

TESTIMONY
HB 1037 HD1

THE SENATE
THE TWENTY-FOURTH LEGISLATURE
REGULAR SESSION OF 2008

COMMITTEE ON WATER AND LAND
COMMITTEE ON INTERGOVERNMENTAL AND MILITARY AFFAIRS
COMMITTEE ON ENERGY AND ENVIRONMENT

DATE: Monday, March 31, 2008

TIME: 2:45 p.m.

PLACE: Conference Room 414

Testimony : House Bill 1037
Chris Conger and Dolan Eversole

Chris Conger and Dolan Eversole are both coastal geologists. They currently work as extension agents with the University of Hawaii Sea Grant College Program. Chris and Dolan conduct outreach activities and provide technical assistance dealing with coastal hazard mitigation, coastal erosion impacts, shoreline change, and coastal community resiliency. Though Chris and Dolan are both faculty at the University of Hawaii with the Hawaii Sea Grant College Program, they are submitting this testimony as private citizens.

We **strongly support** the need to update HRS §205A, **with comments**. The initial drafting of HRS §205A was prior to a more comprehensive, science based understanding of sea level rise and its inclement impacts over the lifetime of coastal developments. Proper revision can enable the statute to accommodate dynamic coastlines, which migrate following a long-term trend, through utilization of state-of-the-science data and tools, as well as modern adaptation and hazard mitigation strategies. The amendments proposed in HB1037 make promising strides in this direction, and we **support** their proposed changes with the following **amendments**:

- Recommend amending **HRS §171-58.5** and **HRS §205A-44** to remove the exception allowing individuals to remove one gallon of sand, per person, per day, from the beach. Though this may seem insignificant, recent sales of Hawaii beach sand on Ebay highlight the potentially detrimental extremes that this exception allows. Additionally, recommend amending **HRS §171-58.5** and **HRS §205A-44** to redefine the acceptable sand placement area for stream, drainage, and canal cleaning, and maintenance work. This will allow the cleared sand to be placed within the shared sand system, rather than forcing it to be placed adjacent to the area cleaned.
- Recommend adding a new section in **HRS §205A-2(c)6** to prevent the grading of dunes. As dunes are one of the most significant natural coastal hazard buffers, the Counties and State should be empowered to adequately protect them.
- Recommend adding a section in **HRS §205A-26(2)** to require planning efforts to address long-term trends in shoreline migration in relation to proposed structures. This will aid the Counties in preventing new construction in areas immanently threatened by shoreline erosion.
- Recommend revising the proposed and existing language of **HRS §205A-43(a)** to allow for, but not require, annual erosion rate based setbacks. Though this technique may not be appropriate for all coastlines, it should be explicitly allowed so that both Maui and Kauai Counties can draw direct authorization for their existing shoreline setback ordinances. This will also enable, but not require, both Hawaii County and the City and County of Honolulu to modify their ordinances in the future.

- Recommend amending the existing language for **HRS §205A-43.5**. This section identifies Shoreline Setback Variance Applications that will not require a public hearing. These changes are different than those proposed in HB 1037. Because of the potential impact of coastal activities, those variances not requiring public hearings should be limited to emergencies that require immediate response.
- Recommend leaving the original language in **HRS§205A-45(a)**. The original language allows the counties to create larger setbacks, as needed. The changes proposed in HB 1037 are better placed in **HRS §205A-43** and the proposed **HRS §205A-45(c)**.
- Recommend amending the existing language for **HRS §205A-46(a)**, and the following the proposed language for **HRS §205A-46(b)**. These proposed changes help to clarify the activities for which a shoreline setback variance can be granted.
- Recommend adding language to **HRS §205A-46(c)** to include an additional condition for granting shoreline setback variances. This will enable the Counties to be more effective at minimizing impacts from development.
- Recommend greater tolerance in the effective date of the bill to accommodate Hawaii County and the City and County of Honolulu.

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Amendment to Existing

"§171-58.5 Prohibitions. The mining or taking of sand, dead coral or coral rubble, rocks, soil, or other marine deposits seaward from the shoreline is prohibited with the following exceptions:

- (1) ~~[The taking from seaward of the shoreline of such materials, not in excess of one gallon per person per day for reasonable, personal, noncommercial use;~~
- (2) For the replenishment or protection of public shoreline areas and adjacent public lands seaward of the shoreline, or construction or maintenance of state approved lagoons, harbors, launching ramps, or navigational channels with a permit authorized under chapter 183C;
- (3) (2) The clearing of such materials from existing drainage pipes and canals and from the mouths of streams including clearing for the purposes under section 46-11.5; provided that the sand removed shall be placed on adjacent littoral areas unless this placement would result in ~~[significant turbidity;]~~ adverse environmental or ecological impacts; or
- (4) (3) The cleaning of areas seaward of the shoreline for state or county maintenance purposes including the purposes under section 46-12; provided that the sand removed shall be placed on adjacent littoral areas unless such placement would result in ~~[significant turbidity.]~~ adverse environmental or ecological impacts."

Amendment to Existing

"HRS §205A-2(c)6

- (E) Prevent grading of and damage to coastal dunes."

Amendment to Existing

"HRS §205A-26(2)

- (F) That any proposed structures are not threatened by movement of the shoreline."

Amendment to Existing

"HRS §205A-43 Establishment of shoreline setbacks and duties and powers of the department.

"(a) ~~[Setbacks along shorelines are established of not less than twenty feet and not more than forty feet inland from the shoreline.]~~ The shoreline setback line shall not be less than twenty feet from the shoreline, and shall use average annual shoreline erosion rate data where appropriate. The department shall adopt rules pursuant to chapter 91, prescribing procedures for determining the shoreline setback line, and shall enforce the shoreline setbacks and rules pertaining thereto.

(b) The powers and duties of the department shall include, but not be limited to[=

- (1) ~~The department shall adopt rules under chapter 91 prescribing procedures for determining the shoreline setback line; and~~
- (2) ~~The department shall review]~~ reviewing the plans of all applicants who propose any structure, activity, or facility that would be prohibited without a variance pursuant to this part. The department may require that the plans be supplemented by accurately mapped data and photographs showing natural conditions and topography relating to all existing and proposed structures and activities."

Amendment to Existing

"205A-43.5

(a) Prior to action on a variance application, the authority shall hold a public hearing under chapter 91. By adoption of rules under chapter 91, the authority may delegate responsibility to the department. Public and private notice, including reasonable notice to abutting property owners and persons who have requested this notice, shall be provided, but a public hearing may be waived prior to action on a variance application for:

- (1) Stabilization of shoreline erosion by the moving of sand entirely on public lands;

- (2) ~~[Protection of a legal structure costing more than \$20,000; provided the structure is at risk of immediate damage from shoreline erosion;] Temporary emergency protection of a legal inhabited dwelling; provided the structure is at risk of immediate damage from shoreline erosion or other coastal hazard or;~~
- ~~[(3) Other structures or activities; provided that no person or agency has requested a public hearing within twenty-five calendar days after public notice of the application; or~~
- (4) (3) Maintenance, repair, reconstruction, and minor additions or alterations of legal boating, maritime, or watersports recreational facilities, which result in little or no interference with natural shoreline processes."

Amendment to Existing

"HRS §205A-44

(a) The mining or taking of sand, dead coral or coral rubble, rocks, soil, or other beach or marine deposits from the shoreline area is prohibited with the following exceptions:

- ~~[(1) The taking from the shoreline area of the materials, not in excess of one gallon per person per day, for reasonable, personal, noncommercial use, provided that stricter provisions may be established by the counties;~~
- ~~(2) (1) Where the [mining or taking] activity is authorized by a variance pursuant to this part;~~
- ~~[(3) (2) The clearing of the materials from existing drainage pipes and canals and from the mouths of streams including clearing for the purposes under section 46-11.5; provided that the sand removed shall be placed on adjacent littoral areas unless such placement would result in [significant turbidity;] adverse environmental or ecological impacts; or~~
- ~~[(4) (3) The cleaning of the shoreline area for state or county maintenance purposes, including the clearing for purposes under section 46-12; provided that the sand removed shall be placed on adjacent littoral areas unless the placement would result in [significant turbidity.] adverse environmental or ecological impacts."~~

Amendment to Proposed

"HRS §205A-45

(c) The several counties, through rules adopted pursuant to chapter 91, or ordinance, or under existing authority, shall use the shoreline setback as a tool to minimize the damage from coastal hazards including but not limited to, tsunamis, hurricanes, wind, storm waves, flooding, erosion, sea-level rise, subsidence, and pollution. The setback shall consider shoreline erosion data for setback purposes as appropriate. Measures such as early planning, variances for innovative design, and minimum buildable areas shall be considered."

Amendment to Existing

"§205A-46 Variances. (a) A variance may be granted for a structure or activity otherwise prohibited in this part if the authority finds in writing[;] that the proposed structure or activity will not result in adverse environmental or ecological impacts and will not artificially fix the shoreline based on the record presented, and that the proposed structure or activity is necessary for or ancillary to:

- (1) Cultivation of crops;
- (2) Aquaculture;
- (3) Landscaping; ~~[provided that the authority finds that the proposed structure or activity will not adversely affect beach processes] and will not artificially fix the shoreline;~~
- (4) Drainage;
- (5) Boating, maritime, or watersports recreational facilities;
- (6) Facilities or improvements by public agencies or public utilities regulated under chapter 269;
- (7) Private facilities or improvements that are clearly in the public interest;

- (8) Private facilities or improvements [~~which will neither adversely affect beach processes nor artificially fix the shoreline~~]; provided that the authority also finds that hardship will result to the applicant if the facilities or improvements are not allowed within the shoreline area; or
- ~~[(9) Private facilities or improvements that may artificially fix the shoreline; provided that the authority also finds that shoreline erosion is likely to cause hardship to the applicant if the facilities or improvements are not allowed within the shoreline area, and the authority imposes conditions to prohibit any structure seaward of the existing shoreline unless it is clearly in the public interest; or]~~
- ~~[(10)]~~ (9) Moving of sand from one location seaward of the shoreline to another location seaward of the shoreline[;] within the same or adjacent littoral cell; provided that the authority also finds that moving of sand [~~will not adversely affect beach processes~~], will not diminish the size of a public beach, and will be necessary to stabilize an eroding shoreline.

Amendment to Existing

"HRS §205A-46(c) No variance shall be granted unless appropriate conditions are imposed:

- (1) To maintain safe lateral access to and along the shoreline or adequately compensate for its loss;
- (2) To minimize risk of adverse impacts on beach processes;
- (3) To minimize risk of structures failing and becoming loose rocks or rubble on public property; [~~and~~]
- (4) To minimize adverse impacts on public views to, from, and along the shoreline[-]; and
- (5) To minimize adverse environmental or ecological impacts to coastal ecosystems and marine resources."

**STATE OF HAWAII
DEPARTMENT OF DEFENSE**

**TESTIMONY ON HOUSE BILL 1037 HD1
A BILL FOR AN ACT RELATING TO COASTAL ZONE MANAGEMENT**

PRESENTATION TO THE

COMMITTEE ON WATER AND LAND

AND

COMMITTEE ON INTERGOVERNMENTAL AND MILITARY AFFAIRS

AND

COMMITTEE ON ENERGY AND ENVIRONMENT

BY

**MAJOR GENERAL ROBERT G. F. LEE
DIRECTOR OF CIVIL DEFENSE**

MARCH 31, 2008

Chair Hee, Chair Inouye, Chair Menor and Committee Members:

I am Major General Bob Lee, Director of Civil Defense, State Department of Defense. I am providing written testimony on House Bill 1037, HD 1.

We support this bill as it will provide needed attention to permitting that complements the 2007 update of the State of Hawaii Multi-Hazard Mitigation plan. Planning to minimize risks from coastal hazards is good public policy.

Thank you for the opportunity to provide testimony on this initiative.



OFFICE OF HAWAIIAN AFFAIRS

Legislative Testimony

HB1037, HD1, RELATING TO COASTAL ZONE MANAGEMENT

Senate Committees on Water and Land;
Intergovernmental and Military Affairs; and
Energy and Environment

March 31, 2008

2:45 p.m.

Room: 414

The Office of Hawaiian Affairs (OHA) **SUPPORTS, with one amendment**, HB 1037, HD1, which would require affected county and state agencies to consider sea-level rise and risks from coastal hazards such as erosion, storm inundation, hurricanes, and tsunamis, while preserving public access, to extend the shoreline setback to not less than forty feet from the shoreline, and to account for annual shoreline erosion rates.

As the Committees know, OHA has substantive obligations to protect the cultural and natural resources of Hawai'i for its beneficiaries, the people of this land. The Hawaii Revised Statutes (HRS) mandate that OHA "[s]erve as the principal public agency in the State of Hawaii responsible for the performance, development, and coordination of programs and activities relating to native Hawaiians and Hawaiians; . . . and [t]o assess the policies and practices of other agencies impacting on native Hawaiians and Hawaiians, and conducting advocacy efforts for native Hawaiians and Hawaiians." (HRS § 10-3)

Because of these mandates, we must examine all proposals with a view toward the best possible preservation and perpetuation of constitutionally and judicially protected Native Hawaiian rights and practices, including access to and preservation of the natural resources that allow for those rights and practices to continue.

With these mandates in mind, OHA recognizes that the effects of climate change are more than just theoretical and that Hawai'i is already seeing the first of what is likely to be a series of impacts from this phenomenon. We believe that our best approach in dealing with these adverse impacts is to be proactive rather than reactive. Hawai'i will feel the effects of sea level rise sooner and

more harshly than most states, and we need to be creative, forward-looking, and ready to make difficult choices to ensure a better future for ourselves and our mo'opuna.

This tension will most clearly be felt on our shorelines. Our State coastal zone management program must work with our counties to adequately address the difficult issues we will be forced to deal with, and this bill is an important step in the direction towards an integrated shoreline policy. Therefore, OHA generally supports this bill.

However, there is one proposed repeal in this bill that does not receive our support. Section 205A-46 Variances subpart (a)(8) was amended as such:

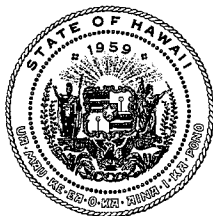
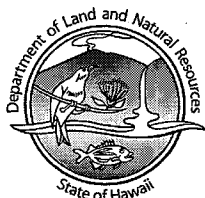
Private facilities or improvements [~~which will neither adversely affect beach processes nor artificially fix the shoreline~~]; provided that the authority also finds that hardship will result to the applicant if the facilities or improvements are not allowed within the shoreline area;

OHA objects to the proposed removal of this language, because a variance should not be granted for a private structure that will fix the shoreline or adversely effect beach processes. According to the Department of Land and Natural Resources Integrated Shoreline Policy entitled Our Restless Shores, studies conducted at the University of Hawai'i show that shoreline hardening has resulted in the loss of nearly 25 percent of O'ahu's sandy beaches. Hawai'i's Climate Crisis, which aired on KGMB on March 20, 2008, stated that 50 percent of our beach in Waikiki currently disappears at high tide, and much of this is due to poorly planned development placed too close to the shoreline with accompanying hardening of those shorelines. Further, the State shoreline policy states, "It has been well documented that seawalls and shoreline structures on a chronically eroding shoreline can lead to beach loss or narrowing by restricting the natural movement of the shoreline landward."

OHA agrees that artificially fixing the shoreline leads to adverse beach processes and is poor shoreline policy. Therefore, we urge that the language in Section 205A-46 Variances subpart (a)(8) not be stricken and remain to enforce this important public and shoreline policy.

Otherwise, OHA stands in full support of this bill and urges the Committees to PASS HB1037, HD1, with one amendment. Thank you for the opportunity to testify.

LINDA LINGLE
GOVERNOR OF HAWAII



**STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES**

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CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAOHOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

**TESTIMONY OF THE CHAIRPERSON
OF THE BOARD OF LAND AND NATURAL RESOURCES**

On House Bill 1037, House Draft 1 - RELATING TO COASTAL ZONE MANAGEMENT

**BEFORE THE SENATE COMMITTEES ON
WATER AND LAND,
INTERGOVERNMENTAL AND MILITARY AFFAIRS,
and
ENERGY AND ENVIRONMENTAL AFFAIRS**

March 31, 2008

House Bill 1037, House Draft 1 proposes to update the coastal land use statute to minimize coastal communities' natural hazard exposure, improve shoreline access, and improve beach and coastal resource stewardship by government resource agencies. The Department of Land and Natural Resources (Department) supports this measure and offers the following comments and amendment.

Updating the current statute, with modern terminology, science-based standards, and protective coastal land use policies will facilitate resource management capabilities. By acknowledging and incorporating modern scientific data, such as coastline erosion rate trends, the state and counties will be better prepared to plan for future hazard exposure. Coastal hazards are intensified with proximity to the shoreline: hurricane storm surge and waves are closer to structures; tsunamis have less ground to cover before striking structures and facilities; and erosion threats arise more quickly. These shoreline erosion rates are calculated using historic and modern aerial photographs. In addition, incorporation of sea-level rise awareness into long-range planning and management will help to account for related shoreline position changes. More than just community assets are protected. Improving the data that agencies have available, and the techniques they employ for planning and regulation, there will be a net benefit to the public beach resources through protection and conservation for future generations.

The technique of incorporating shoreline erosion rate-based setbacks has been proven to work by Maui County. Maui County has demonstrated that planning with erosion rates is both practical and beneficial. As a result, Maui County received a reduction in rates from the National Flood Insurance Program. This rate reduction was granted because of the decreased coastal hazard exposure of their coastal communities that resulted from an improved planning paradigm. In addition to Maui County, shoreline erosion data is currently being compiled for both Oahu and Kauai, and will be available for use shortly.

The need to constantly improve the management coastal sand resources is clear, as areas with diminished sand budgets have reduced coastal hazard buffers and suffer higher shoreline erosion rates. The importance of coastal ecosystems including sand dunes and beaches is ingrained in the very spirit of Hawaii as a part of the resident lifestyle, as a portion of the aina that makes Hawaii, and as a symbol that draws tourists from around the world to the shores of paradise.

The Department supports this bill but recommends the following amendment:

Replace SECTION 6, Section 205A-43, Hawaii Revised Statutes (HRS), with the following language:

~~"(a) [Setbacks along shorelines are established of not less than twenty feet and not more than forty feet inland from the shoreline.]~~ The shoreline setback line shall be established using a method including but not limited to an average annual shoreline erosion rate and shall not be less than twenty feet from the shoreline. The department shall adopt rules pursuant to chapter 91, prescribing procedures for determining the shoreline setback line, and shall enforce the shoreline setbacks and rules pertaining thereto.

The above language provides a general guideline for the Counties to adopt variable setbacks for the proper siting of coastal structures based on erosion hazards and sets the minimum shoreline setback at not less than 20-feet inland from the shoreline. If the legislature adopts a set back of not less than 40-feet from the shoreline as proposed in House Bill 1037, House Draft 1, applicants for permits will be unable to apply for variances for further reductions in setback in situations of extreme hardship.

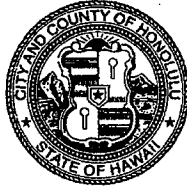
The amendments proposed in Section 205A-45(a), HRS, under House Bill 1037, House Draft 1 are not necessary if the Legislature adopts the Department's recommended changes in Section 205A-43, HRS, as described immediately above.

Finally, the Department asks that the County of Hawaii and the City and County of Honolulu not be subject to the changes proposed in Section 205A-43, HRS, having to do with erosion based setbacks, at this time.

The Department supports this bill with the suggested modification.

DEPARTMENT OF PLANNING AND PERMITTING
CITY AND COUNTY OF HONOLULU

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MAYOR

HENRY ENG, FAICP
DIRECTOR

DAVID K. TANOUE
DEPUTY DIRECTOR

March 31, 2008

The Honorable Clayton Hee, Chair
and Members of the Committee on Water
and Land

The Honorable Lorraine R. Inouye, Chair
and Members of the Committee on Intergovernmental
and Military Affairs

The Honorable Ron Menor, Chair
and Members of the Committee on Energy
and Environment

The Senate
State Capitol
Honolulu, Hawaii 96813

Dear Chairs Hee, Inouye, Menor and Members:

**Subject: HOUSE BILL 1037 HD1
Relating to Coastal Zone Management**

The Department of Planning and Permitting (DPP) is **opposed** to House Bill 1037, HD1, which would require the counties to adopt rules establishing setback distances to not less than the average annual erosion rate based on a fifty-year projection, in addition to the minimum distance established in section 205A-43.

In as much as the island of Oahu has development over 75% of its shoreline, we are opposed to any measures to expands shoreline setbacks where the vast majority of existing building structures on coastal properties would be immediately nonconforming. In addition, to make matters worse, many properties along Oahu's coastline are simply too shallow to accommodate an increase to our existing setback provisions. Further, there are no current erosion standards with which to apply. However, there is a Coastal Erosion Study being conducted by the University of Hawaii. Accordingly, we suggest that it is premature to legislate amendments to setback requirements until the erosion study is complete.

Further, such a drastic change in the standard would create regulatory chaos and spawn a flood of variance requests to our department. Presently, shoreline setback variances take up to one year to process with a cost of several thousand dollars to

The Honorable Clayton Hee, Chair
and Members of the Committee on Water
and Land

The Honorable Lorraine R. Inouye, Chair
and Members of the Committee on Intergovernmental
and Military Affairs

The Honorable Ron Menor, Chair
and Members of the Committee on Energy
and Environment

Re: House Bill 1037 HD1

March 31, 2008

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the applicant and with no guarantee of a favorable outcome at the end of the review process. In short, the overwhelming numbers of variance requests that have to be processed before DPP could issue building permits on ocean front properties could bring the construction and development of these properties to a complete halt.

However, evaluating the need for amending shoreline setbacks is a dynamic ongoing process. For example, on June 22, 1970, the City and County of Honolulu adopted Shoreline Rules and Regulations. The standard setbacks at that time were 20 feet and 40 feet. In 1991, the City Council heard a proposed bill introduced by the Department of Land Utilization (DLU) to expand the shoreline setback to one hundred feet. After listening to countless hours of testimony from hundreds of angry property owners throughout Oahu, the Council filed the bill. Subsequently, in 1992, the City adopted a more palatable ordinance, Chapter 23, Revised Ordinances of Honolulu that forms the basis for Oahu's shoreline setbacks of between 20 to 40 feet and a 60-foot setback for newly subdivided parcels. Thus, the basic 40-foot setback standard for Oahu has been utilized and relied upon by City government, shoreline property owners and the construction industry for 37 years.

While DPP recognizes the inherent dangers of building too close to the ocean, this bill is being introduced 60-years too late for the proper planning of Oahu coastline. The location of coastal roadway infrastructure as well as past subdivision approvals of legal lots of record along the shoreline and subsequent build out of the lots make the one hundred fifty foot setback a proposal that is not in tune with the reality of Oahu's shoreline development.

We are also opposed to the proposed change in Section 1 to this measure, which states that the counties shall ensure reasonable street parking near public access areas in the special management area under chapter 205A. Since public access requirements are already established when granting permit approval for projects in special management areas, the proposed change is not needed.

The Honorable Clayton Hee, Chair
and Members of the Committee on Water
and Land

The Honorable Lorraine R. Inouye, Chair
and Members of the Committee on Intergovernmental
and Military Affairs

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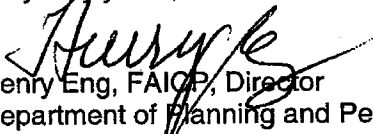
Re: House Bill 1037 HD1

March 31, 2008

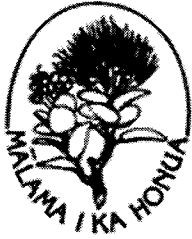
Page 3

We strongly recommend that House Bill 1037 HD1 be filed. Thank you for this
opportunity to comment.

Very truly yours,


Henry Eng, FAICP, Director
Department of Planning and Permitting

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hb1037hd1-ch.doc



Sierra Club Hawai'i Chapter

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SENATE COMMITTEE ON WATER AND LAND SENATE COMMITTEE ON INTERGOVERNMENTAL AND MILITARY AFFAIRS SENATE COMMITTEE ON ENERGY AND ENVIRONMENT

March 31, 2008, 2:45 P.M.

(Testimony is 3 pages long)

TESTIMONY IN SUPPORT OF HB 1037 HD1 WITH AMENDMENTS

Chairs Hee, Inouye, and Menor and members of the committees:

The Sierra Club, Hawai'i Chapter, with 5500 dues paying members statewide, supports HB 1037 HD1, increasing the protection of Hawaii's coastlines from climate change and erosion, but we suggest some amendments. We suggest that HB 1037 be amended to require counties to adopt shoreline setbacks that are equal to at least 100 times the annual erosion rate plus 40 feet and to disallow seawalls unless an overwhelming public purpose is being served by their creation.

Our current statewide setback—minimum of 20 feet—is dated and dangerous. Given the rapidly expanding information base of coastal processes in the state, plus new knowledge pertaining to global warming and the impacts of sea level rise on Hawaii's coasts, we believe the legislature should greatly increase the minimum shoreline setback for new coastal developments statewide and require the counties to adopt a parcel-by-parcel setback formula that is based on the historical erosion rate of that particular area. Sometimes "one-size" doesn't fit all.

Managed Retreat

Given the realities of sea level rise caused by global climate change and the accompanying loss of shoreline-protecting coral reef, a policy of "managed retreat" makes the most sense to protect private property, taxpayers, and public shoreline. Setting a significant setback from the shoreline for new construction or redevelopments is the best managed retreat strategy for Hawai'i.

The threat of rising sea level is not speculative. The recent acceleration of melting in Greenland, other arctic areas, and Antarctica has shocked climatologists globally. In 2007 the



Arctic ice cap melted to half what it was just four years ago. According to the United Nations, data from the world's largest glaciers in nine mountain ranges indicate that between the years 2004-2005 and 2005-2006 the average rate of melting and thinning more than doubled. *Nature Geoscience* reported in January of 2008 that sea levels may rise five feet or more this century. Rising sea level and its related impacts will literally change the landscape of Hawai'i as we know it. We will have to redraw the map of our islands.

Significant Shoreline Setback not without Precedent

Setting a significant shoreline setback is not without precedent. The County of Kaua'i recently adopted an ordinance for shoreline setback that is the strongest in the state (and likely the nation). The new law requires dwellings to be set back 70 times the erosion times the annual coastal erosion rate plus 40 feet. This aims to protect coastal structures against 70 - 100 years of erosion. Pushing buildings back from eroding waterlines, the law says, is critical to the protection of life and property, the mitigation of coastal hazards, and the preservation of coastal resources.

International examples of managed retreat and related measures as adaptation to sea-level rise include the following:

- **Aruba and Antigua:** Setback established at 50 m (~164 feet) inland from high-water mark.
- **Barbados:** A national statute establishes a minimum building setback along sandy coasts of 30 m (~100 feet) from mean high-water mark; along coastal cliffs the setback is 10 m (~33 feet) from the undercut portion of the cliff.
- **Sri Lanka:** Setback areas and *no-build zones* identified in Coastal Zone Management Plan. Minimum setbacks of 60 m (~200 feet) from line of mean sea level are regarded as good planning practice.
- **Australia:** Several states have coastal setback and minimum elevation policies, including those to accommodate potential sea-level rise and storm surge. In South Australia, setbacks take into account the 100-year erosional trend plus the effect of a 0.3-m sea-level rise to 2050. Building sites should be above storm-surge flood level for the 100-year return interval.

Other US coastal states have taken a protective approach to shoreline setback as well.

In Maine, where local officials can determine such setback requirements, 75 ft. is the minimum; however, that's not necessarily adequate in all cases. In 1995, for example, the top edge of a bluff shoreline moved inland about 200 ft. in just a few hours, destroying two homes and leaving two others in jeopardy.

In North Carolina, the setback is measured landward from the line of stable natural vegetation nearest the sea, usually near the base of the frontal dune system. All single-family homes and buildings of 5,000 square feet or smaller, as well as their septic systems, must be located 30 times the historical, long-term erosion rate from this line with a minimum setback of 60 ft. For larger buildings, the minimum setback is 120 ft.

Rhode Island rules also require a setback equal to 30 times the annual erosion rate for residential structures. Theoretically, that would allow a homeowner 30 years before a house would be threatened—or enough time to pay off the mortgage. The setback for commercial property is 60 times the annual erosion rate.

Ultimately, HB 1037 would prevent inappropriate construction too close to the shoreline. When dwellings and buildings are built too close to the shore, beach-destroying seawalls are often requested when erosion threatens to undermine the structures.

Suggested Amendments

The Sierra Club respectfully asks that HB 1037 HD1 be amended in the following ways.

First, we believe that in addition to the 40-foot minimum setback, the counties should be required to adopt ordinances that establish an additional setback that is based on the annual erosion rate. It should not be optional. Maui and Kaua'i have already adopted such ordinances. The state should direct all the counties to adopt such parcel-by-parcel erosion rates by a certain date (perhaps January 1, 2010). Page 23, lines 1 – 3 should be amended as follows:

(a) The several counties through rules adopted pursuant to chapter 91 or ordinance [may] shall require that shoreline setback lines be established at...

Second, the Sierra Club believes that the erosion rate-based standard should be set at 100 times the annual erosion rate. This formula would better account for accelerating erosion and sea level rise, as the annual erosion rate today is likely less than what it will be 10 or 20 years hence. Page 23, lines 4 – 6 should read:

...a distance not less than the average annual erosion rate based on a ~~[fifty-year]~~ one hundred-year projection, in addition to the minimum distance established in section 205A-43.

Finally, we believe that private structures that permanently fix the shoreline (i.e. seawalls) should not be allowed except by variance and only when an overwhelming public interest is served. Given rising sea levels and increased erosion, policymakers and planners will have to start making extremely tough choices regarding protection of private structures, shoreline, and Hawaii's beaches. Allowing seawalls simply because a homeowner will experience "hardship"—however defined through rulemaking—will likely result in more and more of Hawaii's shoreline being hardened by seawalls and the beaches gone. This is not a preferred future, either for residents, visitors, or the environment. The proposed language on page 26, lines 3 – 12, should be amended as follows:

(b) A variance may be granted for private facilities or improvements that may artificially fix the shoreline; provided that the authority also finds that ~~[shoreline erosion is likely to cause hardship to the applicant if the facilities or improvements are not allowed within the shoreline area]~~ such facilities or improvements are clearly in the public interest, and the authority imposes conditions to prohibit any structure seaward of the existing shoreline unless it is clearly in the public interest; provided further that any structure or improvement does not limit or severely reduce public access or public shoreline use.

Thank you for the opportunity to testify.

TESTIMONY
HB 1037 HD1
(END)