

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

SYLVIA LUKE
LIEUTENANT GOVERNOR | KA HOPE KIA'ĀINA



**STATE OF HAWAII | KA MOKU'ĀINA 'O HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
KA 'OIHANA KUMUWAIWAI 'ĀINA**

P.O. BOX 621
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**Testimony of
DAWN N.S. CHANG
Chairperson**

**Before the House Committee on
WATER AND LAND**

**Thursday, February 2, 2023
9:30 a.m.**

State Capitol, Conference Room 430 & Videoconference

**In consideration of
HOUSE BILL 1092
RELATING TO CLIMATE ADAPTATION**

House Bill 1092 proposes to expand the authority of the State to begin utilizing managed retreat as an option for voluntarily moving residential development of associated infrastructure away from critically vulnerable areas to locations outside of sea level rise and coastal flooding exposure areas. **The Department of Land and Natural Resources (Department) strongly supports this bill and offers the following suggested amendments:**

A 2012 study by University of Hawai'i researchers for the United States Geological Survey found that over 13 miles of Hawai'i's public beaches have already been lost to beach erosion and construction of coastal armoring including seawalls and revetments. Beach loss and threats to shorefront development will increase exponentially in coming decades with expected accelerating sea level rise if managed retreat is not implemented proactively, especially in high-value natural resource areas where beach protection is prioritized.

The State of Hawai'i, through the Office of Planning and Sustainable Development (OPSD), has studied the feasibility and implications of managed retreat and identified next steps and recommendations for the State to develop a managed retreat plan and program. Relocation of development and associated public infrastructure away from the shoreline is an important element of preserving the public trust resource in the face of sea level rise.

Through Act 223, Session Laws of Hawai'i 2022 (Act 223), the State recognized the existential threat of sea level rise to real property and that the transfer of development rights and land exchanges are useful techniques to achieve community objectives of voluntarily shifting development away from areas that are critically threatened by sea level rise.

DAWN N.S. CHANG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE
MANAGEMENT

LAURA H.E. KAAKUA
FIRST DEPUTY

M. KALEO MANUEL
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE
MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES
ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

House Bill 1092 will further expand on Act 223 and act on recommendations from OPSD toward making managed retreat a viable option for improving community resilience and conserving beaches and coastal ecosystems.

The Department recognizes that OPSD is currently engaged in conducting a legal and policy analysis of the transfer of development rights and other mechanisms proposed for consideration in this bill and is supportive of their efforts. The Department will continue to partner with OPSD concerning the comprehensive study of options and would expect to be the implementation agency for any resulting voluntary relocation plan.

The Department suggests the following edits to further strengthen and provide flexibility in achieving the purpose and goal of the proposed legislation:

§171- Sea level rise voluntary relocation fund

The Department recommends the following change in order to match the terminology used in climate change bills that are being proposed as part of the Governor's package:

- (2) Appropriations made out of the climate ~~change~~ impact special fund; (page 5, line 18)

The Department believes that supporting the restoration of impacted coastal lands is a key element to ensuring successful protection of the public trust, and recommends that the following be included as one of the potential uses of the fund:

- (b) The sea level rise voluntary relocation special fund may be used by the department for one or more of the following purposes:
 - (1) Planning, designing, developing, or implementing of climate change and sea level rise adaptation projects pursuant to this part including voluntary relocation of residential development and associated infrastructure through mechanisms, including but not limited to transfer of development rights, leasebacks, land exchanges, and restoration of coastal lands; ~~and~~
 - (2) Acquiring, through eminent domain, private development at risk of exposure to sea level rise and flooding, and
 - (3) Providing grants to the counties, nongovernmental organizations, and the University of Hawaii for the restoration of coastal lands in sending areas and for research or engineering studies necessary to support sea level rise relocation projects. (page 8, line 18)

§171-E Public lands suitable and available for transfer of development rights or land exchanges; inventory (page 7)

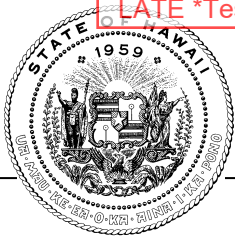
The Department notes that most of the public lands suitable for residential development have already been transferred to other appropriate agencies such as the Hawai'i Housing Finance Development Corporation (HHFDC) and the Hawai'i Public Housing Authority for such purposes. Any such lands may be limited to rural areas primarily on the neighbor islands (with little or no infrastructure) as the Department already opened its inventory of unencumbered lands and transferred selected parcels to HHFDC for affordable homes or rentals. Additionally, requiring the Department to maintain a database of both public and private lands suitable for relocation and residential development under the measure's qualifying criteria would be

unduly burdensome and costly. Finally, the Department believes that much of the qualifying private lands are already planned for some use other than relocation of coastal development¹.

Given this, the Department recommends that SECTION 3 (page 6 line 6 through page 8 line 2) be deleted in its entirety.

Mahalo for the opportunity to provide testimony in support with amendments on this measure.

¹ The Department notes that even engaging in identifying private lands suitable for relocation may be controversial as to potentially prioritizing the interests of coastal landowners over those who currently own the identified properties.



LATE *Testimony submitted late may not be considered by the Committee for decision making purposes.

**STATE OF HAWAII
OFFICE OF PLANNING
& SUSTAINABLE DEVELOPMENT**

JOSH GREEN, M.D.
GOVERNOR

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Statement of
SCOTT GLENN, Director

before the
HOUSE COMMITTEE ON WATER AND LAND
Thursday, February 2, 2023 9:30 AM
State Capitol, Conference Room 430

in consideration of
HB 1092
RELATING TO CLIMATE ADAPTATION.

Chair Ichiyama, Vice Chair Poepoe, and Members of the House Committee on Water and Land, the Office of Planning and Sustainable Development (OPSD) **supports and offers the following comments on HB 1092**, an administrative bill, which expands the authority of the Department of Land and Natural Resources and develops funding to begin utilizing managed retreat as a voluntary mechanism to relocate at-risk residential development and associated infrastructure for the purposes of expansion of public coastal areas and access.

In accordance with OPSD's responsibilities under Hawaii Revised Statutes (HRS) § 225M-2(b)(9) for climate adaptation and sustainability planning and coordination, the OPSD has been coordinating implementation of the 2020 Ocean Resources Management Plan (HRS § 205A-62) and regularly working with its interagency working groups to address balancing the importance of natural resources with existing and future shoreline development in consideration of coastal hazards such as erosion and sea level rise.

- In 2019, the OPSD published an initial discussion of managed retreat which described this approach's complexity, necessary coordination, and community outreach.
- In 2022, the OPSD applied for and was awarded federal funding to further advance the state's understanding of further considerations for implementation of managed retreat by commissioning an analysis of ways to achieve managed retreat by analyzing relevant existing policies, laws, and regulations; an analysis of potential strategies to implement and finance managed retreat and the identification of challenges for its implementation. The project is in the early procurement phase.

The 2019 report included case studies that emphasized that examples of successful managed retreat were often community driven. OPSD recommends that a community education and outreach component be included in this measure.

Section 2 proposes definitions and authorities for the voluntary relocation of residential development from sea level rise exposure areas involving state lands. There are existing definitions in HRS § 46-162 that may be appropriate to align with the proposed measure.

Section 5 discusses additional language to HRS § 226-109 Climate change priority guidelines in which the proposed language describes a policy that may already be addressed in HRS § 226-109(9) and HRS § 226-109(10).

OPSD looks forward to collaborating with DLNR to ensure the development of the activities described in this measure are closely coordinated and conducted with participation with existing initiatives with consideration of the outcomes of this forthcoming analysis.

Thank you for the opportunity to testify on this measure.



HB 1092, RELATING TO CLIMATE ADAPTATION

FEBRUARY 2, 2023 · HOUSE WATER AND LAND
COMMITTEE · CHAIR REP. LINDA ICHIYAMA

POSITION: Support.

RATIONALE: Imua Alliance supports HB 1092, relating to climate adaptation, which expands the authority of the state and the counties and develops funding to begin utilizing managed retreat as an option for voluntarily moving residential development and associated infrastructure away from critically vulnerable areas to locations outside of sea level rise and coastal flooding exposure areas, including through a pilot program on the North Shore of O’ahu.

According to a report produced by the Hawai’i Climate Change Mitigation and Adaptation Commission, global sea levels could rise more than three feet by 2100, with more recent projections showing this occurring as early as 2060. In turn, over the next 30 to 70 years, approximately 6,500 structures and 19,800 people statewide will be exposed to chronic flooding.

Additionally, an estimated \$19 billion in economic loss would result from chronic flooding of land and structures located in exposure areas. Finally, approximately 38 miles of coastal roads and 550 cultural sites would be chronically flooded, on top of the 13 miles of beaches that have already been lost on Kaua’i, O’ahu, and Maui to erosion fronting shoreline armoring, like seawalls.

Furthermore, according to research conducted by Michael B. Gerrard from Columbia Law School, modern-day slavery tends to increase after natural disasters or conflicts where large numbers of people are displaced from their homes. In the decades to come, says Gerrard, climate change

will very likely lead to a significant increase in the number of people who are displaced and, thus vulnerable, to human trafficking. While the Paris Climate Agreement of 2015 established objectives to limit global temperature increases and several international agreements are aimed at combating modern-day slavery, it is highly uncertain whether they will be adequate to cope with the scale of the problem that is likely to occur as a result of climate change.

As we work to reduce carbon emissions and stave off the worst consequences of climate change, we must begin preparing for the adverse impact of sea level rise on our shores. We are now quantifying the speed at which we must act. We cannot continue to develop the 25,800-acre statewide sea level rise exposure area—one-third of which is designated for urban use—without risking massive structural damage and, potentially, great loss of life.

Therefore, our state should take steps to protect Hawai'i's coastal areas, including by incentivizing managed retreat for residential properties that may be at risk of damage or destruction from climate change. **It is imperative that we begin replacing our propensity for overdeveloping our shorelines with a commitment to rebuilding communities inland, where they will be safe from continuously rising sea levels.** For the sake of our keiki, we cannot afford to wait to solidify strategies to preserve our island home for generations to come.

Kris Coffield · Executive Director, Imua Alliance · (808) 679-7454 · kris@imuaalliance.org



UNIVERSITY OF HAWAII SYSTEM
‘ŌNAEHANA KULANUI O HAWAII

LATE

Legislative Testimony
Hō'ike Mana'o I Mua O Ka 'Aha'ōlelo

Testimony Presented Before the
House Committee on Water and Land
Thursday, February 2, 2023 at 9:30 a.m.

By

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

And

Charles "Chip" Fletcher, PhD
Dean, School of Ocean and Earth Science and Technology

And

Michael Bruno, Provost
University of Hawai'i at Mānoa

HB 1092 – RELATING TO CLIMATE ADAPTATION

Chair Ichiyama, Vice Chair Poepoe, 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 House Bill 1092, provided that its passage does not replace or adversely impact priorities as indicated in the University's Board of Regents approved executive biennium budget.

This measure would expand the authority of the State and the Counties and develops funding to begin utilizing managed retreat as an option for voluntarily moving residential development and associated infrastructure away from critically vulnerable areas to locations outside of the sea level rise and coastal flooding exposure areas.

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.

Historically, coastal retreat has taken the form of mandatory relocation of development or communities through government buyouts or incentives but future methods of retreat may include broader planning options such as down zoning and rebuilding restrictions, transferable development rights, increased coastal setbacks, and limitation of ownership transfers. Climate change-driven coastal adaptation will require some phased combination of retreat along with protection and adaptation. Disaster management literature reveals an unprecedented number of major natural disaster events around the world, this suggests a modern era of unmanaged or forced retreat us now upon many of the low-elevation coastal communities around the world. Unmanaged retreat is often a default reactive response due to a lack of viable adaptation options, and is fundamentally different than strategic managed retreat as part of a holistic suite of

adaptation policy tools. This measure gives urgency to developing adaptation plans that include managed retreat through a variety of mechanism including buy outs.

House Bill 1092 would allow the Department of Land and Natural Resources to develop a sea level rise voluntary relocation plan and voluntary relocation fund. In addition, it gives the State authority to transfer development rights and execute land exchanges for the purpose of relocation of private development away from areas at high risk of sea level rise impacts. In order to prepare for, react to, and manage the impacts related to sea level rise, the Department must have regulatory every tool available in order to effectively protect Hawai'i's coastal communities and public trust beaches. This measure would give the Department additional necessary regulatory tools and financial resources to help facilitate managed retreat.

Land exchanges are a valuable regulatory tool that can enable coastal residents to retain some real estate equity in cases where the state decides it is best to relocate them before the ocean takes their property. In the process, land swaps also save the State money that it would have otherwise had to pay as just compensation. Further, in some cases land swaps may allow relocated residents to remain closer to their original communities where they would have otherwise been priced out or unable to find a new dwelling.

The option to leaseback purchased property to residents in some cases would also be beneficial for the State to recoup some of its cost while retaining the control to determine when a certain property is no longer safe for habitation.

Transfer of development rights another important framework technique that the State may employ to achieve community objectives of voluntarily shifting development away from areas that are imminently threatened by sea level rise to safer, more appropriate areas.

Hawai'i Sea Grant and the CRC support this measure and offers the following comments and suggestions to strengthen this bill.

1. The bill amends Chapter 171, Hawai'i Revised Statutes Definitions with five new definitions related to relocation of residential development but fails to identify or define acquisition (buy outs) of private property as a tool to support the voluntary relocation of managed retreat.
2. Acquisition through voluntary buy outs of private property with strong public interest is a prominent and viable tool to support managed retreat and should be identified as such in the definitions.
3. The bill's description identifies the North Shore of O'ahu as a site for a sea level rise relocation pilot project for voluntary relocation of critically threatened beach front development, however, the bill itself does not clearly state any specifics regarding such a pilot program. The North Shore, O'ahu is a high priority area for such an effort and we recommend further refining the geographic scope of this

initial pilot to the “Kammies” area of Sunset Beach as the most urgent need for adaptation responses due to recent severe coastal erosion and beach loss.

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 Climate Resilience Collaborative support House Bill 1092 and respectfully asks your House Committee on Water and Land to pass the measure.

Thank you for the opportunity to testify on this measure.

HB-1092

Submitted on: 1/31/2023 8:59:08 PM

Testimony for WAL on 2/2/2023 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Will Caron	Individual	Support	Written Testimony Only

Comments:

I support the intent of this bill to prepare the state for managed retreat. With climate change leading to sea level rise, we will need to move infrastructure and buildings back from the existing shoreline, and we need to start planning for that now.

HB-1092

Submitted on: 2/1/2023 9:56:19 AM

Testimony for WAL on 2/2/2023 9:30:00 AM

Submitted By	Organization	Testifier Position	Testify
Thorne Abbott	Individual	Support	Written Testimony Only

Comments:

I strongly support adaptive realignment to coastal hazards, some of which can occur and should be incentivized within an existing parcel's boundaries such as reconfiguring, downsizing, and elevating buildings out of harm's way.

Please also add a tax on the conveyance fund for sales of oceanfront real estate to help finance the cost of adaptive realignment, managed retreat, and/or conservation mitigation banks.