

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



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Project: *Assessing the Feasibility and Implications of Managed Retreat Strategies for Vulnerable Coastal Areas in Hawai'i*

- 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 has 11 Management Priorities (MP).
- Managed Retreat is pertinent to at least two MP's:
 - 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 and developed the Managed Retreat Project.

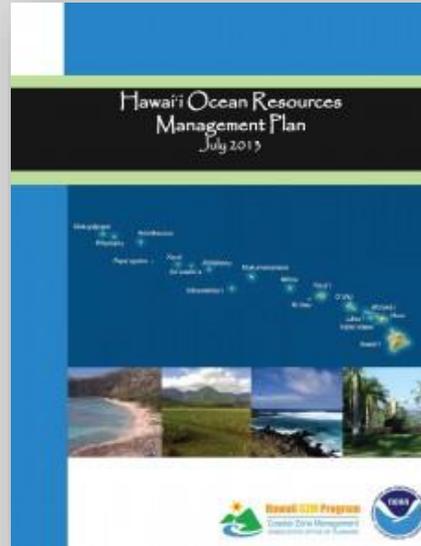


Photo Source: M. Lander

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 defends 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 includes purposeful actions and plans to implement and monitor projects; and “Retreat” or “realignment” refers to the reposition of the shoreline (L.S. Esteves, 2014). Typically involves establishing thresholds to trigger the demolition or relocation of structures threatened by coastal hazards or sea level rise (NOAA, 2007).

- Shoreline planning
- Relocation assistance
- Buy-back programs





Photo Source: M. Lander

Project Components:

- **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 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 with expertise related to each representative Scenario Profile were held.

- An all-day **Symposium** was held on January 11, 2018.
 - discussing retreat from a 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**

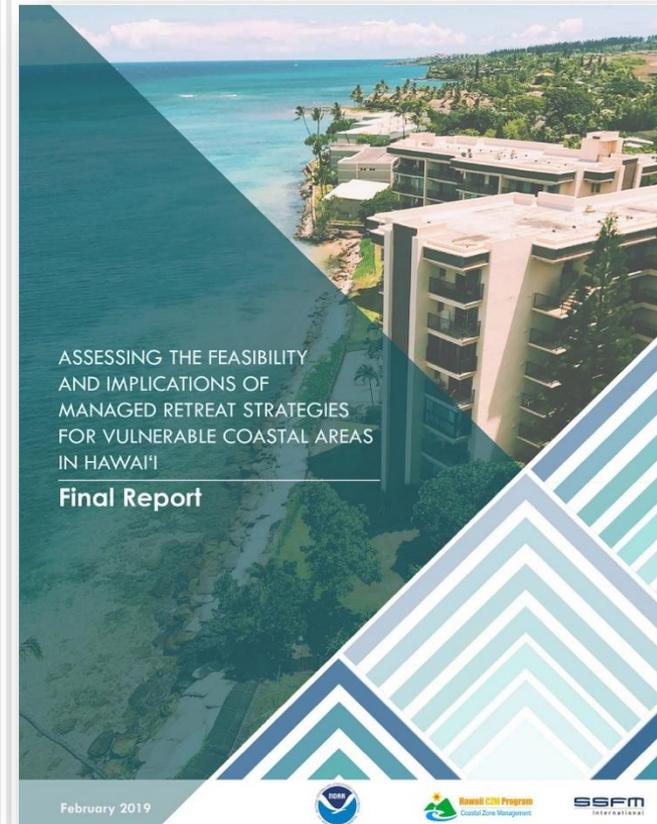
Managed Retreat Feasibility Analysis:

- Managed retreat analysis varies depending by location and development type.
- 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 to develop 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 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.



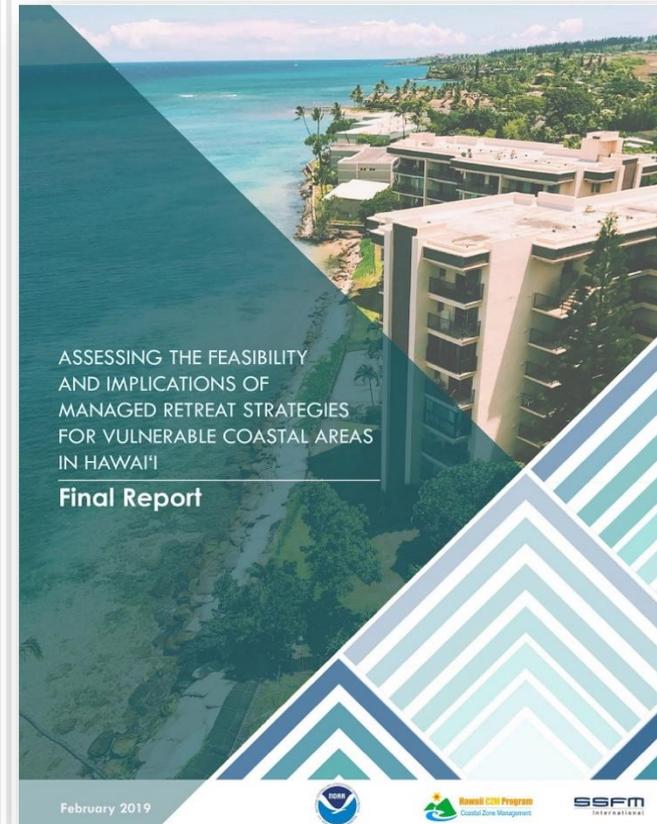
Managed Retreat Final Report Findings:

- Community agreement, understanding, and support for retreat
 - Retreat programs have proven more successful when they are voluntary.
- 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.



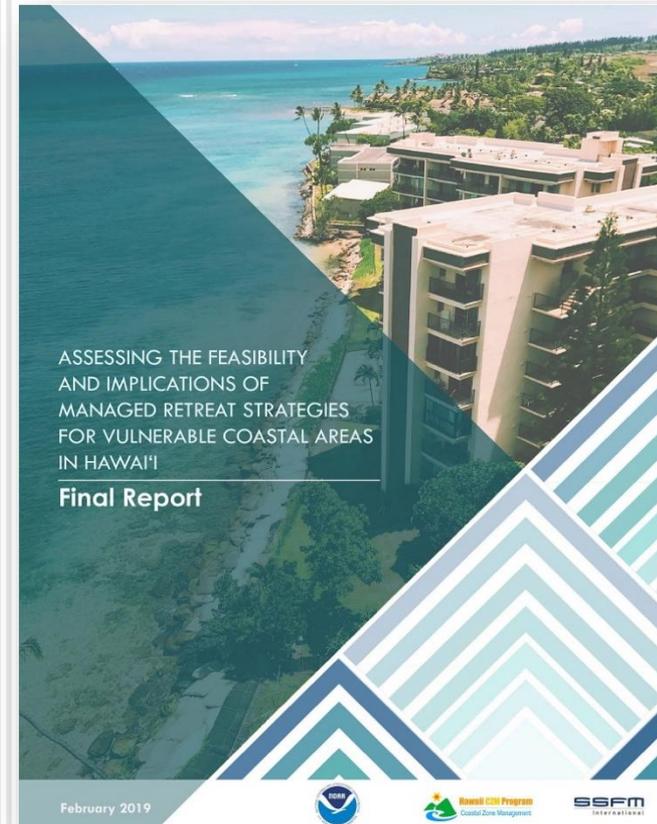
Managed Retreat Final Report Findings:

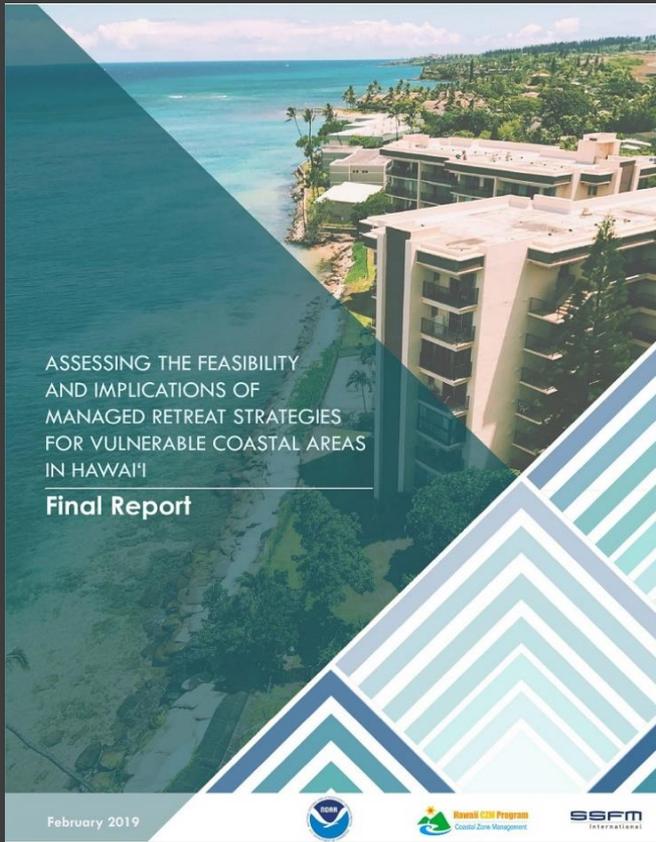
- Catastrophic events result in a greater impetus for retreat. There are more federal and state funds for retreat after a catastrophic event.
- Chronic coastal hazards result in less of a catalyst for retreat. Political will seems to be lacking to plan and fund retreat absent a catastrophic event.
- Retreat from chronic coastal hazards may take decades to implement.
- Buyouts 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.



Managed Retreat Final Report Findings:

- State and county long-range plans must provide for managed retreat.
 - Determination of what uses are permitted in and around the shoreline
 - Land use patterns and densities necessary to accommodate projected demographic and environmental changes
- State and county land use must be examined.
 - Determine where it is possible to retreat to (where there is available land, given competing priorities such as agricultural production, conservation holdings, open space, military uses, etc.)
- 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.





ASSESSING THE FEASIBILITY
AND IMPLICATIONS OF
MANAGED RETREAT STRATEGIES
FOR VULNERABLE COASTAL AREAS
IN HAWAII

Final Report

February 2019



To learn more, visit:

<http://planning.hawaii.gov/czm/ormp/ormp-action-team-project-on-the-feasibility-of-managed-retreat-for-hawaii/>



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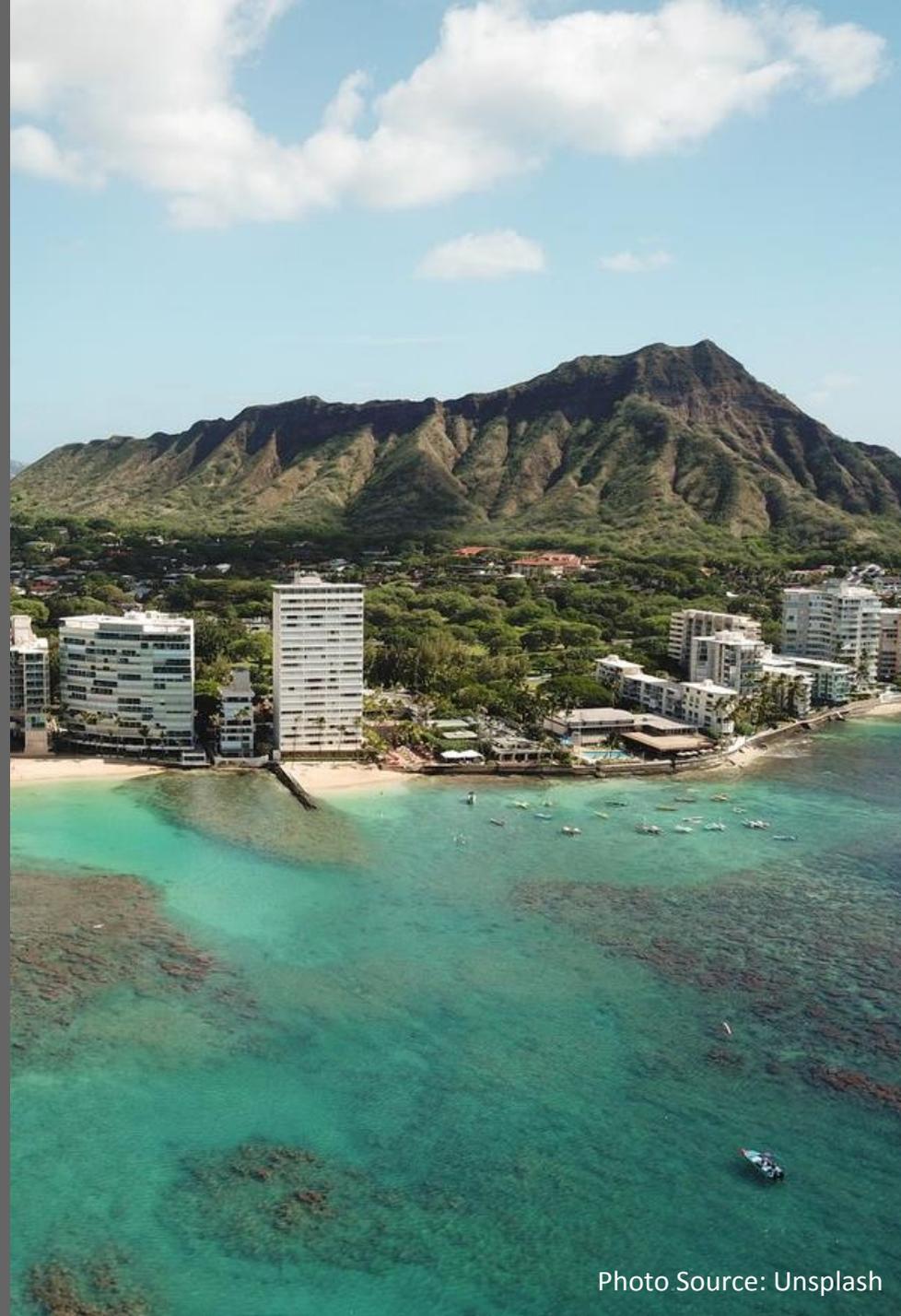


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