

Assessing the Feasibility and Implications of Managed Retreat Strategies for Vulnerable Coastal Areas in Hawai`i Final Report

State of Hawaii Office of Planning
Coastal Zone Management Program



Hawaii CZM Program
Coastal Zone Management



Managed Retreat Feasibility Project

- This Project was developed through the 2013 Ocean Resources Management Plan (ORMP), which is coordinated by the State office of Planning Coastal Zone Management Program (CZM) per Hawaii Revised Statutes Chapter 205A.
- ORMP currently has 11 Management Priorities (MP).
- Managed Retreat is pertinent to at least two MPs:
 - MP #1, Appropriate Coastal Development
 - MP #2, Management of Coastal Hazards
- The Action Team for Appropriate Coastal Development & Management of Coastal Hazards formed to further address MP #1 and MP #2.
- The Action Team developed the Managed Retreat Project.





What is Managed Retreat?

3 Main Adaptation Approaches to Sea Level Rise and Other Coastal Hazards:

- Accommodation involves adapting existing structures and systems to allow them to better withstand changing conditions.
 - flood-proofing
 - moving critical equipment above flood elevations
 - elevating structures to provide flood clearance
- Protection protects an area or a system in its existing location to withstand impacts from changing conditions.
 - shoreline hardening, such as seawalls and revetments
 - soft protection methods, such as beach restoration
- **Managed Retreat**

What is Managed Retreat?

- “Managed” refers to the purposeful actions and plans to implement and monitor projects; and “Retreat” or “realignment” refers to the reposition of the shoreline.
 - ~ L.S. Esteves (2014)
- Managed retreat typically involves establishing thresholds to trigger the demolition or relocation of structures threatened by coastal hazards or sea level rise.
 - ~ NOAA (2007)
 - Include shoreline planning
 - Relocation assistance
 - Buy-back programs



Managed Retreat Feasibility Project

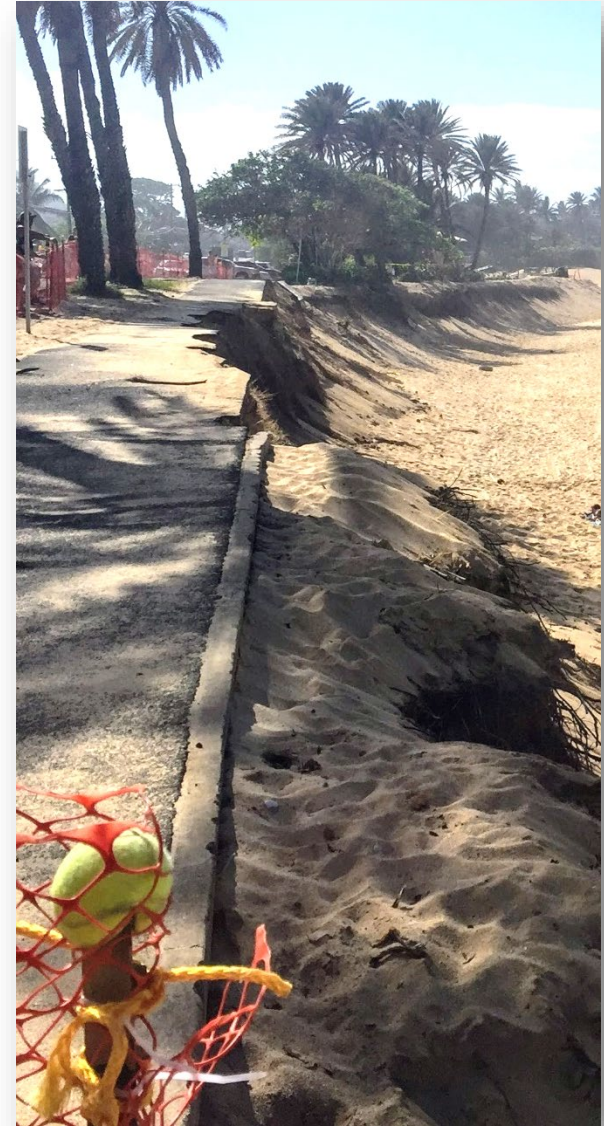
4 Specific Tasks of the Project:

- Background Research -- literature review. Managed retreat activities, programs and policies from Hawai'i, nationally and internationally were studied.
- Scenario Profiles for the following were created:
 - a representative single-family home area;
 - resort, hotel and condominium area;
 - urban area; and
 - critical infrastructure.
- Field visits with local officials on each island were conducted and focus group discussions with stakeholders for each representative Scenario Profiles were held.
- An all-day Symposium
 - discussing retreat from catastrophic event
 - discussing retreat due to chronic coastal erosion
 - local expert panelists focusing on: (1) Finance, Tax and Economics; (2) Insurance; (3) Legal and Policy; and (4) Open Space, Public Access, and Social Justice.
- **Final Report**



Managed Retreat Feasibility Analysis

- This **Report** is a beginning assessment of the feasibility of managed retreat in Hawai'i.
- Managed retreat analysis varies depending by location and development type.
- Presently, there is a realization that retreat may be a necessary component of an adaptation strategy in Hawai'i along with accommodation and protection but the question remains how to implement retreat and under what circumstances.
- At the outset of the Project, there was a desire or thought to developing a step-by-step checklist for practitioners to implement managed retreat from coastal areas threatened by sea level rise and chronic erosion.
- As research progressed, it quickly became evident that managed retreat was too complex of an area and too cross-jurisdictional – planning, legal, insurance, economics, tax, equity, etc. – at this stage to develop a one-size-fit-all plan to implement managed retreat.





Managed Retreat Feasibility Analysis

The **Background Research Literature Review** indicated that:

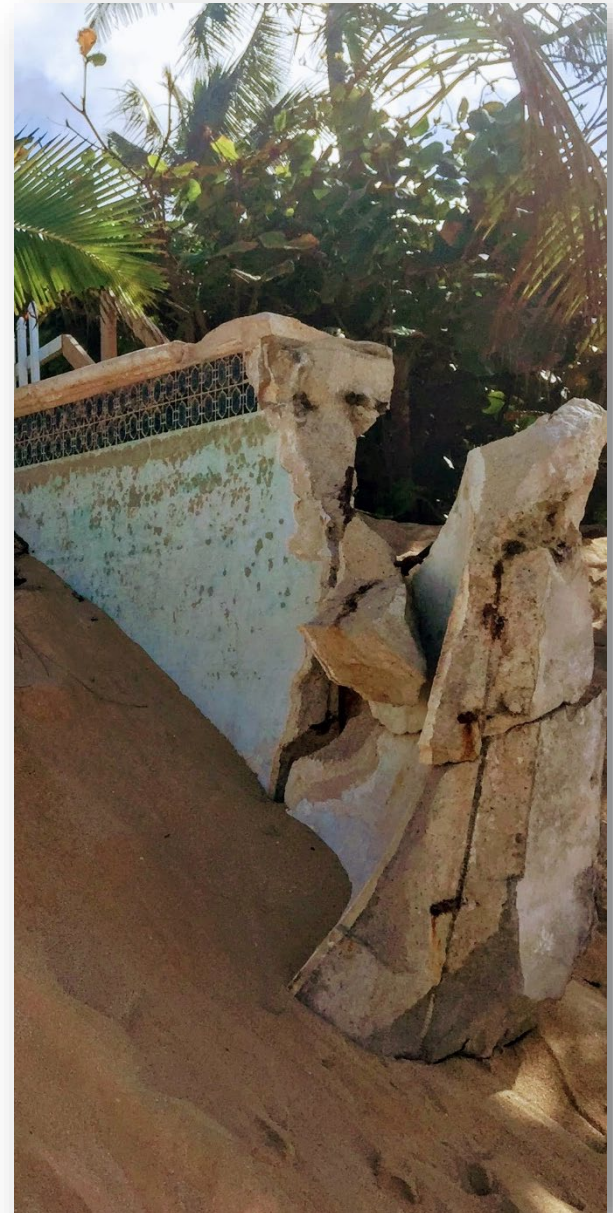
- Retreat actions may be categorized as in response to catastrophic events or to chronic coastal hazards.
- Retreat must be determined to be the solution versus accommodation and/or protection, because not all coastal areas can be retreated.
- Retreat necessitates a review of State and county land use to determine where it may be possible, meaning where there is available land, given competing priorities such as agricultural production, conservation holdings, open space, military uses, etc. – to retreat inland.
- Retreat will require some level of community agreement and understanding for it to be successfully implemented.
- Retreat will require open space and wetlands to be preserved, when retreat occurs, as a buffer against future storms and coastal erosion and for public access.

Managed Retreat Feasibility Analysis

The **4 Scenario Profiles*** indicated commonalities across all the profiles:

- Need some level of community understanding / agreement as to when to retreat.
- Need to know where there are available inland lands to retreat to.
- Need open space once retreat occurs as a buffer against future storms and coastal erosion because natural disasters will continue to impact coastlines. If retreat is to occur, the result must end in having greater public access / recreation for all residents.
- Need rebuilding restrictions to facilitate retreat and accommodation where appropriate. Private parties and government entities both need a better understanding of the legal issues surrounding building codes, shoreline setbacks, takings, eminent domain and condemnation to require individuals to retreat.
- Retreat is expensive and there is not an understanding of who pays for the relocation of the facilities and infrastructure and how funds will be raised either privately or publicly.

* Four Scenario Profiles are (1) Resorts, Hotels and Condominiums, (2) Urban Area, (3) Single-Family Homes, and (4) Critical Infrastructure.



Managed Retreat Feasibility Analysis

The **Symposium** indicated that:

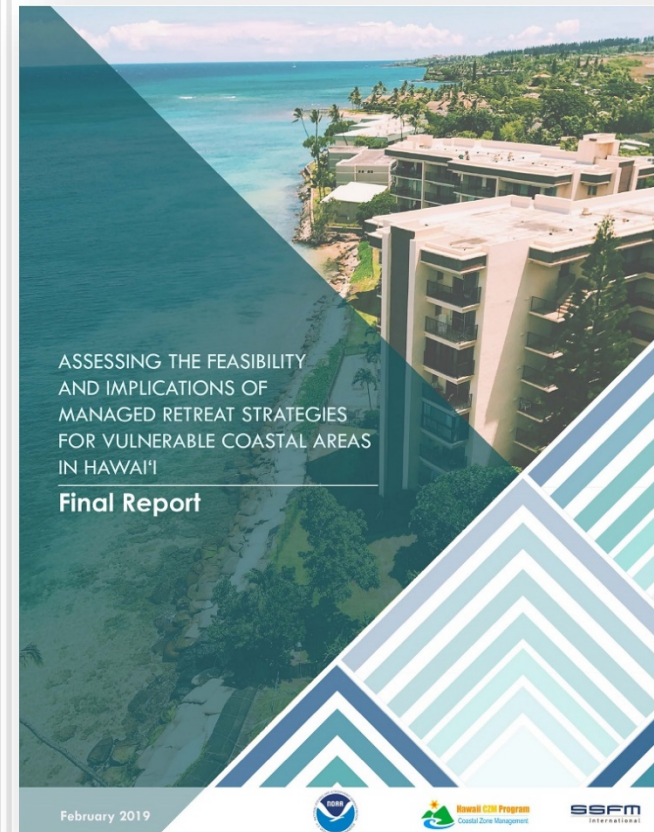
- Retreat due to chronic coastal hazards is very challenging. The Ventura County Surfer's Point retreat of a two mile stretch of public infrastructure onto (again) publicly owned property took 20 years and counting.
- The feasibility of managed retreat will depend upon the ability of the Hawai'i legislature to properly allocate its current funding, while saving for the future.
- Public sentiment is against buying out private, wealthy property owners at taxpayer expense.
- FEMA's NFIP makes it possible for homeowners to obtain affordable flood insurance within vulnerable coastal areas, which is required for mortgages
- Hawai'i, from county to county, lacks a uniform and consistent set of coastal development regulations. These include the State Land Use Districts, Special Management Areas (SMA), shoreline setbacks, subdivision ordinances and building codes.
- Managed retreat presents an opportunity to enhance public access and open space for certain shoreline areas by expanding publicly owned areas along the coast.



Managed Retreat Feasibility Analysis

Key Report Findings:

- The community must have some level of agreement, understanding and support for retreat.
- Retreat programs have proven more successful when they are voluntary.
- Along with having some level of community agreement, understanding and/or support for retreat, the area to be retreated (versus accommodated and/or protected) should be determined locally.
- The community should arrive at the decision to support retreat and should decide what areas are to be retreated.
- Retreat should not result in fragmented / fractured / divided communities.
- Fragmented / fractured and divided communities will increase the costs for governmental services to the newly retreated community and the remaining fragmented communities.



Managed Retreat Feasibility Analysis

Key Report Findings:

- Catastrophic events result in a greater impetus for retreat. There are more federal and state funds for retreat after a catastrophic event.
- Chronic coastal hazards result in less of a catalyst for retreat. The political will seems to be lacking to plan and fund retreat absent a catastrophic event.
- Retreat from chronic coastal hazards may take decades to implement.
- Buyouts to facilitate retreat are problematic. Buyouts for retreat as shown in the **Report** are usually at pre-disaster, fair market values. The Symposium highlighted the skepticism of buyouts of coastal private properties by the government.
- Retreat should be considered in context with other approaches and following a careful analysis of benefits and costs that address the stated desired objectives.



Managed Retreat Feasibility Analysis

Key Report Findings:

- State and county long-range plans must provide for managed retreat if retreat is to be properly implemented, meaning determination what uses are permitted in and around the shoreline and what land use patterns and densities are necessary to accommodate projected demographic and environmental changes.
- State and county land use must be examined to determine where it is possible to retreat to, meaning where there is available land, given competing priorities such as agricultural production, conservation holdings, open space, military uses, etc. to retreat inland.
- There are many legal issues surrounding retreat. Shoreline setbacks may be increased, coastal armoring may be prohibited (except in very limited circumstances) and rebuilding restrictions may need to be enacted to facilitate retreat. Legal mechanisms, e.g., transfer of development rights, conservation easements, rolling easements, etc., must be examined for effectiveness in promoting retreat and then adopted / implemented if useful.



Managed Retreat Project Next Steps

Next Steps In Terms of Policy:

- CZM is committed to facilitating the managed retreat discussion.
- HB 461, HD 1 requires the Climate Commission to identify critical public infrastructure in impacted areas and provide policy direction to the Legislature with strategies for mitigation and adaptation to sea level rise before the 2021 Session. This could touch on retreat.
- Marine and Coastal Zone Advocacy Council MACZAC, which advises and advocates for CZM, suggests that there should be a “champion” / “endorser” of the **Report**, in addition to CZM. CZM may ask the ORMP Council to “champion” / “endorse” the **Report**.
- Open to Suggestions!



Managed Retreat Project Next Steps

Next Steps In Terms of Projects:

- CZM is committed to facilitating the managed retreat discussion.
- Open to Suggestions!



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THANK YOU!

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