# UNIVERSITY OF HAWAIʻI SYSTEM
Legislative Testimony

Testimony Presented Before the
Senate Committees on Water & Land and
Agriculture and Environment
Wednesday, March 17, 2021 at 1:05 PM
By
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SCR 75 – REQUESTING THE OFFICE OF PLANNING TO CONVENE AN INTERDISCIPLINARY TASK FORCE TO DEVELOP A FRAMEWORK FOR A SEA LEVEL ADAPTATION AND RESILIENCE PLAN FOR THE WAIKIKI DISTRICT.

Chairs Inouye and Gabbard, Vice Chairs Keith-Agaran and Nishihara, and members of the Committees:

The University of Hawaiʻi Sea Grant College Program (Hawaiʻi Sea Grant) and its Center for Smart Building and Community Design along with the School of Architecture and the University of Hawaiʻi Community Design Center, support Senate Concurrent Resolution 75. This resolution requests the Office of Planning to convene an interdisciplinary task force to develop a framework for a sea level rise adaptation and resilience plan for the Waikiki District.

Hawaiʻi is experiencing the impacts of climate change, including the effects of sea level rise and coastal erosion, which is of particular concern to the State of Hawaiʻi given our coastal-focused society and dense shorefront development in many areas, including Waikīkī. The Hawaiʻi Legislature and the Hawaiʻi Climate Change Mitigation and Adaptation Commission have found that Hawaiʻi is experiencing the impacts of a wide variety of threats to the environment and ecosystems from climate change. These threats include increasing frequency and severity of storms and drought and sea level rise. Sea level rise will lead to increasing wave overwash, flooding through storm drains, groundwater inundation, and coastal erosion, which is of particular concern to Waikīkī given the community's contribution to our economy, dense urban development, and substantial coastal exposure. The intent of the resolution is to start the process of developing a resilience plan to protect, preserve, and where desirable, create, restore or improve the quality of the environment and the associated community benefits.

As described by the City and State Climate Change Commissions, it is increasingly likely that we will see 3 feet or more of sea level rise in the latter half of this century, depending

on the greenhouse gas emission scenario and response of the Earth's polar ice caps to warming. Six feet or more of sea level rise by 2100 is plausible under some scenarios. High tide flooding will affect low-lying coastal areas like Waikīkī decades before global mean sea level reaches these benchmarks. The Honolulu Climate Commission recommends using the 3.2 ft Sea Level Rise Exposure Area from the State's Sea Level Rise Vulnerability and Adaptation Report as a hazard overlay to prepare for and adapt to sea level rise impacts. This is the type of actionable information that can be used by such a task force to anticipate and plan for predicted impacts to Waikīkī.

Sea level rise is an urgent topic for Waikīkī, as king tide floods already disrupt visitor and resident activities. Recent computer modeling of sea-level rise indicates that high tide flooding will grow exponentially over the next two to three decades until it becomes a disruptive issue by, or before, mid-century. High tide flooding interacts with high wave events and/or periods of rain to cause storm drain backflow, groundwater inundation, overflow of the Ala Wai Canal, and marine waters flowing over the beach into backshore areas. The lack of adequate drainage in Waikīkī is already problematic when the highest tides of the year occur in conjunction with high surf and/or rain.

The complex environmental and cultural history of Waikīkī is critically important in understanding the challenges, limitations, and opportunities associated with some climate adaptation and hazard mitigation strategies and adaptive planning and design approaches for Waikīkī. The role and influence of the impacts of groundwater inundation is one example of the type of predicted impact that will significantly affect land use and urban design. Due to the unique history and economy of Waikīkī there may be solutions and design approaches that are particularly well-suited for a high-density urban environment like Waikīkī that should be assessed and evaluated by the task force.

Waikīkī Special District Guidelines (WSD)[1]:
Waikīkī is subject to a Special District that controls certain land uses and zoning restrictions. The purpose of a special district is to provide a means by which certain areas in the community in need of restoration, preservation, redevelopment or rejuvenation may be designated as special districts to guide development to protect and/or enhance the physical and visual aspects of an area for the benefit of the community as a whole. The Waikīkī Special District Objectives contain a total of fourteen district objectives, including promoting the Hawaiian sense of place, guiding development with optimum benefits to the community and retaining residential sector among the objectives. There is currently no specific mention of climate change, hazards, sustainability or resilience anywhere in the Waikīkī Special District Guidelines. With recent interest in revising and updating the WSD guidelines there is an opportunity for the Waikīkī Resilience Task Force to assist in the development of the revised guidelines utilizing new urban planning and architectural design concepts such as those presented here including the Waikīkī Design Flood Elevation guidelines as one example.

[1] Revised Ordinance of Honolulu Chapter 21 Section 9. Special District Regulations

The University of Hawai‘i, through a collaborative research project with the School of Architecture, School of Ocean and Earth Science and Technology, and Hawai‘i Sea Grant have initiated a study on long-term visioning and climate adaptation of the buildings and landscapes in Waikīkī through a series of architectural design charrettes. The research addresses the design problem of “in-place” adaptation of a coastal urban area to flooding as sea level rises in Waikīkī and is largely based on research of other U.S. municipalities’ efforts to adapt to sea level rise. This research is an essential component to implementing these land use changes over time and the type of information the Resilience task force would evaluate.

The University of Hawai‘i Community Design Center recently completed a two-year design research project and report on the South Shore Promenade and Open Space Network in partnership with the State of Hawai‘i Office of Planning. Focused on resilience and connectivity, the work visualizes possible long-term sea level rise scenarios and nature-based living shoreline solutions for the urban center of Honolulu. It intends to further the ongoing local discourse on climate-resilient, adaptive urban waterfront development. The South Shore study’s advocacy for the anticipation of climate-crisis challenges through innovative planning and ecological design that embraces dynamic conditions, such as coastal flooding, rather than preventing them—all while taking inspiration from traditional native Hawaiian biocultural land-water practices, includes many principles and lessons that are directly applicable to the upcoming resilience work for Waikīkī.

In addition to in-place adaptation strategies, the understanding of regional level impacts will be critical to a new framework. Waikīkī is the second most dense neighborhood in Urban Honolulu. A new framework and engaged process is needed to address the climate and community equity issues for the transient and permanent population that resides and works in the district.

Thank you for the opportunity to testify on this measure

# OFFICE OF PLANNING
# STATE OF HAWAII

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Statement of
**MARY ALICE EVANS**
Director, Office of Planning
before the
**COMMITTEE ON WATER AND LAND**
**AND**
**COMMITTEE ON AGRICULTURE AND ENVIRONMENT**
Wednesday, March 17, 2021
1:05 p.m.
Conference Room 229, Videoconference

in consideration of
**SCR 75**
**REQUESTING THE OFFICE OF PLANNING TO CONVENE AN INTERDISCIPLINARY TASK FORCE TO DEVELOP A FRAMEWORK FOR A SEA LEVEL ADAPTATION AND RESILIENCE PLAN FOR THE WAIKIKI DISTRICT.**

Chairs Inouye and Gabbard, Vice Chairs Keith-Agaran and Nishihara, and members of the Senate Committees on Water and Land & Agriculture and Environment.

The Office of Planning (OP) recognizes the importance for integrating sea level rise adaptation for the vital role that Waikiki provides to residents, visitors, public and private property and for the economic well-being of the State as described in **SCR 75** which requests the Office of Planning to convene an interdisciplinary task force to develop a framework for a sea level adaptation and resilience plan for the Waikiki Special District. OP **supports the intent of SCR 75 and offers the following comments:**

- The intent for this resolution is commendable as a first step to addressing sea level rise adaptation in Waikiki, however due to the significant assets of the Waikiki Special District, the State is likely to require a focused team of professionals with the fiscal resources to conduct data analysis, outreach, and planning services to maintain active dialogue to facilitate the development of a sea level rise adaptation and resilience plan framework.

- The OP does not have dedicated staff support for this resolution in a full-time capacity. CZM Program Staff are primarily federally-funded and tasks have already been defined in our annual cooperative agreement with the National Oceanic and Atmospheric Administration (NOAA).

- The timeline proposed in the resolution is does not accommodate such a significant undertaking and meaningful engagement cannot be attained in the short timeframe to be completed by December 2021. The OP recommends that Page 4, Lines 41-42 through Page 5, Lines 1-3 are amended to read as follows:

BE IT FURTHER RESOLVED that the task force is requested to submit a report of its findings and recommendations, including any proposed legislation, to the Legislature no later than twenty days prior to the convening of the Regular Session of [~~2022~~] 2023;

Without funding, OP's role for administrative support to the task force will lean heavily on task force members' subject matter expertise, resources, and commitment to contribute to this process. As responsibilities increase for the OP, we also understand that the OP would need additional capacity to effectively address these significant adaptation needs and would request an increase in fiscal support and positions in upcoming years when there is more availability in the state general fund.

Thank you for the opportunity to testify on this resolution.

Testimony Presented Before the
**SENATE COMMITTEES ON**
**WATER AND LAND AND**
**AGRICULTURE AND ENVIRONMENT**

**March 17, 2021 at 1:05pm**
Senate Capitol (Via Video conference)

**Waikīkī Beach Special Improvement District Association**
By
Rick Egged, President

**Senate Concurrent Resolution 75 –** REQUESTING THE OFFICE OF PLANNING TO CONVENE AN INTERDISCIPLINARY TASK FORCE TO DEVELOP A FRAMEWORK FOR A SEA LEVEL ADAPTATION AND RESILIENCE PLAN FOR THE WAIKIKI DISTRICT.

Chair Inouye and Vice Chair Keith-Agaran, Chair Gabbard and Vice Chair Nishihara and members of the committee:

The Waikīkī Beach Special Improvement District Association (WBSIDA**) supports Senate Concurrent Resolution 75 (SCR75)**. SCR75 requests the State Office of Planning to convene a task force to develop the framework for a climate and resilience plan for the Waikīkī District. This effort is an important first step towards the development of an adaptation and resilience strategy for Waikīkī and will serve as framework and demonstration for other communities in Hawai‘i.

The Hawaii State Legislature has recognized that Hawai‘i is experiencing the impacts of climate change and coastal hazards including the effects of sea level rise and coastal erosion. These threats include; coastal hazards and climate change impacts including the effects of increased frequency and severity of storms and drought, sea level rise, groundwater inundation and coastal erosion. Sea-level rise induced ground water inundation is of particular concern to low elevation regions like Waikīkī given the contribution to our economy, dense urban development and substantial coastal exposure to hazards. The intent of the resolution is to start the process of developing a proactive resilience plan to prioritize actions that protect, preserve, and where desirable, create, restore or improve the quality of the environment and the associated community benefits.

As described by the City and State Climate Change Commission, it is increasingly likely that we will experience 3 feet or more of sea level rise by the middle to end of this century, depending on the greenhouse gas emission scenario. Six feet or more of sea level rise by 2100 is plausible under some scenarios. High tide flooding will affect low-lying coastal areas like Waikīkī decades before global mean sea level reaches these benchmarks. The Honolulu Climate Commission recommends using the 3.2 ft Sea Level Rise Exposure Area as a hazard overlay to prepare for and adapt to sea

level rise impacts. This is the type of actionable information that can be used by such a task force to anticipate and plan for predicted impacts to Waikīkī.

Waikīkī is a globally recognized icon of Hawai‘i and is the state's largest tourist destination. Waikīkī generates approximately 42% of the state's visitor industry revenue and is responsible for 8% ($5 billion) of the Gross State Product[1]. Beaches are a primary attraction for visitors to Waikīkī and perhaps the first line of defense against sea-level rise. It has been estimated that Waikīkī Beach accounts for over $2 billion in annual income for the local economy[2]. Waikīkī Beach also has tremendous cultural significance as a former playground of Hawaiian royalty and the birthplace of the sport and culture of surfing. The beaches and myriad of world-renown surf breaks and reef ecosystem located offshore are valuable natural resources that support the environment, culture and lifestyle of Hawai‘i, and the idyllic image of Waikīkī. It is critically important we facilitate the ability to maintain these important natural resources along with maintaining the associated resilient development for the inherent economic, social, cultural and environmental value they provide to residents and visitors alike.

Policies related to coastal resilience in Hawai‘i have centered on the possible impact of sea-level rise on the active beach system and the built environment. As part of the development of new resilience policies, it is important to recognize and evaluate possible adaptation strategies with a strong understanding of the challenges, limitations and opportunities associated with some adaptive planning and design approaches for Waikīkī. The role and influence of the impacts of groundwater inundation is one example of the type of predicted impact that significantly affects land use and urban design. Similarly, due to the unique history and economy of Waikīkī there may be solutions and design approaches that are particularly well-suited for a high-density urban environment like Waikīkī that should be assessed and evaluated by the task force.

The effort to develop specific resilient design guidelines for Waikīkī is consistent and supportive of the City and County of Honolulu's (CCH) O‘ahu Resilience Strategy. The O‘ahu Resilience Strategy (ORS) is part of the CCH's effort to develop strategies for resilience as part of the international 100 Resilient Cities network organized and hosted by the Rockefeller Foundation. One of the 44 Resilience Actions identified in the ORS is Action 14: *Establish Future Conditions Climate Resilience Design Guidelines*. This action is among many in the ORS that a task force can and should evaluate and serve as a proactive advisory guideline for climate resilience. The purpose of the Action 14 guideline is to provide step-by-step instructions on how to incorporate climate and hazard considerations into the design of City and private facilities and infrastructure but can also serve a pilot for adaptation for private development.

Waikiki Special District Guidelines (WSD)[3].
Waikīkī is subject to a Special District that controls certain land uses and zoning restrictions. The purpose of a special district is to provide a means by which certain areas in the community in need

[1] http://www.waikikibid.org/
[2] Waikīkī Improvement Association (2018) *Economic Impact Analysis of the Potential Erosion of Waikīkī Beach, Final Report.*
[3] (Revised Ordinance of Honolulu Chapter 21 Section 9. Special District Regulations)

of restoration, preservation, redevelopment or rejuvenation may be designated as special districts to guide development to protect and/or enhance the physical and visual aspects of an area for the benefit of the community as a whole. The Waikīkī Special District Objectives contain a total of fourteen district objectives listed including promoting the Hawaiian sense of place, guiding development with optimum benefits to the community and retaining residential sector among the objectives. There is currently no specific mention of climate change, hazards, sustainability or resilience anywhere in the Waikīkī Special District Guidelines. With recent interest in revising and updating the WSD guidelines there is an opportunity for the Waikīkī Resilience Task Force to assist in the development of the revised guidelines utilizing new urban planning and architectural design concepts such as those presented here including the Waikīkī Design Flood Elevation guidelines as one example.

The University of Hawai‘i, through a collaborative research project with the School of Architecture, SOEST and Sea Grant have initiated a study on long-term visioning and climate adaptation of the buildings and landscapes in Waikīkī through a series of architectural design charrettes. The research addresses the design problem of "in-place" adaptation of a coastal urban area to flooding as sea level rises in Waikīkī and is largely based on research of other U.S. municipalities efforts to adapt to sea-level rise. This research is an essential component to implementing these land use changes over time and the type of information the Resilience Task Force could evaluate.

Thank you for the opportunity to testify.

*The Waikiki Beach Special Improvement District Association (WBSIDA) is dedicated to enhancing the resilience of Waikīkī by ensuring the coordinated management and long-term sustainability of Waikiki Beach and nearshore waters.*
https://www.wbsida.org/

WAIKIKI NEIGHBORHOOD BOARD NO. 09

c/o NEIGHBORHOOD COMMISSION OFFICE
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March 12, 2021

To: Senate Committee on Water and Land

Subject: Support of SCR75

Aloha Senator Lorraine Inouye and Members of the Committee

As early as 2015 the group organizing the Waikiki Beach Special Improvement District Association (WBSIDA) included the Waikiki Neighborhood Board in both the planning for that organization and in the decision-making process.

Our community-based input was combined with the inputs from the University of Hawaii, Professionals in the shoreline management, Watermen (and Water Women), Department of Land and Natural Resources, as well as visitor industry professionals. Most of the Proposed Task Force Participants (less some of the current elected legislators) are already participating in the WBSIDA.

Currently contributing industry members of the WBSIDA have funded around 50% of the cost to replace the Royal Hawaiian Groin which holds much of the sand on the beach, a sandbag groin to prevent severe erosion that exposes the concrete foundation of the old Waikiki Tavern, 50% of both efforts to bring sand back to the Beach and several other small projects.

As you can imagine participants in WBSIDA meetings and workshops did not always agree on every subject but all agreed that without action our wonderful Waikiki Beach could be lost forever.

Support of the SCR75 proposed Task Force will assist the Mission of WBSIDA and provide a guideline for other Neighborhoods across the State to address Beach Erosion and Water Rise.

Mahalo,

***Robert Finley***

Robert Finley
Chair

**SENATE COMMITTEE ON WATER AND LAND**

**SENATE COMMITTEE ON ENERGY AND THE ENVIRONMENT**

Joint Hearing Wednesday, March 17, 2021 1:05 PM Conference Room 239 and Videoconferencing

**IN SUPPORT OF SCR 75**

**REQUESTING THE OFFICE OF PLANNING TO CONVENE AN INTERDISCIPLINARY TASK FORCE TO DEVELOP A FRAMEWORK FOR A SEA LEVEL ADAPTATION AND RESILIENCE PLAN FOR THE WAIKIKI DISTRICT**

Co-Chairs Inouye and Gabbard, Co-Chairs Keith-Agaran and Nishihara, and Members of the Committees:

The HAWAI'I REEF AND OCEAN COALITION –HIROC– was formed in 2017 by coral reef scientists, educators, local Hawai'i environmental organizations, elected officials, and others to address a crisis facing Hawaii's coral reefs and ocean. We are currently asking the Legislature to pass a handful of very important bills to save our coral reefs – they are bills relating to sunscreens, cesspools, plastic marine debris, climate and sea level rise.

**We support passage of SCR 75. Sea levels are already rising and will be rising substantially. Many of our existing shorelines, including Waikiki, are projected to be under water in the coming decades! We need to plan NOW for adaptation and withdrawal from shorelines!**

This resolution requests the Office of Planning to convene an interdisciplinary task force to develop a framework for a sea level adaptation and resilience plan for the Waikiki District. This would be very helpful given the importance of Waikiki to our economy, and the need to assure that adaptation strategies are culturally and environmentally sound. We note that there are currently proposals for placing T-Groins at some locations seaward of Waikiki, which may pose threats to the benthic communities there and may adversely affect current surf sites.

As the resolution points out Waikiki, like so many of the other resort communities in the State, is in a sea level rise exposure area and requires a comprehensive adaptation and resilience plan to deal with projected climate change and sea level rise. Waikiki can serve as a pilot and demonstration project for other coastal communities which must develop comprehensive sea-level rise adaptation and community resilience plans for the protection of their residents, visitors, critical infrastructure, and public and private properties.

Thank you for the opportunity to testify on this important resolution.

Dave Raney

On behalf of the Hawai'i Reef Ocean Coalition

**SCR-75**
Submitted on: 3/15/2021 11:53:18 AM
Testimony for WTL on 3/17/2021 1:05:00 PM

| Submitted By | Organization | Testifier Position | Present at Hearing |
|---|---|---|---|
| Midori Marcia Sue Trent | Individual | Oppose | No |

Comments:

Nature rules.  Oppose extraneous governmental efforts.