scenario for Hawai'i of 5.9 feet of sea level rise by 2100. The latest science suggests that the SLR-XA for 3.2ft of sea level remains valid as a planning overlay for the mid century at this time."

We also draw your attention to the 6th Assessment Report of the Intergovernmental Panel on Climate Change which states with high confidence that:

"Sea level is committed to rise for centuries to millennia due to continuing deep-ocean warming and ice-sheet melt and will remain elevated for thousands of years."

Each year, Hawai'i's coastal communities grow increasingly vulnerable to the dangers of wave impacts, coastal erosion, high tide flooding, and storm surge, all of which are exacerbated by sea level rise. We emphasize - There is nothing we can do to stop sea level rise. We must develop exit strategies for our coastal communities. Sea level rise is an unstoppable reality and without major adjustments to coastal laws and policies, flooding, erosion, and storm dangers will increase - slowly at first, as at present, but by the 2030's sea level rise impacts related to extreme tidal flooding will increase exponentially.

The complex nature of managed retreat requires evolution beyond the narrow binary options of armor or retreat and instead require evaluation of broader adaptation options in the context of hazard risk and vulnerability, socio-economic factors and place-based and community driven considerations for a variety of phased adaptation options that include managed retreat. Managed retreat has significant advantages over shorter-term mitigation responses, especially over longer time frames. While there may be significant opposition to this approach, especially in regard to the use of public funds to acquire coastal lands, the strategy may be best suited when protection of the natural beach resources are the highest priority and are economically justified for public investment into acquisition.

In Section 2 of this measure, the measure directs State departments to "Assess a range of options for mitigation impacts of sea level rise to existing and planned facilities, including flood-proofing in-place and relocation of facilities, especially in locations where conservation of beaches and coastal environments is desired." Hawai'i Sea Grant and CRC suggest to add clarity to this directive by defining "locations where conservation of beaches and coastal environments is desired." In addition, we believe it necessary to also add language ensuring the agency's commitment to protecting public trust public

beaches while distinguishing that in some cases other public interests for health, safety, and welfare of residents could prevail.

Hawai'i Sea Grant and CRC would also like to note that some directives of this measure would be duplicative of work that is already being conducted under Act 178 (2021). Under the framework of that law, the Office of Planning and Sustainable Development is working with other State agencies to conduct largely similar work related to sea level rise.

Hawai'i Sea Grant's mission is to provide integrated research, extension, and education activities that increase understanding and use of ocean and coastal resources of the Hawaiian and Pacific Islands and support the informed personal, policy, and management decisions that are integral to realizing this vision. Hawai'i Sea Grant is part of a national network of 34 university-based programs associated with the National Oceanic and Atmospheric Administration (NOAA) that promote better understanding, conservation, and use of coastal resources.

CRC is a multi-investigator research project at the University of Hawai'i at Mānoa focused on sea level rise adaptation and climate resilience. CRC is working to update coastal models with more recent projections of sea level rise and to take account of other variables that impact Hawai'i's shorelines.

Hawai'i Sea Grant and the Climate Resilience Collaborative support the intent of SB 509 and recommends consideration of the above mentioned amendments.

Thank you for the opportunity to testify on this measure.